Fill Management Plan

Holt Pit, McCowan Road and Mill Road, Town of East Gwillimbury, York Region

Rice Commercial Group Ltd.

GHD | 140 Allstate Parkway Suite 210 Markham Ontario L3R 5Y8 Canada | 11139891 | Report No 3 | July, 2021

Executive Summary

Rice Commercial Group Limited (Rice) is proposing to import fill into the former Holt Pit located at 18725 McCowan Road. The fill will be imported and placed in accordance with the Town of East Gwillimbury Fill By-law #2013-66, so that the former quarry can be returned to agricultural operations. Upon completion of the filling activities, a Record of Site Condition will be required to permit agricultural land use. This Fill Management Plan (Plan) has been prepared in accordance with Fill By-law #2013-66 to support the application.

The Site is an irregular shaped 20 hectare parcel of land that is part of a larger 83 hectare parcel of land. The filling activities are proposed to be undertaken within the 20 hectare parcel (Site). The Site is currently largely vacant vegetated land, with the exception of one large farm house which is not included in the fill area. The larger parcel is agricultural (see **Figures 1.1** and **1.2**).

The Site was utilized as agricultural land since at least 1927 and was operated as a sand and gravel pit from the late 1980s until the mid 2000s, under a license issued by the Ministry of Natural Resources. In 2007, the Site was rehabilitated in accordance with the rehabilitation plans prepared for the Site in support of the aggregate extraction license that included grading the ground surface to a gradual slope and redistributing the topsoil. The license was surrendered in 2007.

In accordance with the Town of East Gwillimbury's Council Resolution No. C2021-50 passed on February 17, 2021, a maximum of 600,000 m^3 of fill will be imported over a 5 year period within the 20 hectare parcel.

Site Operations

There are no buildings within the Site that will be demolished prior to the start of operations. Trailers will be brought onto the Site for a security station and a site office (see **Figure SP-2**). As well, bottled water will be brought to Site for potable water, portable toilets will be installed, and temporary power will be extended into the Site.

The Site's driveway access will be from McCowan Road, south of Mount Albert Road. It is expected that the majority of the trucks will travel from source fill locations south and west of the Site. The trucks associated with the fill management will travel via Davis Drive and McCowan Road. Trucks will not be permitted to use McCowan Road north of the site or Mount Albert Road.

Once on-Site, trucks will proceed through a security/control station, along an asphalt driveway to the office. Trucks must present a bill of lading to enter the Site. As well, all trucks must receive pre-approval before arriving to the Site. A visual inspection of the fill will be completed before trucks are authorized to proceed to the work area.

Once a truck is accepted, they will follow a gravel access road to the work area. The placement of fill within the Site will be tracked by GPS and documented by site staff.

Following placement of fill, trucks will proceed back to the office area where drivers will be required to drive through an extended mud mat and steel shaker racks. Trucks will travel south on McCowan Road after leaving the Site to Davis Drive.

A site manager will coordinate the trucking, manage the waybill system, inspections, grading and compacting of fill. A representative of GHD will pre-screen proposed imported soil sources, establish the waybill system, provide periodic testing of the imported fill in the quarry, recommend a compaction procedure and provide on-Site testing, and provide monthly and annual reports.

Fill Importation Strategy

A fill importation strategy has been developed based on discussions with staff from the Town and similar strategies developed in the area and previously accepted by the Town. The following types of fill will be accepted at the Site:

- Soil/earth that meets Table 1 (within 3 m of the base of the pit) and Table 2.1 standards presented in the Excess Soil Reuse Rules (3 m or more above the groundwater table).
- Rocks less than 0.3 m in size with appropriate leachate concentrations.
- Soil that passes a slump test.
- Soil that does not contain putrescible material, staining, sheen, concrete, debris, waste, or ash.
- Free of termites and invasive species.

In addition, only dry soil will be accepted to ensure suitable compaction.

The Operator has proposed several measures to ensure the quality of the fill is maintained, including pre-approval of fill sources, inspection protocols, a tracking system, a sampling program, and a contingency plan. These activities will be undertaken under the oversight of a Qualified Person. The Town may visit the Site during operating hours to conduct sampling, carry out inspections, or conduct other investigations.

Protecting the Environment and Surrounding Community

Surface Water

Temporary drainage controls will be installed on the Site to ensure on-Site surface water does not flow externally and negatively affect neighbouring properties.

Groundwater and Private Wells

To facilitate groundwater monitoring, seven groundwater monitoring wells were installed on-Site. Baseline monitoring, consisting of collection of water levels and samples, was undertaken prior to the start of operations. In addition a private water well survey was undertaken in August 2019 to establish baseline conditions. Thirteen residents participated in a detailed survey. All private wells within a 500 metre (m) radius of site are located upgradient of the Site, except the two water wells located on the site and owned by Overholt Farms Limited.

While it is not anticipated that the import of fill will negatively impact groundwater, during operations, groundwater samples will be collected semi-annually from five monitoring wells and assessed to provincial standards. Samples will be collected from private wells if necessary. If the groundwater sampling program results indicate that the fill operations is having a negative impact on groundwater, the impact will be assessed and an appropriate action plan will be implemented.

Septic Systems

There are no septic systems located on the Site. The closest septic bed is located approximately 80 m from the Site and is located north of the residence at 18725 McCowan Road.

Soil Erosion Control

Soil erosion control measures that will be installed on-Site include a silt fence around the Site perimeter, temporary swales with rock check dams, settling ponds with controlled overflow weir outlets, and an extended mud mat.

Traffic

A maximum of 150 trucks per day will be required based on 200 working days per year and 10 m^3 of fill material per truck. The actual number of trucks will be highly dependent on availability of the source material and logistics of the fill placement, but will not exceed the stated maximum of 150 per day. Eastbound and westbound left-turn lanes at Davis Drive / McCowan Road are proposed as improvements for the study intersections. A northbound right-turn taper is also proposed at the McCowan Road Site access. The study intersections, with the proposed exclusive turning lane improvements, will service the fill operations without any significant issues. The Site access satisfies the sightline requirements.

Road Dust and Mud Control

In order to minimize dust and mud tracking off-Site, trucks will be restricted to using the existing asphalt driveway and gravel pathways between the asphalt driveway and work areas. As well, a dust and mud tracking control program will be implemented, which will include:

- A full time on-Site water truck.
- Limiting the work area to the size of one week's worth of operations.
- Seeding areas that are not expected to be worked on for an extended periods of time.
- A full time sweeper and flusher truck.
- An extended mud mat and steel shaker racks, which will be mandatory for all trucks to travel through while leaving the Site.

Tree Protection

One tree is proposed to be removed to accommodate fill operations. All other trees within 5 m of the fill activities will be protected using tree protection fencing.

Noise

There are several existing residences west of the Site on McCowan Road. A 6.5 m high berm, consisting of topsoil will be constructed along the west and south side of the property. A 3.0 m high berm, consisting of topsoil, will be constructed along the north side of the property. The temporary berms will be constructed with topsoil, which will be used as final cover. Through administrative controls and the presence of the berm, it has been demonstrated that noise levels will be below MECP sound level limits.

Conformance with Planning Legislation

This Plan and the proposed fill activities are in conformance with the Greenbelt Plan, Oak Ridges Moraine Conservation Plan, as well as the Town of East Gwillimbury Official Plan (2010) and Town of East Gwillimbury Zoning By-law (2018). The Site is located outside of the Lake Simcoe Conservation Authority Regulated Area.

Reporting

Several reporting mechanisms have been established to ensure operations comply with this Plan and the Town's requirements and include:

- Operational Reports to document daily fill operations, to be completed monthly.
- Semi-Annual Reports, to document sampling and monitoring results, fill operations, operational incidents, and corrective measures from the previous 6 months.
- Annual Reports, to provide a general overview of the status of the operations, a collaboration of the continual and quarterly report detailing, groundwater monitoring results, surveyed fill import volumes and fee payment details, and endorsement and/or recommendations by the Reviewing Qualified Person.

This documentation will be kept on-Site in a secure location and available to the regulatory and approval agencies as needed.

Risk Management

A Risk Management Matrix has been prepared presenting consequences, control measures in place and mitigation action for potential risks identified. Potential risks identified include arrival of unacceptable fill at the Site, discovery of unacceptable fill placed at the Site, dust complaints, traffic complaints, etc. It contains an analysis of likely risks with both high and low impact, as well as mitigation strategies. The Risk Management Matrix will be reviewed annually by the Operator to ensure risks are managed appropriately.

Complaint Procedures

All complaints received by the Operator or the Town will be documented in the Complaint/Incident Report Form prepared for the Site and responded to within two business days. If a complaint is received by the Town, a response will also be provided to the Town. Copies of Complaint/Incident Reports will be included within the Operational Reports.

Closure and Restoration

Once filling operations have achieved the approved final grading, the Operator will begin Site closure and restoration, which will include final grading, application of a maximum of 1.0 m of topsoil and uses as agricultural purposes where possible. In those areas which cannot be immediately utilized for agricultural purpose, will be stabilized with topsoil and seed. Erosion protection measures and slope stabilization will be established to manage run-off, encourage infiltration and mitigate the potential for impacts to surrounding properties. The sediment control fence will remain until the crops have stabilized the Site adequately. As well, once filling activities have ended, a Record of Site Condition will be completed and filed on the Environmental Site Registry by a Qualified Person. The ultimate goal will be to return the Site to agricultural uses.

Table of Contents

Figure Index

Drawing Index

Appendix Index

Template Index

Glossary

"*Acceptable Excess Soil*"	has the meaning set out in the Fill Management Plan.
"*EPA*"	means the Environmental Protection Act*,* R.S.O. 1990, c.E.19, as may be amended.
"Excess Soil Reuse Rules"	Rules for Soil Management and Excess Soil Standards published by the *MECP* and dated November 19, 2019. This document is referenced in the Excess Soil Reuse Regulation.
"Excess Soil Reuse Regulation"	O.Reg.406/19 (On-Site and Excess Soil Management) made under the Environmental Protection Act, R.S.O 1990, c.E.19 (EPA).
"Excess Soil Reuse Standards"	Excess Soil Quality Standards presented in the Excess Soil Reuse Rules.
"Fill"	means topsoil, soil, rock, stone, clean concrete without coating, free of rebar and free from contamination, sod or turf, either singularly or in combination, and scientifically demonstrated inert material. All Fill must meet the applicable Site Condition Standards, must not contain putrescible materials, must be free of termites and invasive species including the eggs and seeds of such species, and must pass a slump test as outlined in the General Waste Management provisions contained in Ontario Regulation (O. Reg.) 347.
"Leachate Analysis"	Leachate analysis, the leachate extraction to be completed using the Synthetic Precipitation Leaching Procedure (US EPA SW-846 Method 1312), the Toxicity Characterization Leaching Procedure (US EPA SW-846 Method 1311).
"*MNRF*"	means the Ontario Ministry of Natural Resources and Forestry.
"*MECP*"	means the Ontario Ministry of the Environment Conservation and Parks. Prior to July 2018, the MECP was the Ministry of Environment and Climate Change (MOECC). Prior to July 2014, the MOECC was the Ministry of Environment (MOE). For simplicity, the MOE and MOECC means the MECP.
"Municipality"	Means the Municipality of East Gwillimbury.
"Operator"	Operator is responsible and defined as the person or persons who are ultimately responsible for making decisions relating to the planning and implementation of the project – for this project it is the Rice Commercial Group Limited.

"***Protocol***"	means the Protocol in **Appendix A** of the Fill Management Plan, as may be amended.
"***Qualified Person***"	means a Qualified Person as defined in O. Reg. 153/04, Environmental Protection Act, as may be amended.
"***Reviewing Qualified Person***"	means a *Qualified Person* from GHD retained by the Operator as required by the Fill Management Plan, and who is a professional geoscientist or professional engineer experienced in environmental site assessment and peer review.
"Soil"	Soil" means the natural materials commonly known as earth, topsoil, loam, subsoil, clay, sand or gravel.
"***Source Site***"	The location from which *Acceptable Excess Soil Fill* material originates.
"***Site***"	means the former Holt Pit which is the site receiving the Acceptable Excess Soil.
"***Table 2.1 Standards***"	Means the standards set out in Table 2.1 - Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition presented in the Excess Soil Reuse Rules under the column entitled "Agricultural Property Use".
"***Topsoil"***	As defined in c. 25, s. 142 (1) of the Municipal Act, 2001, as may be amended, to mean: Those horizons in a soil profile, commonly known as the "O" and the "A" horizons, containing organic material and includes deposits of partially decomposed organic matter such as peat.

1. Introduction

1.1 Overview

This Fill Management Plan (Plan) has been prepared for Rice for a portion of a property located at 18725 McCowan Road (i.e., the former Holt Pit) in the Town of East Gwillimbury, Ontario (herein referred to as the Site). This Plan has been prepared in accordance with The Town of East Gwillimbury's Fill By-law 2013-66, as well as the following guidelines:

- Excess Soil Reuse Regulation and the Excess Soil Reuse Rules.
- RCCAO, Best Management Practices for Handling Excess Construction Soils in Ontario, Version 1, November 2012.
- Management of Excess Soil - A Guide for Best Management Practices, Ministry of Environment and Climate Change. January 2014.
- Excess Soil Management Policy Framework, Ministry of Environment and Climate Change. December 2016.

The Site is currently owned by Overholt Farm Limited (Overholt). Rice has the authority to prepare and operate the Plan on behalf of Overholt. In accordance with the Fill By-law, Overholt Farm Limited and the Town of East Gwillimbury (Town) have entered into a legal agreement (the Agreement) which outlines the details of the Site Alteration. This Plan forms an attachment to the Agreement. Rice is referred to in this Plan as the Operator.

1.2 Site Description and History

The Site is described as part of Lots 8 and 9 Concession 7, with a municipal address of 18725 McCowan Road (see **Figure 1.1**). The Site is an irregular-shaped parcel of land that is approximately 20 hectares (50 acres) in size (see **Figure 1.2**). The Site is part of a larger parcel of land that that includes land to the north and east of the Site that is owned by Overholt. The larger parcel is approximately 83 hectares (205 acres) in size and used for agricultural and residential purposes. The Site is currently vacant, vegetated land. Although the filling activities will be undertaken on the Site, discharge of water from the surface water management activities may extend onto the larger parcel (outlined in red on **Figure 1.2**) that is owned by Overholt.

The Site has been utilized as agricultural land since at least 1927. The Site was operated as a sand and gravel pit from the late 1980s or early 1990s, until the mid-2000s. Following completion of pit operations, it was rehabilitated by grading the ground surface to a gradual slope and re distributing overburden soil. The license was surrendered and the property rehabilitated in 2007.

Figure 1.1 Site Location

Figure 1.2 Site Plan

Source: MNRF NRVIS, 2017. Produced by GHD under licence from Ontario Ministry of Natural Resources and Forestry, © Queen's Printer 2018.
Imagery: Regional Municipality of York 2018 Orthoimagery.

0 100 200 300
Meters

Coordinate System:
NAD 1983 UTM Zone 17N

RICE COMMERCIAL GROUP LIMITED
18725 MCCOWAN ROAD, EAST GWILLIMBURY, ONTARIO
FILL MANAGEMENT PLAN

11139891-226
Dec 13, 2018

SITE PLAN

FIGURE 1.2

GIS File: Q:\GIS\PROJECTS\11139000s\11139891\Layouts\002\11139891-226(002)GIS-WA015.mxd

1.3 Definition of Acceptable Fill

In November 2019, MECP released changes to regulations under the *Environmental Protection Act* relating to excess soil. On July 1, 2020, some sections of Excess Soil Regulation will come into effect. On July 1, 2020, the Excess Soil Reuse Rules including the Excess Soil Reuse Standards come into effect. Although, the planning requirements and tracking requirements of the Excess Soil Regulation come into effect on January 1, 2022, they have been incorporated into this Fill Management Plan. In addition, a registry of sites is proposed to be implemented by the MECP as part of excess soil reuse regulations. When the proposed registry is operational, this Site will comply with those requirements, as appropriate.

Acceptable fill to be accepted at the Site is defined as follows:

1. Soil/earth that meets:
    a. ***Table 1 Standards*** – Full Depth Background Site Condition Standards presented in the Excess Soil Reuse Rules, under the column entitled "Agricultural Property Use" for soil placed to within 3 metres (m) of base of pit; or.
    b. ***Table 2.1 Standards*** – Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition presented in the Excess Soil Reuse Rules, under the column entitled "Agricultural Property Use". This applies to soils placed 3 m or more above the base of the pit. The soil quality standards for sodium adsorption ratio (SAR) and electrical conductivity (EC) do not have to be met for soils placed more than 1.5 m below the final grade (as these standards are intended to ensure good plant growth) and more than 100 m from a potable well.

    The requirement for Table 1 soils within 3 m of the base of pit is above and beyond the minimum regulatory standards of 2 m above the groundwater table.
2. Rock (gravel, cobbles, boulders) that is less than 0.3 m in size and has leachate metal concentrations less the standards presented in Table 2.1 - Leachate Screening Levels for Full Depth Excess Soil in a Potable Ground Water Condition presented in the Excess Soil Reuse Rules, under the column entitled "Agricultural Property Use".
3. Soil that passes a slump test as outlined in the *General Waste Management Regulation* (O. Reg. 347 pursuant to the *EPA*), as may be amended.
4. Soil that does not contain:
    - Any putrescible materials, such as naturally occurring organic matter found in soils.
    - Drums and containers.
    - Stained or discoloured earth in contrast with adjoining soil.
    - Fill material containing debris.
    - Trash/garbage or waste.
    - Suspected odours that emanate when the earth is disturbed.
    - Oily residue intermixed with earth.
    - Sheens, films or discolorations on groundwater.
    - More than 5% clean concrete without coating and/or rebar
    - Cinders/ash or other combustion by-products, like ash.
    - Free of termites and invasive species.

Topsoil imported to the Site to be used for final cover can only be stockpiled at the Site.

1.4 Agencies with Jurisdiction

The Fill By-law #2013-66 states the following:

> *8.1 An application for Commercial Fill Operations or Site Alteration Projects greater than 10,000 m^3 shall not be approved until Council has considered the application at a public meeting at which the applicant or any interested members of the public will have a fair opportunity to make representation. Notice of the public meeting is to be provided to property owners and agencies in a similar manner as a Zoning By-law under the Planning Act or an alternative approved by the General Manager.*

With this in mind, **Section 3.0** of this plan describes the public meeting that was undertaken in support of this Plan.

In addition, the Preliminary Fill Permit Application states that "approval of the application does not exempt you from other approvals required by other agencies." With this in mind, other agencies with jurisdictions related to this Site include:

Ministry of Natural Resources and Forestry (MNRF)

- Aggregate license closure requirements.
- Fish and wildlife protection.
- Forest and vegetation protection.
- Control of invasive species.

Ministry of the Environment, Conservation and Parks (MECP)

- Management of the movement of fill.
- Waste management (O. Reg. 347).
- Environmental protection (soil, air, groundwater and surface water).
- Contaminated sites and Brownfields Management (O. Reg. 153/04, as amended).
- On-site and Excess Soil Management (O.Reg. 406/19).
- Rules for Soil Management and Excess Soil Quality Standards, MECP, November 19, 2019
- Land use controls and designations.

Regional Municipality of York (York Region)

- Regional road control.
- Groundwater resource management (well head protection and groundwater quality protection).

Lake Simcoe Region Conservation Authority (LSRCA)

- Wetlands.
- Fish and fish habitat.
- Watershed management.

York Region Police

- Various police jurisdictions to enforce laws.

Town of East Gwillimbury Fire Services

- Fire and emergency services.

Each of the regulatory agencies has specific mandates and carries out their mandates with various requirements and approvals. They also have staff with various powers to exercise the authority of their mandate, and in most cases, this includes the ability to enter the Site, request information and issue orders to take action and/or impose penalties. The Agreement requires, and the Site Alteration Permit is conditional upon, the continual compliance of all applicable laws and regulations. Details throughout this Plan illustrate that Site operation activities will maintain this compliance. The Operator or Owner is responsible for retaining any and all permits and requirements by other agencies with jurisdiction and operates in full compliance with such requirements.

1.5 General Prohibitions and Exclusions

Through entering into an Agreement in relation to the applicable site alteration works, the Operator consents to comply with the various general prohibitions and acknowledges the exclusions as outlined in the By-law No. 2013-066 Sections 2.0 and 3.0, respectively.

1.6 Background Studies and Documents

By-law No. 2013-066 outlines various studies and documents that may be required to support the Fill Management Plan. The following studies and documents, with their noted appendix references, have been prepared by qualified technical specialists to confirm compliance with the applicable regulatory agencies:[1]

Appendix C	Oak Ridges Moraine Conservation Plan Conformity Report
Appendix F	Phase One Environmental Site Assessment
Appendix G	Phase Two Environmental Site Assessment
Appendix H	Hydrogeological Assessment
Appendix J	Traffic Impact Study
Appendix M	Noise Impact Study

[1] It is noted that the studies and documents were prepared based on the original fill application to backfill the Site to its pre-extraction grade (approximately 1.0 to 1.3 million m^3 of fill). In accordance with Council Resolution No. C2021-50, a maximum of 600,000 m^3 of soil will be imported to the Site. The conclusions of the above noted studies and documents remain valid.

2. Fill Management Plan

2.1 Purpose of Site Alteration

The filling operations are envisioned to include backfilling of the former pit. In accordance with the Town of East Gwillimbury's Council Resolution No. C2021-50 passed on February 17, 2021, a maximum of 600,000 m^3 of soil will be imported to the Site and the fill operations will be 5 years in duration.

It is noted that the original fill application was to backfill the Site to the original grade that existed prior to the pit operation with approximately 1.0 to 1.3 million m^3 of fill

A site manager will coordinate the trucking, manage the waybill system, inspect, grade and compact the fill. A Qualified Person will pre-screen proposed imported soil sources, establish the waybill system, provide periodic testing of the imported fill in the quarry, recommend a compaction procedure and provide on-Site testing, and provide monthly and annual reports.

As the access road is located along the north side of the property, filling operations will likely be from south to north but will be confirmed during the detailed planning stage.

Stormwater management plans will be developed during the backfilling activities.

Future use of the backfilled pit is anticipated to be agricultural.

2.2 Planning Conformity

2.2.1 Town of East Gwillimbury Official Plan (2010)

The Site is designed as Oak Ridges Moraine Conservation Plan and as Aggregate Extraction in the Town of East Gwillimbury's Official Plan (2010).

Schedule A of the Official Plan designates those areas that are included in the Oak Ridges Moraine. The Official Plan provides general policy guidelines for lands within the Oak Ridges Moraine and indicates that planning decisions shall reflect the objectives of the Oak Ridges Moraine Conservation Plan (ORMCP).

The Official Plan also further designates lands within the moraine on Schedule C. On this schedule the proposed fill area is site is designated as an Aggregate Extraction Area. The balance of the Site is designated Countryside Area.

It is noted that the Site is not identified in Schedule D-2 as forming a feature or area with the Oak Ridges Moraine Natural Heritage System. A narrow strip for the Site along its frontage on McCowan Road is designated Land Form Conservation Area – Category 2, this mirrors the land form mapping of the ORMCP. Generally the policies of the Official Plan follow the policy provisions of the ORMCP with respect to Countryside Areas and aggregate extraction uses.

Aggregate Extraction and Resource Areas policies are included in the Official Plan in Section 4.13. This section indicates that licensed extraction areas are shown on Schedule C, which includes designation of the subject site. As noted previously the license for the Site has been surrendered and no further extraction will occur. The policies of this section encourage progressive rehabilitation of extraction sites.

2.2.2 Town of East Gwillimbury Zoning By-law 2018-043 (2018)

The Site is zoned Oak Ridges Moraine Industrial Extractive in the Town of East Gwillimbury Zoning By-law 2018-043 (May 2018). The proposed fill operations and the proposed agricultural operations would be permitted uses under Section 13.1 of the Zoning By-law, Table 13A as a "commercial fill operation for the purposes of site restoration" (see **Figure 2.1**).

Figure 2.1 Town of East Gwillimbury Zoning By-law 2018-043, Table 13A

Table 13A – Permitted Uses in Oak Ridges Moraine Zones

Use	ORMC	ORMCL	ORMCS	ORMIE
Existing agricultural uses, buildings or structures (which existed on November 15, 2001)	X	X	X	X
New **agricultural uses**			X	X
New agriculture **buildings** or **structures**	X (4)	X (4)	X (3)	X (3)
Farm produce outlet (3)(5)	X		X	
Fish, wildlife and **forest management**	X	X	X	X
One single detached dwelling (1)	X		X	X
Accessory uses, buildings and structures (2)	X	X	X	X
Bed and breakfast establishment (2)	X		X	X
Home business (2)	X		X	X
Mineral aggregate operation				X
Commercial fill operation for the purpose of **site restoration**				X

2.3 Schedule

The filling operations will commence as soon as the Site Alteration Permit is issued. In accordance with Council Resolution No. C2021-50, the Site will have a fill term of 5 years.

2.4 Operational Hours

The hours of operation for fill importation are limited to Monday to Friday 7:00 a.m. to 5:00 p.m. (excluding holidays). There may be instances where trucks may arrive late due to traffic, weather delays, etc. However, trucks will not arrive past 6:00 p.m. and all equipment on-Site will not operate past 5:00 p.m. There may be occasions where maintenance and/or delivery of equipment is required on-Site outside of the regular facility operations (i.e., Monday to Saturday between 7:00 a.m. and 7:00 p.m.). In accordance with Council Resolution No. C2021-50, no operating of heavy machinery will take place on Saturdays or Sundays.

In accordance with Section 2.9 of By-law 2013-066, no work will be undertaken during any period in which a wind warning for the area has been issued by Environment Canada.

2.5 Drawings and Cross Sections

In support of the proposed Site alteration, the following drawings have been prepared:

Dwg Ref.	Title of Drawing	Prepared By	Illustrated Detail
TOPO-1	Existing Conditions	GHD	Topography of Site and on-Site vegetation
SP-1	Site Plan	GHD	Proposed Site Plan
OPS-1	Site Operations and Environmental Controls, Stage 1	GHD	Proposed topography of Stage 1 Site filling operations
OPS-2	Site Operations and Environmental Controls, Stage 2	GHD	Proposed topography of Stage 2 Site filling operations
DET-1	Notes and Details	GHD	Notes and details
DET-2	North Berm Detail	GHD	3m high berm on northern property boundary
TP-1	Tree Protection Plan	GHD	Tree removals and tree protection plan
TP-2	Tree Protection Plan	GHD	Tree removals and tree protection plan
TP-3	Tree Protection Details and Notes	GHD	Tree protection fence, table of select trees and tree protection sign
CL-1	Final Site Closure Plan	GHD	Proposed topography of final grading

2.6 Fill Management

This section presents the soil importation considerations for the Site. The Operator is proposing to backfill the depression in this former pit with excess soil from various sources. A Record of Site Condition (RSC) will be required for the former pit after backfilling activities have been completed as the future land use is anticipated to be agricultural. The soil importation strategy presented in the following sections is based on the following:

- Excess Soil Reuse Rules.
- Excess Soil Reuse Regulation.
- Management of Excess Soil – A Guide for Best Management Practices, Ministry of Environment and Climate Change. January 2014.
- Excess Soil Management Policy Framework, Ministry of Environment and Climate Change. December 2016.
- Some aspects of the Ontario Regulation 153/04 – Record of Site Condition.

2.6.1 Soil Importation Quality Standards

2.6.1.1 Considerations

The soil importation quality standards are based on the standards referenced in the Excess Soil Reuse Rules. These standards are based on land use, groundwater use, depth to groundwater, distance to waterbody, etc. Characteristics of the Site are as follows:

- Currently the Site is vacant.
- The Site is located in area of East Gwillimbury that relies of groundwater wells for potable water.
- Future land use is agricultural.
- The overburden is deep and is more than 2 m in depth.
- The placement of backfill in the pit is more than 30 m from a waterbody.
- The base of the former pit is located above the groundwater table.

Based on the above, the standards for the pit are the Table 2.1 – Full Depth Excess Soil Standards in a Potable Ground Water condition, for Agricultural land use presented in the Excess Soil Reuse Rules.

Other Considerations

Leachate analysis is required for contaminants for which soil to groundwater component values are not derived, and for contaminants with analytical limitations. Contaminants that may require leachate analysis are metals, some phenol compounds, some volatile organic compound (VOCs). Metals and compounds that require leachate analysis are identified on the excess soil standard tables.

2.6.1.2 Proposed Soil Importation Standards

Table 1 and 2.1 standards discussed in the previous sections is presented in **Table 2.1** below.

Table 2.1 Summary of Soil Quality Standards

Contaminant (µg/g)	Table 1 – Background	Agricultural or Other Property Use Table 2.1 (Full Depth, Potable)
Acenaphthene	0.05	2.5
Acenaphthylene	0.093	0.093
Acetone	0.5	0.5
Aldrin	0.05	0.05
Anthracene	0.05	0.058
Antimony	1	7.5
Arsenic	11	11
Barium	210	390
Benzene	0.02	0.02
Benz[a]anthracene	0.095	0.5
Benzo[a]pyrene	0.05	0.31
Benzo[b]fluoranthene	0.3	3.2
Benzo[ghi]perylene	0.2	6.6
Benzo[k]fluoranthene	0.05	3.1
Beryllium	2.5	4
Biphenyl 1,1'-	0.05	0.05
Bis(2-chloroethyl)ether)	0.5	0.5
Bis(2-chloroisopropyl)ether)	0.5	0.5
Bis(2-ethylhexyl)phthalate	5	5
Boron (Hot Water Soluble)*	-	1.5
Boron (total)	36	120
Bromodichloromethane	0.05	0.05
Bromoform	0.05	0.05
Bromomethane	0.05	0.05
Cadmium	1	1
Carbon Tetrachloride	0.05	0.05
Chlordane	0.05	0.05
Chloroaniline p-	0.5	0.5
Chlorobenzene	0.05	0.083
Chloroform	0.05	0.05
Chlorophenol, 2-	0.1	0.1
Chromium Total	67	160
Chromium VI	0.66	8
Chrysene	0.18	7
Cobalt	19	22
Copper	62	140

Table 2.1 Summary of Soil Quality Standards

Contaminant (µg/g)	Table 1 – Background	Agricultural or Other Property Use Table 2.1 (Full Depth, Potable)
Cyanide (CN-)	0.051	0.051
Dibenz[a h]anthracene	0.1	0.57
Dibromochloromethane	0.05	0.05
Dichlorobenzene, 1,2	0.05	3.4
Dichlorobenzene, 1,3	0.05	0.26
Dichlorobenzene, 1,4	0.05	0.05
Dichlorobenzidine, 3,3'	1	1
Dichlorodifluoromethane	0.05	1.5
DDD	0.05	3.3
DDE	0.05	0.26
DDT	0.078	0.078
Dichloroethane, 1,1)	0.05	0.05
Dichloroethane, 1,2	0.05	0.05
Dichloroethylene, 1,1	0.05	0.05
Dichloroethylene, 1,2-cis-	0.05	0.05
Dichloroethylene, 1,2-trans-	0.05	0.05
Dichlorophenol, 2,4-	0.1	0.1
Dichloropropane, 1,2	0.05	0.05
Dichloropropene,1,3	0.05	0.05
Dieldrin	0.05	0.05
Diethyl Phthalate	0.5	0.5
Dimethylphthalate	0.5	0.5
Dimethylphenol, 2,4	0.2	0.43
Dinitrophenol, 2,4	2	2
Dinitrotoluene, 2,4 & 2,6	0.5	0.5
Dioxane, 1,4	0.2	0.2
Dioxin/Furan (TEQ)	0.000007	0.000013
Endosulfan	0.04	0.04
Endrin	0.04	0.04
Ethylbenzene	0.05	0.05
Ethylene dibromide	0.05	0.05
Fluoranthene	0.24	0.69
Fluorene	0.05	6.8
Heptachlor	0.05	0.072
Heptachlor Epoxide	0.05	0.05
Hexachlorobenzene	0.01	0.034
Hexachlorobutadiene	0.01	0.01
Hexachlorocyclohexane Gamma-	0.01	0.01
Hexachloroethane	0.01	0.01

Table 2.1 Summary of Soil Quality Standards

Contaminant (µg/g)	Table 1 – Background	Agricultural or Other Property Use Table 2.1 (Full Depth, Potable)
Hexane (n)	0.05	2.5
Indeno[1 2 3-cd]pyrene	0.11	0.38
Lead	45	45
Mercury	0.16	0.24
Methoxychlor	0.05	0.13
Methyl Ethyl Ketone	0.5	0.5
Methyl Isobutyl Ketone	0.5	0.5
Methyl Mercury	-	0.00097
Methyl tert-Butyl Ether (MTBE)	0.05	0.05
Methylene Chloride	0.05	0.05
Methlynaphthalene, 2-(1-)	0.05	0.096
Molybdenum	2	6.9
Naphthalene	0.05	0.2
Nickel	37	100
Pentachlorophenol	0.1	0.1
Petroleum Hydrocarbons F1)	17	17
Petroleum Hydrocarbons F2	10	10
Petroleum Hydrocarbons F3)	240	240
Petroleum Hydrocarbons F4	120	2800
Phenanthrene	0.19	6.2
Phenol	0.5	2.4
Polychlorinated Biphenyls	0.3	0.35
Pyrene	0.19	28
Selenium	1.2	2.4
Silver	0.5	20
Styrene	0.05	0.7
Tetrachloroethane, 1,1,1,2-	0.05	0.05
Tetrachloroethane, 1,1,2,2-	0.05	0.05
Tetrachloroethylene	0.05	0.05
Thallium	1	1
Toluene	0.2	0.2
Trichlorobenzene, 1,2,4-	0.05	0.17
Trichloroethane, 1,1,1-	0.05	0.11
Trichloroethane, 1,1,2-	0.05	0.05
Trichloroethylene	0.05	0.05
Trichlorofluoromethane	0.05	0.17
Trichlorophenol, 2,4,5	0.1	0.11
Trichlorophenol, 2,4,6	0.1	4.4
Uranium	2.8	23

Table 2.1 Summary of Soil Quality Standards

Contaminant (µg/g)	Table 1 – Background	Agricultural or Other Property Use Table 2.1 (Full Depth, Potable)
Vanadium	86	86
Vinyl Chloride	0.02	0.02
Xylene Mixture	0.05	0.091
Zinc	290	340
Electrical Conductivity (mS/cm)(1)	0.47	0.7
Sodium Adsorption Ratio(1)	1	5

Note (1): Section D Paragraph 1(3) Rules for Soil Management and Excess Soil Quality Standards, salt impacted soils resulting solely from the use of a substance for the safety of vehicular or pedestrian traffic applied under conditions of snow or ice or both cannot placed:

- within 30 m of a waterbody;
- within 100 m of a potable water well or area with an intended property use that may require a potable water well;
- within 2 m above the water table; or
- that will be used for growing crops or pasturing livestock unless the excess soil is placed 1.5 m or greater below the soil surface.

2.6.1.3 Ontario Water Resources Act

As residences are present within 500 m of the Site that use groundwater as a potable water source, under the OWRA (Ontario Water Resources Act, R.S.O. 1990, c.O.40), the soil imported to the Site needs to be protective of the groundwater. The standard for the soil imported to the Site are the Table 2 potable groundwater standards and the soil imported should not impair the groundwater quality. A groundwater monitoring program will be implemented to confirm that there are no impacts to groundwater. These monitoring requirements are discussed in detail later in this report.

2.6.2 Fill Importation Strategy

The following subsections describe the fill importation strategy for the Site, including:

- Description of the Project Area.
- Persons Involved in the Project.
- Excess Soil Quality.
- Geotechnical Considerations.
- Source Site Assessment.
- Minimum Soil Volume per Source Site.
- Tracking System.
- Proposed Fill Placement Operations.
- Audit Program.
- Contingencies.

The Fill Acceptance Protocol to be used by Site personnel is presented in **Appendix A**

2.6.2.1 Description of Project Area

Although pit extraction operations ceased several years ago, rehabilitation of the pit has been completed with Ministry of Natural Resources and Forestry (MNRF) consent, and the MNRF license for the pit was surrendered to the MNRF in 2007. A copy of the October 22, 2007 letter from the MNRF confirming surrender of the license is included in **Appendix B**.

The Site is currently owned by Overholt Farm Limited. The Site is an irregular shaped parcel of land that is approximately 20 hectares (50 acres) in size. The Site is part of a larger parcel of land that is approximately 83 hectares (205 acres) in size and is currently used for agricultural and residential purposes. The Site is currently vacant, vegetated land. The Property is legally described as Part Lot 8, Concession 7, East Gwillimbury, Part Lot 9, Concession 7, East Gwillimbury, Part 3 on 65R1801, East Gwillimbury.

The Site was used for agricultural cropland purposes (primarily potatoes, corn, wheat, soybeans, and hay), from at least 1927 to the late 1980s or early 1990s, at which time it was developed as a sand and gravel pit. The Site was operated as a sand and gravel pit from the late 1980s or early 1990s, until the mid-2000s, when it was rehabilitated by grading the ground surface to a gradual slope, and reportedly re-distributing overburden soil that was initially stripped from the Site when the sand and gravel pit began operation.

During operation of the sand and gravel pit, there was reportedly a scale, scale house, and diesel fuel aboveground storage tank (AST) located on the northeastern portion of the Site. An asphalt-paved driveway is still present on the northwestern portion of the Site, which was used to access the scale and scale house.

The following buildings or features were located on the properties immediately surrounding the Site:

North: The Site is generally bound to the north by a farmstead and agricultural cropland. An access road that is part of the Site is located to the north of the farmstead.

West: The Site is generally bound to the west by a farmstead and McCowan Road, and further to the west by rural residential properties and a horse farm.

South: The Site is generally bound to the south by a residential property and Mill Road, and further to the south by agricultural cropland, vacant land, and a farmstead.

East: The Site is generally bound to the east by agricultural cropland, and further to the east by a railway track.

Beyond the immediately adjacent properties, the area surrounding the site is a mix of agricultural, rural residential and uses similar to the proposed filing operations, including aggregate extraction operations and other fill operations.

A review of quaternary geology for the Site indicates that the majority of the Site is located in a broad physiographic region known as the Simcoe Lowlands; however, the southwestern portion of the Site may be located in the broad physiographic region known as the Oak Ridges Moraine[2]. Overburden in the vicinity of the Site is reported to consist of ice contact deposits consisting primarily of gravel and sands, with minor till including esker, kame, end moraine, ice marginal delta and subaqueous fan deposits[3]. The bedrock geology in the vicinity of the Site consists of shale, limestone, dolostone, and siltstone of the Georgian Bay, Blue Mountain, and Billings Formations, and Collingwood and Eastview Members. Depth to bedrock in the vicinity of the Site is greater than approximately 40 m below ground surface (mBGS)[4].

A tributary of Mount Albert Creek is located approximately 700 m southeast of the Site, and Franklin Pond is located approximately 800 m east of the Site. Lake Simcoe is the nearest major waterbody and is located approximately 15 km to the northwest of the Site.

Based on the above information, and the definition of area of natural significance provided in Ontario Regulation (O. Reg.) 153/04, the Site is not considered to be environmentally significant.

Based on a review of Water Well Records, there are 30 water supply wells within 500 m of the Site, as shown on **Figure 2.2**.

Hydrogeological studies have recently been completed by GHD in support of the Site Alteration permit application. The groundwater table is approximately 1.0 m below the base of the pit or at an elevation of 249 mAMSL (in the east end of the Site) to 278 mAMSL[5] (in the west end of the Site). Therefore, the filling activities will be above the groundwater table and it is proposed to place soils

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2 Chapman, L.J., and Putnam D.F., "Physiography of Southern Ontario", Ontario Geological Survey, Map P.2715 (coloured). Scale 1:600,000 dated 1984.

3 "Quaternary Geology of Ontario" [map]. Scale 1:1,000,000. OGS Earth Geoscience Data [computer files]. Sudbury, Ontario: Ontario Geological Survey & Ministry of Northern Development and Mines, 2011.

4 "Ministry of Environment and Climate Change Well Records" [map]. Scale varied. Government of Ontario [computer files]. Government of Ontario, 2017.

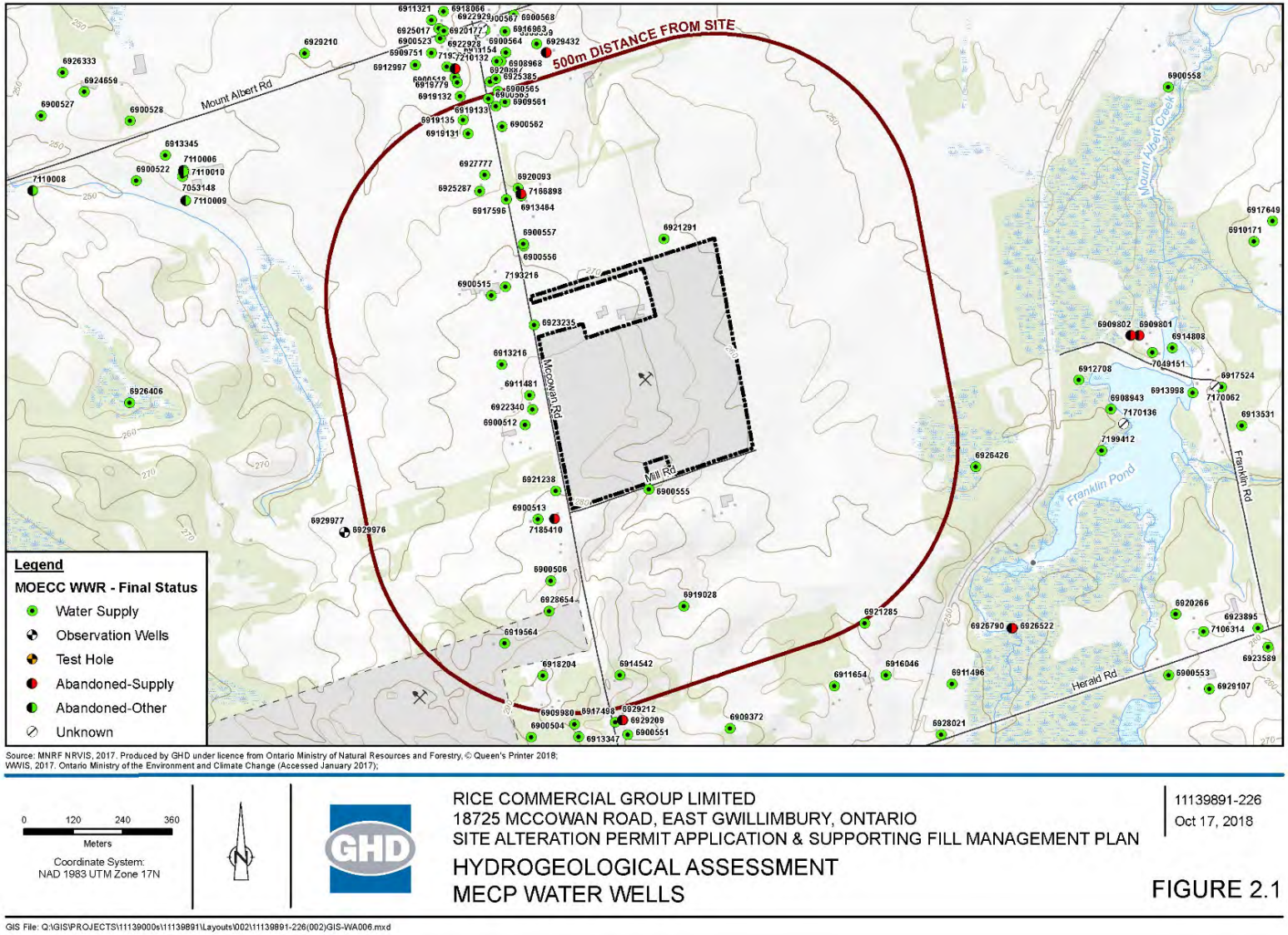
5 mAMSL – metres above mean sea level.

that have concentrations below Table 1 standards presented in the Excess Soil Rules 3 m above the base of the pit. Groundwater flow is from west to east.

It is expected that a potable water well is associated with each of the adjacent residential properties to the north, south, and west of the Site as the area is not serviced with municipal potable water. There are no residential potable water wells located within 500 m downgradient of the Site.

The Site is within the ORMCP which governs land use and land use activities within the area defined as the Oak Ridges Moraine. The Site is designated Countryside Area within the ORMCP. The Countryside Areas designation provides for a range of uses which includes mineral aggregate operations. The depression area of the former pit is proposed to be backfilled to original grade to permit the use of the property for agricultural uses.

Figure 2.2 MECP Water Wells



2.6.2.2 Persons Involved in the Project

Rice is operating the filling activities at the Site on behalf of Overholt Farms Limited, the Owner of the Site. At the time of the Site Plan Agreement signing, for the fill import operations related to this project, the specific contacts are noted below:

Operator (Rice)

John McGovern
Senior Vice President, Policy & Planning
75 Tiverton Court
Markham, Ontario L3R 4M8
(905) 888-1277
John.McGovern@ricegroup.ca

Town of East Gwillimbury

Paul Neuman
Director of Engineering
19000 Leslie Street
Sharon, Ontario L0G 1V0
(905) 478-4283 Ext. 3819
pneuman@eastgwillimbury.ca

Town of East Gwillimbury Peer Reviewer

Jim Walls
R.J. Burnside Limited
17345 Leslie Street, Suite 200
Newmarket, Ontario L3Y 0A4
(519) 938-3031
jim.walls@rjburnside.com

Region of York

Vi Bui
Program Manager, Development Planning, Transportation and Infrastructure Planning
17250 Yonge Street
Newmarket, Ontario L3Y 6Z1
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vi.bui@york.ca

Reviewing Qualified Person

Thomas Guoth, M.Eng., P.Eng., PMP
GHD Limited
111 Brunel Road, Suite 200
Mississauga, Ontario L4Z 1X3
(905) 712-0510 | Tom.Guoth@ghd.com

Engineering Consultant

Adolfo Emer, P.Eng.
GHD Limited
140 Allstate Parkway, Suite 210
Markham, Ontario L3R 5Y8
(905) 752-4380 | adolfo.emer@ghd.com

2.6.2.3 Soil Importation Quality

The rationale for the quality of excess soils to be placed at the former pit was discussed in Section 2.6. It is proposed that soils that meet the following be accepted at the Site:

1. Soil/earth that meets:

    c. ***Table 1 Standards*** Full Depth Background Site Condition Standards presented in the Excess Soil Reuse Rules, under the column entitled "Agricultural Property Use" for soil placed to within 3 m of base of pit; or.

    d. ***Table 2.1 Standards*** – Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition presented in the Excess Soil Reuse Rules, under the column entitled "Agricultural Property Use". This applies to soils placed 3 m or more above the base of the pit. The soil quality standards for sodium adsorption ratio (SAR) and electrical conductivity (EC) do not have to be met for soils placed more than 1.5 m below the final grade (as these standards are intended to ensure good plant growth) and more than 100 m from a potable well.

2. Rock that is less than 0.3 m in size and has leachate metal concentrations less than the standards presented in Table 2.1 - Leachate Screening Levels for Full Depth Excess Soil in a Potable Ground Water Condition presented in the Excess Soil Reuse Rules under the column entitled "Agricultural Property Use".

3. Soil that passes a slump test as outlined in the *General Waste Management Regulation* (O. Reg. 347 pursuant to the *EPA*), as may be amended.

4. Soil that does not contain:

    - Any putrescible materials, such as naturally occurring organic matter found in soils.
    - Drums and containers.
    - Stained or discoloured earth in contrast with adjoining soil.
    - Fill material containing debris.
    - Trash/garbage or waste.
    - Suspected odours that emanate when the earth is disturbed.
    - Oily residue intermixed with earth.
    - Sheens, films or discolorations on groundwater.
    - More than 5% clean concrete without coating and/or rebar.
    - Cinders/ash or other combustion by-products, like ash.
    - Free of termites and invasive species.

Each load will be inspected for field evidence of contamination at the gate and during placement for visual or olfactory evidence of contamination.

2.6.2.4 Geotechnical Considerations

To ensure adequate and suitable compaction, the imported fill will not be frozen or contain large pieces of rock (more than 0.3 m in size) and should be within 3% of its optimum water content. The soil should essentially be dry. It will be placed and uniformly compacted with the dozer or loader equipment on-Site.

If rock is imported to the Site, then leachate testing of the rock will be required to confirm that metals in the rock will not leach to the groundwater table. Leachate testing should be undertaken by the source site Qualified Person.

2.6.2.5 Source Site Assessment and Acceptance Protocol

This section outlines the review and assessment protocols, and documentation and reporting requirements for consideration of soil to be accepted for filling at the Site. Soil imported to the Site will need to satisfy the process outlined below:

1. Any person wishing to ship Excess Soil to the Site will be provided with a copy of Parts I, II, and III of the Protocol that is provided in **Appendix A**.
2. Anyone seeking to ship material for deposit at the Site must receive written approval from the Operator that the material proposed to be shipped has been accepted in accordance with the Protocol.
3. An application to ship material for deposit at the Site will include the following, as a minimum:
    a. Name of the owner of the Source Location and the representative of the Source Location authorized to sign any bill of lading or other documentation relating to shipments of Acceptable Fill to the Site.
    b. One or more reports, prepared by a Qualified Person from the Source Location, to include the following information:
        i. A description of the *Source Location* and its history, including the location, past and present uses of the land, and current activities **or** an Assessment of Past Uses as described in Section B of the Excess Soil Rules[6].
        ii. Soil Characterization Report as described in Section B of the Excess Soil Rules[7] **or**
            a. A description of the soil (including quantity and quality, contaminants of concern, etc.) to be shipped to the Site, including the processes involved in its generation.
            b. Description of potential contaminating activities and areas of potential environmental concern associated with the Site and excess soil to be shipped to the Site.

[6] This will be a mandatory requirement after January 1, 2022 as this portion of the Excess Soil Regulations come into effect at that time.

[7] This will be a mandatory requirement after January 1, 2022 as this portion of the Excess Soil Regulations come into effect at that time.

c. Where some or all of the material to be deposited is soil/earth, a record of the results of a comprehensive soil testing program for the *Source Location*, including a description of the sampling locations, number of samples collected, sample collection procedures, and parameters analysed. An explanation or rationale for the selection of the sampling locations and the parameters for testing must be included.

iii. A statement from a *Qualified Person* stating that in his/her opinion the material satisfies the requirements of the *Protocol* and is suitable for placement at the Site.

iv. The anticipated volume of material to be shipped to the Site.

v. An estimated time frame in which the material will be shipped.

The above information may be presented in an Excess Soil Management Plan prepared by the Source Location Qualified Person, if available. All reports and documents provided to the Reviewing Qualified Person must not be dated older than six months. If documents are older than six months, then a letter from the Source Location Qualified Person must accompany the reports indicating there has been no contaminating activities associated with the source location and there is no material change to the report content.

Copies of any application, together with the related report or reports, will be forwarded to the Operator and the Reviewing Qualified Person.

4. The application will be reviewed by the Reviewing Qualified Person to determine whether in his/her opinion the material proposed for shipment is suitable for acceptance. The Reviewing Qualified Person will consider the results of the sampling program, including but not limited to, whether the sampling locations and number of samples are representative of the material proposed to be shipped, whether the test results include the full range of parameters of potential concern relating to the Source Location and whether a suitable Quality Assurance/Quality Control (QA/QC) program was implemented.

5. The Reviewing Qualified Person will advise the Operator in writing whether or not the material proposed to be shipped is suitable for acceptance and provide any terms or conditions of acceptance. The Operator or the Reviewing Qualified Person, if so authorized by the Operator, will communicate the approval or rejection, in writing, together with any terms or conditions of approval to the person making the application and confirm the approximate times of shipment of any off-Site Excess Soil.

6. Once written approval has been provided by the Reviewing Qualified Person, the Operator will proceed to issue "bills of lading" to the Source Location.

7. A master list of bills of lading will be produced for each Source Location by the Operator prior to the shipment of any Excess Soil. The master list will enable the bills of lading to be linked by number to the specific Generating Location, haulage company(ies) and Site assessment report. The master list will be updated as required so as to remain current.

8. The Operator will keep at the Site, or at some other secure place, a copy of the documentation referred to in this Part III and will provide a copy thereof promptly upon request to the Municipality.

2.6.2.6 Minimum Soil Volume per Source Site

As the volume of soil to be imported to the Site is relatively large and given the effort/cost to monitor the quality of soils being imported to the Site, it is suggested that only source sites with excess soil volumes of 1,000 m^3 or larger be permitted to import soil to the Site.

2.6.2.7 Tracking of Fill

Upon approval from the Reviewing Qualified Person of the receipt of the soil, bills of lading will be produced for each Source Location by the Operator. The tracking system may be a paper or paperless (electronic) based system such as Soil FLO or equivalent. The information on this documentation will include:

- The owner of the source location.
- Generating Location.
- The name of the hauling company.
- License plate number and truck identifier (if one exists).
- The date and time of the soil leaving the source location and arrival at the Site.
- Signature of authorized representative of the Source Site.

A bill of lading or electronic verification will be presented before any truck(s) can enter the Site. The gatekeeper will cross-reference the information on the bill of lading or electronic documentation against the master list which will include truck ticket numbers issued by project. Untested and/or undocumented loads or loads with no bill of lading or electronic verification will not be accepted under any circumstances. Paper backups may be required if electronic verification/documentation is not available.

If the source site implements a tracking system and maintains the hauling records, then the Operator will request copies of the hauling records from the source site for those soils brought to their property.

Details of tracking of the fill within the Site is discussed in the following section.

2.6.2.8 Proposed Fill Placement Operations

The original fill application envisioned backfilling of the former pit to final elevations with approximately 1.0 to 1.3 million m^3 of fill to fill the depression to original grade.

In accordance with the Council Resolution No. C2021-50 passed on February 17, 2021, a maximum of 600,000 m^3 of fill will be placed over a 5 year period. Filling will take place in two stages:

> **Stage 1** consists of fill operation of the pit in the southeast portion of the Site, bringing the lowest portion of the former quarry to an elevation of 257 MASL. This stage will be effectively contained within an area of about 24,000 m^2. Refer to the Site Operations and Environmental Controls, Stage 1 drawing (OPS-1) for further details.
>
> **Stage 2** consists of placement of fill to a maximum of 600,000 m^3. Refer to the Site Operations and Environmental Controls, Stage 2 drawing (OPS-2) for further details.

The Operator will have a site manager, to coordinate the trucking, manage the waybill system, inspect, grade and compact the fill. A Qualified Person will also be retained to pre-screen proposed imported soil sources, establish the waybill system, provide periodic testing of the imported fill, recommend a compaction procedure and provide on-Site testing, and prepare monthly and annual reports. A representative of the Qualified Person will be on-Site during operational hours while fill is being imported to the Site to undertake the field work associated with the Qualified Person's role.

As the access road is located along the north side of the property, filling operations will likely be from south to north. Upon acceptance of the fill from the source site and visual inspection at the gate and during placement, fill will be placed as follows:

- Fill from each source site will be placed in a designated location depending on weather conditions.
- Depending on the volume of soil from the source location or Site operations, the designated location may be the final placement location or a temporary location.
- Samples will be collected from the source site designated location by the Receiving Qualified Person for laboratory analysis for confirmation of soil quality.
- Grading of soils will not be undertaken until receipt of confirmatory analytical results and written confirmation from the Receiving Qualified Person.
- If soils are temporarily stockpiled, they will be relocated to final location upon written notification from Receiving Qualified Person.
- The fill placement location will be tracked, both by source and geographic area within the receiving site. The location of the fill placement will be surveyed and recorded daily using Global Positioning Survey (GPS) system.
- Placement of fill will generally follow a bench type placement with placement of fill initially at the lower elevations of the Site. Filling of subsequent topographically higher benches will then be completed. The soils filling operation will be influenced by factors, such as market conditions, daily anticipated volumes and weather influences.
- Stormwater management plans will be developed in support of the Site Alteration By-law permit (By-law #2013-066) that describes surface water management strategies during the backfilling activities.

Mapping for the area of the proposed project was obtained from the Ontario Base Mapping (OBM) data base, map sheet number 10 17 6300-48850, in order to determine the original (pre-extraction) topography. The maximum contour elevation of 277.00 Original (Pre-Extraction) Topography was shown along the western boundary of the Site, with a gradual downhill gradient to the east, south and north. The OBM mapping was transferred to the Final Site Closure Plan (CL-1) and is to be used to represent ultimate proposed contours for the project at the conclusion of the work.

Once the final pre-topsoil grade is confirmed by topographical survey as outlined in **Section 2.12.4.1**, the fill will be capped with a maximum of 1.0 m of topsoil and utilized for agricultural purposes. Refer to **Section 2.6.2.12** for Site Closure Restoration and Final Site Closure Plan CL-1 for further details. At no time will the proposed grades on-Site (including topsoil) exceed those approved as the final contours.

Since topsoil represents a commercial valuable commodity, it is anticipated that, while occasional and partial loads of topsoil will be transported to the Site as part of the filling activities, the quantity of topsoil placed below grade will represent a negligible fraction of total quantity of fill. It is recognized that there is deficient of topsoil for placement of a final cover of 1 m thickness at the Site. Full loads of topsoil may be transported to the Site, but this topsoil will be stockpile separately until it is required for final cover. At no time will the volume of topsoil imported to the site exceed the volume required for final cover.

2.6.2.9 Confirmatory Samples of Fill Placed

Prior to import of soils to the Site, the Reviewing Qualified Person will have reviewed background documentation/excess soil management plan and approved importation of soils to the Site. At this point, the Reviewing Qualified Person may visit the source site to confirm the source of the soils to be imported to the Site.

Confirmatory soil samples will be collected under the supervision of the Reviewing Qualified Person for quality control as follows:

- Soil samples will be collected of the soils from each separate source site; and
- Confirmatory soil samples will be collected at a frequency of one sample for every 2,000 m^3 imported to the Site.

Confirmatory audit soil samples will be collected at the designated location the soil is placed at the Site. It is proposed that the confirmatory soil samples will be submitted to an accredited laboratory for the analysis of the following[8]:

- Petroleum hydrocarbons (PHC) F1 to F4 including benzene, toluene, ethylbenzene, and xylene (BTEX).
- Metals.
- Sodium Adsorption Ratio (SAR) and electrical conductivity (EC).
- Any other contaminants of concern (COCs) identified in the documentation provided by the source site.

2.6.2.10 Documentation of Accepted Fill

2.6.2.10.1 Daily Documentation

A daily summary log will be maintained at the Site by the Operator and/or representative of the Reviewing Qualified Person that will include:

- Date.
- Total number of trucks entering the property.
- Total number of trucks accepted.
- Total number of trucks rejected (and reasons for rejection).

[8] Depending on the COCs identified at the source site, the sampling of the individual analytical parameter groups listed may be undertaken over a 1 to 3 day period.

For each Source Location:

- Identification number for each Bill of Lading received on that date.
- GPS coordinates of fill placed at the Site.

All applications and related reports, bills of lading, logs of material accepted at the Site, records of material approved for acceptance at the Site, etc. will be retained by the Operator and will be made available to the Town as requested.

2.6.2.10.2 Discovery of Unacceptable Fill Protocol

Should fill of unacceptable quality be discovered at the Site (either at the gate or during placement or through the confirmatory soil sample program), the following will be undertaken by the Operator:

a. The Reviewing Qualified Person or their representative will review the documentation provided by the Operator and the analytical results of the imported fill on a monthly basis and generate a summary letter. Any adjustments to the protocol based on the results will be provided at that time.

b. If soil of unacceptable quality is not detected during the initial screening protocol and is revealed by confirmatory soil sampling, the Reviewing Qualified Person or their representative will provide recommendations on potential course(s) of action to rectify the situation.

c. All unacceptable fill will be located, recovered and stockpiled for further inspection, sample collection and laboratory analysis. Based on the inspection and analytical results:

    i. If the quantity of unacceptable fill is minimal (e.g., <10% of load) it can be hand sorted and disposed of off-Site.

    ii. If the quantity is excessive, the entire load is to be isolated and removed from Site.

    iii. The Operator is to ensure that the rejected fill is removed to either its source site or a MECP approved waste disposal site. If the fill is transported to an approved waste disposal site, the Operator will obtain documentation from the receiving site indicating name and location of receiving site, copy of Environmental Compliance Approval, and confirmation that the receiving facility has reviewed and accepted the fill.

d. Importation of the fill from the source site will cease until it has been confirmed that the fill is acceptable for receipt at the Site. Immediately upon the rejection of a load, a decision must be made based upon the following:

    i. The rejected load is or may be an indication that there is an issue with the fill from a particular source site. The source site will be immediately suspended from shipping to the Site. The suspension of a source site requires a complete re-assessment of the source site. The source site will be immediately informed not to send fill to the Site.

    ii. The rejected load is an isolated occurrence at the source site and is an individual load issue. This could be a result of a loading error, a destination error or another cause, such as residential materials (asphalt from a previous load) residing in the truck box. In this case, the source site is not suspended, but an Incident Report is prepared and action taken to address rejected load.

e. Should fill be accepted, follow up reporting will be provided to the Town with documentation to support acceptance of the fill at the Site.

f. The action undertaken will be documented in an Incident Report (see **Template 4**), together with any applicable documentation (e.g., testing and analysis and/or shipment off-Site) for the unacceptable fill will be maintained in the Site log (at the Site, or at some other secure place).

A copy of the documentation will be provided promptly to the Town through the Incident Report form.

2.6.2.11 Final Site Closure

The final filling will be closely monitored to ensure the volume of soil (including topsoil) does not exceed the volume needed to meet final grade contours. Final filling will not be placed beyond the boundaries and grades indicated on the Site plans and within the permit. Formal Closure will commence immediately upon reaching the approved capacity of the Site, defined as the volume and the final contours, including topsoil or immediately following expiry of the Site Alteration Permit.

All closure works will be completed within four months of achieving final grades with the exception of any activities that cannot be completed due to seasonal conditions (i.e., frozen ground, snow cover, etc.). Any activities delayed due to seasonal conditions will be completed within two months of the restricting seasonal conditions ending.

Site closure and restoration will include final grading, application of topsoil and seed, if required. As areas of the property are brought to final fill elevation, topsoil will be placed and vegetated to minimize erosion. The temporary berms will be constructed with topsoil and will be used as final cover. All topsoil used as final cover will be acceptable for agricultural use. Appropriate erosion protection measures and slope stabilization will be established to manage run-off, encourage infiltration and mitigate the potential for impacts to surrounding properties. The closure details include sediment control fencing at the perimeter of the property where the internal elevations are equal in elevation to the boundary grading. The sediment control fence will remain until the topsoil and seed is placed and the seed has germinated.

2.6.2.12 Reviewing Qualified Person Responsibilities

The Operator is required to have a Reviewing Qualified Person prepare the Fill Management Plan and ensure Site operations conforms with the Fill Management Plan. The Reviewing Qualified Person will be entitled to coordinate Site investigations or collection of soil samples for laboratory testing to confirm that soil quality, placement strategies, record keeping and reporting are in conformance with the Fill Management Plan. Qualified GHD staff under the supervision of the Reviewing Qualified Person will be on-Site during operational hours while fill is being imported to the Site and act as their representative. The Town can rely on the expertise of the Reviewing Qualified Person and their confirmation that processes and procedures related to Source site soil acceptance review, placed material sampling and testing and reporting procedures are followed. The Reviewing Qualified Person and/or their qualified staff representative will have the following responsibilities:

a. Review of documentation from the source site to determine acceptability of the fill to be imported to the Site.

b. Review of the Fill Management Plan protocol during the fill placement operations and confirmation that activities undertaken are in accordance with the Fill Management Plan.

c. The Reviewing Qualified Person or qualified staff under their supervision will train staff to screen the fill at the gate and as it is placed, collection, packaging and transportation of confirmatory soil samples.
d. Provide recommendations in the event that soil of unacceptable quality is discovered at the gate or as it is placed.
e. Review documentation provided by the Operator on load tracking and screening.
f. Review and comment on the analytical results of the confirmatory soil samples collected.
g. Preparation of the semi-annual report of fill activities with respect to the environmental quality of fill.

The Operator or Reviewing Qualified Person will provide the Town access to records and documents. The Operator will provide access to the Site for the Town or its peer review consultant for any inspection, sampling and surveying of the Site at any time. For any site visits, the Town or its peer review consultant will need to abide the health and safety protocols established for the Site.

The Reviewing Qualified Person or their representative will review the documentation provided by the Operator related to the fill import operations and provide monthly comment and recommendations (where applicable) to the Operator.

Although the documentation will initially be prepared monthly by the Operator and/or the representative of the Reviewing Qualified Person, in line with the Town reporting frequency, this reporting schedule will be reviewed annually and the recommendations for any adjustments in the reporting program will be included in the annual report for consideration by the Town. Approval for any changes in the reporting frequency will be required from the Town.

2.6.2.13 Training by Qualified Persons

The GHD staff under the supervision of the Reviewing Qualified Person will have training in the following, but not be limited to:

- Screening techniques.
- Screening criteria.
- Sampling techniques.
- Sample preservation.
- Sample holding times.
- Sample submission using appropriate Chains of Custody (CoCs).
- Applicable standards.
- Exception handling.

2.6.2.14 Record of Site Condition

The future use of the Site after the fill operations have been completed is agricultural. To allow these uses a Record of Site Condition (RSC) would be required to be filed on the Environmental Site Registry. Within 3 to 4 months of completion of the fill operations, a RSC will be filed. The Town will acknowledge filling of the RSC with the MECP. Filing of the RSC will be the final activity with respect to the closure of the fill operations.

2.7 Sub-surface Drainage

There are no sub-surface drainage systems proposed for construction as part of the Site alteration works.

2.8 Site Control

The Operator for the Site is responsible for on-Site health, safety and security. The Operator has developed health and safety policies to outline staff procedures and is to be followed by any and all visitors to the Site.

2.8.1 Site Visit Procedures

Prior to any visitors entering the Site, the Operator is to be informed of such intention to enter the Site. All visitors planning to enter the Site are expected to identify themselves and inform the Operator's field staff of their desire to access the Site. All visitors to the Site are to understand and comply with site-specific health and safety procedures, which will be provided to visitors in advance. The following site-specific health and safety procedures will be prepared for this Site:

- Emergency Response Plan and Procedure.
- Traffic Control Plan.
- Personal Protective Equipment Program.
- General Safe Work Practices and Safe Operating Procedures.
- Manual Material Handling.
- Lockout/Tagout of all energized equipment used on-Site.
- Pre-Use Inspection and Preventative Maintenance Program for all equipment used on-Site.
- Stockpiling and Dumping Procedures.
- Seasonal Environmental hazards.

A circuit video surveillance system will be installed at the Site to record activities at specified areas around the Site. One video camera will be located at the entrance to McCowan Road, directed to the road and will be motion activated. The video camera posting stations will be outlined to the Town for reference. Recordings will be maintained by the Operator and retained for a period of 30 days after recorded. Should the Town request a copy of footage recorded, this will be provided to the Town in a timely manner.

2.8.2 Town Staff Inspections

As a party to the Agreement for the Site Alteration Permit, the Town (or their designated professional acting on behalf of the Town) has the right to visit the Site to conduct sampling, inspection, surveying or any other type of investigative or information gathering activities it chooses to undertake. The Town has the right to undertake these reviews of the Site during operating hours on any receiving day, or as coordinated with the Operator for access on non-receiving days or after hours. The Town may enter the Site during operating hours on any receiving day without notice.

2.9 Conformance with Provincial and Local Plans and Regulations

2.9.1 Greenbelt Plan

The Greenbelt Plan (2005) addresses lands in southern Ontario and contains policies regarding agricultural protection, environmental protection, culture, recreation and tourism, settlement areas and infrastructure and natural resources. The subject property is located within the 'Oak Ridges Moraine Area'. The Greenbelt Plan directs that if lands are located in the Oak Ridges Moraine Area, the ORMCP applies, as addressed below.

2.9.2 Oak Ridges Moraine Conservation Plan

According to the ORMCP Land Use Designation Map, the subject property is located in the 'Countryside Area' of the Oak Ridges Moraine. The Oak Ridges Moraine Conservation Plan Conformity Report (GHD 2017) included in **Appendix C** describes how the following ORMCP policies apply for a fill permit for the subject property:

Part II – Land Use Designations: Section 13. Countryside Area.

Part III – Protecting Ecological and Hydrological Integrity.

Part IV – Specific Land Use Policies.

The proposed development meets the policies, purpose and intent of the ORMCP and that the proposed application for a Site Alteration Permit conforms to the provisions of the ORMCP, provided the following conditions are met:

1. That the surface soils and grades provided for the filled area be adequate to permit agricultural use of the Site (refer to **Section 2.6.2.12**).
2. That a natural environment review be undertaken and submitted in support of the Plan and that the review addresses the requirements of Part III 20 of the ORMCP (refer to **Section 2.10.8**).
3. That a hydrogeology and subsurface geotechnical studies be undertaken and that the studies address techniques to maintain water quality at this Site (refer to **Section 2.10.2**).
4. That a dust, mud and erosion control plan be prepared in support of the application, and that this especially address sedimentation and erosion control on the Site during the filling operation (see **Section 2.10.3**).

2.9.3 Lake Simcoe Region Conservation Authority Regulated Area

As confirmed in correspondence from the Lake Simcoe Region Conservation Authority (LSRCA) dated August 14, 2017, the Site is not located within the LSRCA Regulated Area (see **Appendix D**).

2.10 Environmental Mitigation

2.10.1 Surface Water

At no time during the Site alteration, will surface water be discharged to adjoining properties outside of the control of the permit applicant and landowner. During the various stages of the reclamation process, temporary drainage controls are proposed to be in place to ensure on-Site surface water does not flow externally and negatively affect neighbouring properties. The requirements for the drainage controls are outlined in the Operations and Environmental Controls drawings, OPS-1 and OPS-2.

Upon completing the final stage, the Site topography will be shaped to match the conditions prior to the aggregate extraction. Pre-extraction contours indicate that overland drainage predominantly flows easterly to the additional lands under the ownership of the applicant. If the Operator changes prior to the final site closure, the new Operator will be notified of the final contouring requirements.

2.10.2 Groundwater Monitoring Plan

2.10.2.1 Baseline Groundwater Monitoring

To facilitate groundwater monitoring, seven groundwater monitoring wells were installed on-Site. The ground surface and top of riser pipe elevation for each newly installed monitoring well was surveyed for horizontal and vertical control. Subsequent to the monitoring well installation, each well was developed to ensure hydraulic connection with the screened hydrostratigraphic unit. A hydraulic connection ensures that groundwater levels and samples are representative of the subsurface condition.

Baseline groundwater monitoring commenced in November 2017, and included semi-annual manual measurement of depth to groundwater and the installation of electronic water level dataloggers (Solinst 3001 - Levelogger Edge) in five wells. Based on the results of this monitoring, the groundwater elevation at the Site ranges from approximately 260 mAMSL near McCowan Road to approximately 250 mAMSL at the eastern boundary of the Site. The water table was approximately 2 m below the base of the former pit. The groundwater flow is generally in an easterly direction across the Site.

Groundwater samples were collected from five on-Site monitoring wells for analysis of one or more of the following parameters:

- Dissolved metals (including arsenic) and inorganics.
- Petroleum hydrocarbons (PHCs), fractions F1 to F4, including BTEX.
- Polychlorinated biphenyls (PCBs).

Some of the analytical parameters are based on the contaminants of concern (COC) identified in the Phase Two Environmental Site Assessment (ESA). The Phase One ESA and Phase Two ESA are included in **Appendices F** and **G**, respectively.

Based on the analytical results from these samples, all parameters had concentrations below the 2011 Generic Table 2 Standards[9].

Groundwater samples were also collected from two on-Site monitoring wells for analysis of general chemistry (total metals and inorganics). Concentrations of all analyzed parameters were below the ODWQS[10]. health-related standards, except turbidity, chromium and lead. The elevated turbidity of the sample was likely a result of the suspended solids (i.e., agitation during sampling) in the sample which resulted in the elevated metal (chromium and lead) concentrations. These elevated concentrations are not representative of undisturbed groundwater in the aquifer.

2.10.2.2 Ongoing Groundwater Monitoring and Sampling

The water levels in all on-Site monitoring wells will be monitored on a semi-annual basis (spring and fall) prior to filling to confirm background season fluctuations in the water table elevations. Semi-annual groundwater level monitoring will continue during and until the filing of a Record of Site Condition for Agricultural land use is completed and all other requirements of the Permit and Agreement have been fulfilled. Electronic dataloggers which were installed in five wells, will remain to continuously monitor water levels.

As the proposed filling activities progress, all of the monitoring wells will be protected. Additional lengths of PVC riser pipe will be added, as needed, and structures will be placed around wells to protect them. As wells are modified, they will be resurveyed for vertical control.

Prior to, during, and until the filing of a Record of Site Condition for Agricultural land use is completed and all other requirements of the Permit and Agreement have been fulfilled, groundwater samples will be collected semi-annually from five on-Site wells. Samples will be collected for laboratory analysis of the following parameters listed in Table 2 of the Standard:

- Metals (including arsenic) and inorganics.
- Petroleum hydrocarbon fractions (PHC F1 to F4).
- Volatile organic compounds (VOC).

The results will be assessed to the 2011 Generic Table 2 Standards. For quality control purposes, one duplicate sample and one trip blank will be submitted along with the samples for each sampling event.

If the groundwater sampling program results indicate any of the following, the impact will be assessed and an appropriate action plan will be implemented as shown in the Risk Management Matrix (**Appendix E**).

- A parameter showing a statistically significant increase in concentration.
- A concentration is above the 2011 Generic Table 2 Standard or ODWQS.

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[9] Soil, ground water and sediment standards for use under Part XV.1 of the Environmental Protection Act. Ministry of the Environment, Conservation and Parks, 2011.Table 2 pertain to Full Depth Standard in a non-potable Groundwater situation for Agricultural Land Use. Herein referred to as the 2011 Generic Table 2 Standard.

[10] Presented in Ontario Regulation 169/03 Ontario Drinking Water Quality Standards under the Safe Drinking Water Act, 2002.

- Groundwater exhibiting potential aesthetic impacts (i.e., the presence of free phase product or hydrocarbon sheen).

Baseline groundwater monitoring to-date and a hydrogeological assessment is provided in **Appendix H**. As discussed above, groundwater level monitoring and sampling will be undertaken on a semi-annual basis by the hydrogeological consultant.

2.10.2.3 Off-Site Private Well Sampling

A door-to-door survey of residential wells within 500 m of the Site was completed between August 14 and 21, 2019. During the survey, residents were informed of the project and were asked to take part in the well survey. A “Sorry We Missed You” letter, informing property owners of the project and survey, was left at properties where there was no answer. The letter also provided GHD contact information for owners to schedule a survey at their convenience. A survey of the two wells owned by Overholt Farm Limited was completed on June 27, 2018.

Based on mapping, 34 properties are at least partially within 500 m of the Site. A review of aerial imagery indicated that 25 of these properties had potential water users, and these properties were included in the survey. Thirteen residents responded to the survey and a detailed survey was completed at their property.

The well surveys included information on well construction and condition, qualitative water quality assessment based on visual/olfactory evidence, potential water demands, water treatment, potential existing sources of well interference and other information.

Background groundwater quality samples were collected from eight selected residential wells, including the two wells owned by Overholt Farm Limited, and analyzed for the following parameters:

- Metals (including arsenic) and inorganics.
- Petroleum hydrocarbon fractions (PHC F1 to F4).
- Volatile organic compounds (VOC).

During filling operations, GHD will respond to well user concerns about changes in water supply (quantity and quality) within the baseline survey area. GHD will mobilize a technician to the property to assess the current well condition and collect a water sample if necessary.

2.10.2.4 Groundwater Monitoring Reporting

Annual monitoring reports will be provided to the Town during the period prior to, during and until the filing of a Record of Site Condition for Agricultural land use is completed and all other requirements of the Permit and Agreement have been fulfilled. In addition, semi-annual update reports will provided to the Town during filling activities. The reports will provide data from the previous year’s monitoring activities, as well as historical data for comparison. The annual reports will include an assessment of the groundwater monitoring results, trends, indication of groundwater impact and recommendations. The recommendations will include potential modification to the groundwater monitoring program, as needed.

2.10.3 Septic Systems

There is no septic bed in use at the Site. The closest septic beds are located at the following properties:

- 18725 McCowan Road: The septic bed is located approximately 80 m away from the Site and up gradient of the fill operation.
- 18725B McCowan Road (accessible via Mill Road): The septic bed is located less than 50 m away from the Site.

2.10.4 Erosion and Sedimentation Control Plan

Erosion and sediment control (ESC) measures will be provided on-Site during the fill operation including the provision of a silt fence around the Site perimeter, temporary swales with rock check dams, settling ponds with controlled overflow weir outlets, and an extended mud mat to control mud tracking by truck traffic. Regular maintenance of the erosion/sediment control measures presented on the Site Operations and Environmental Controls drawings (OPS-1 and OPS-2) will be implemented throughout the duration of the active operation of the Site.

2.10.4.1 Erosion and Sedimentation Control Plan During Filling

During the filling operations, there will be an active monitoring and inspection program that will focus on surface drainage and monitoring of siltation and erosion controls and measures. The measures will evolve with the project, particularly as the elevations approach the final boundary grades (see **Section 2.10.8.2** below).

As fill progresses in specific areas within the Site, the Operator will ensure drainage to approved outlets is maintained within the Site. Where necessary, through ESC inspections and reporting, the Operator will implement recommended controls including rock check dams and temporary swales to convey flows to the approved locations. During filling, the trucks entering and exiting the Site will be travelling through, and subject to, the controls as identified in the On-Site Controls **Section 2.10.7.2** above.

The erosion and sediment control measures proposed for this project will evolve and change to meet the requirements of the Site over the project's life. The measures have been broken down into two general stages:

Stage 1 consists of fill operation of the pit in the southeast portion of the Site, bringing the lowest portion of the former quarry to an elevation of 257 MASL. This stage will be effectively contained within an area of about 24,000 m^2. During the fill operation of this stage, surface drainage will be directed to a localized low spot (sump) within the pit. Given the existing native soil conditions at these elevations, any captured drainage will infiltrate. The location of the sump will be moved to alternate locations within the fill area as work progresses within this stage to allow for continuous filling of the pit. Siltation/tree preservation fence controls will be installed along the perimeter of the Site. A straw bale reinforced double silt fence barrier is proposed along the eastern boundary of the Site to further protect areas to the east from sediments conveyed from the access road. This is anticipated to be minimal. An extended mud mat and steel shaker racks will be provided for all outbound trucks. Refer to the OPS-1 for further details.

Stage 2 consists of placement of fill to a maximum of 600,000 m^3 of fill. Additional measures during this stage, include temporary swales with rockfill check dams at a sufficient spacing through the work area to effectively contain and direct drainage to the temporary sediment facilities along the eastern boundary. The temporary settlement control ponds are proposed to have an overflow outlet lined with rip-rap, to promote settling prior to discharge to the adjoining lands owned by the applicant. The temporary sediment ponds are to be cleaned upon reaching approximately 80% of their prescribed storage volume. Refer to the Site Operations and Environmental Controls, Stage 2 drawing (OPS-2) for further details.

The settlement ponds are sized accordingly to accommodate surface flows from the additional areas of this stage. Supporting calculations for the settlement ponds are included in **Appendix I**. Once pre-grade elevations have been achieved, stockpiled topsoil will be spread over areas as they are completed, in preparation to return the lands to agricultural uses through the Site.

Erosion and sediment control inspection will be conducted on a weekly basis or before and after any significant precipitation event to protect against impacts to adjacent properties.

2.10.4.2 Plan Approaching Completion

As the fill operations progresses to a point where the internal elevations are equal in elevation to the perimeter or boundary grading, sediment control fencing will be required to ensure any sediment contained in drainage flowing as per the approved plan is contained within the Site. The sediment fence required will be installed, maintained and remain in place until the finished elevations have been achieved, topsoil placed, and seed germinated. Following this Site restoration work, and once reviewed and confirmed restoration works complete and stable, the sediment fence is to be removed from the Site.

At no time will the final elevations (including proposed cover topsoil) exceed the elevations shown on the approved final contours.

2.10.4.3 Completion of Operations and Post Filling

Once the placement of fill has been completed with survey verification as per the frequency and parameters outlined in **Section 2.13**, the Operator will undertake the Site work termination procedures, as outlined on the Site Closure Plan, Drawing CL-1.

2.10.5 Buildings and Structures

There are no buildings at the Site. Trailers would be brought onto the Site for a security station and a site office as shown on the Site Plan (**Drawing SP-1)**. There will be no water, wastewater or electrical services installed. Bottled water will be used, washrooms will be via portable toilets, and temporary power will be brought onto the Site.

2.10.6 Traffic Management

The following subsections summarize the Traffic Impact Study included in **Appendix J.**

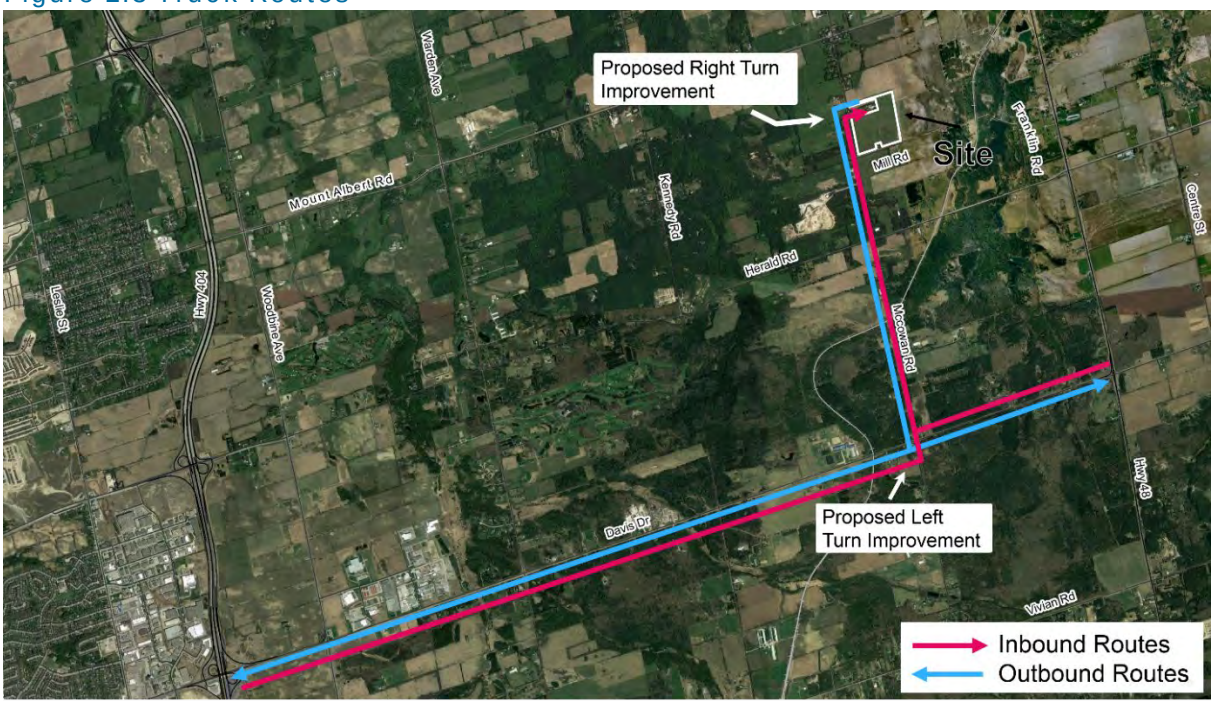
2.10.6.1 Truck Routes

It is expected that the majority of the trucks will travel from source fill locations south and west of the Site. The trucks associated with the fill management will travel via Davis Drive and McCowan Road. This has been confirmed by York Region and in discussions with the Town of East Gwillimbury. The truck routes are shown on **Figure 2.3**.

In 2015, York Region conducted an assessment of all Regional roads with load restrictions. As noted by York Region, all Regional roads are intended to accommodate heavy commercial vehicles. As part of this assessment of Regional roads, load restrictions were removed on roads that had been reconstructed and no longer require load restrictions, including McCowan Road between Davis Drive and Ravenshoe Road. The removal of the load restriction from McCowan Road was adopted by the York Region Council on November 15, 2015 (see **Appendix K)**.

A review of speeding and accident incidents on McCowan Road was conducted. A Freedom of Information request was submitted to York Regional Police to obtain speeding and accident information over the last three years on McCowan Road between Davis Drive and Mount Albert Road. Data from York Regional Police showed that of the 133 speeding tickets issued on McCowan Road between Davis Drive and Mount Albert Road, 1 was issued to a Commercial Vehicle/Pick-up, and of the 17 accidents, 1 was noted as a Commercial Vehicle/Pick-up (see **Appendix L**).

Figure 2.3 Truck Routes



2.10.6.2 Projected Truck Volume

The Fill Management Plan will require 600,000 m³ of fill materials to be delivered to the site over a period of 5 years. With expectation of 300,000 m² fill material to be processed every year, it is assumed that a maximum of 150 trucks per day will be required based on 200 working days per year and 10 m³ of fill material per truck. The fill operation will result in average of 15 trucks per hour.

Detailed methodology of the trip generation are shown in the Traffic Impact Study included in **Appendix J**. The Traffic Impact Study was undertaken based on the original proposed 200 trucks per day. As a result of a request by the Town of East Gwillimbury, the maximum number of trucks that will be permitted was reduced from 200 trucks per day to 150 trucks per day with an annual average of 100 trucks per day, as per Council Resolution No. C2021-50. Since this change represents a reduction in the volume of trucks, the conclusions of the Traffic Impact Study remain valid.

2.10.6.3 Traffic Analysis

A traffic impact analysis was undertaken based on the operations of the existing and future road network before and after introduction of the estimated subject site generated traffic. The traffic impact analysis was conducted on the following intersections:

- Mount Albert Road / McCowan Road.
- Site Access / McCowan Road.
- Davis Drive / McCowan Road.

The study intersections are operating within capacity under existing background and total conditions. The truck trips anticipated to be generated by the Site will have little to no impact on traffic capacity of the study intersections. The intersections were subjected to capacity analysis under extreme conditions of 40 inbound and 40 outbound trips during the peak hours as a sensitivity analysis. When compared to future total conditions, it is evident that the studied intersections have enough resilience to accommodate even an extreme and highly unlikely number of site trips.

In addition to the traffic impact analysis conducted at the above intersections, Automatic Traffic Recorder data was collected in 2018 and 2020 at various locations along McCowan Road. Based on these findings, up to 740 vehicles per day, provides the best representation of daily traffic along McCowan Road. Typical Rural Arterial Road, as defined by Transportation Association of Canada (TAC) carries up to 12,000 vehicles per day. McCowan Road, due to its posted speed, is estimated to carry up to 7,000 vehicles per day. As a result, the addition of 300 trucks (150 trucks per direction), generated by the proposed fill operations, is expected to have nominal impact to the capacity along this section of McCowan Road, as shown in **Figure 2.4**.

The detailed traffic impact analysis is included in the Traffic Impact Study included in **Appendix J**.

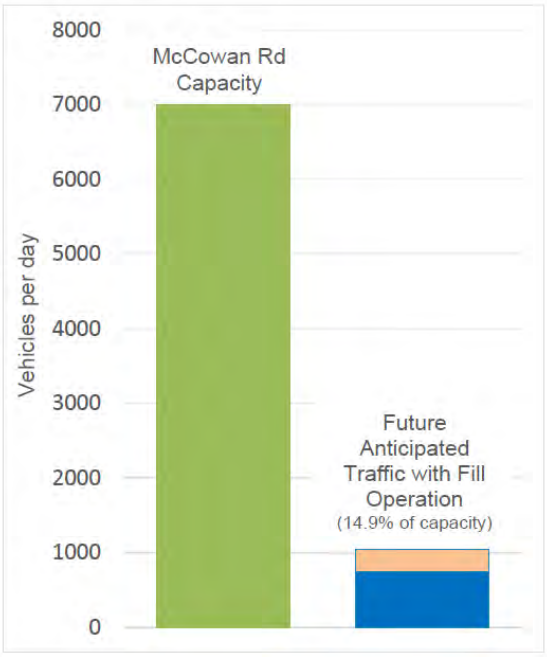


Figure 2.4 McCowan Road Existing and Anticipated Capacity

Although the truck trips anticipated to be generated by the Site will have little to no impact on traffic capacity, several improvements have been implemented or are proposed, as a result of comments received by members of the public, Town of East Gwillimbury Council, and York Region:

- Intersection improvements are proposed for Davis Drive / McCowan Road and for the McCowan Road site access at the request of York Region. Eastbound and westbound left-turn lanes at Davis Drive / McCowan Road are proposed as improvements. The storage lengths of 15 m was found to be adequate for the expected queues at the exclusive left-turns as shown in Table 7 (5 m). A northbound right-turn taper is also proposed at the McCowan Road site access. The preliminary functional designs of these intersections is included in the Traffic Impact Study included in **Appendix J**.
- A four-way stop was installed at the intersection of Herald Road and McCowan Road, in response to concerns raised by members of the public and the Town of East Gwillimbury.
- At the request of the Town of East Gwillimbury, radar speed signs displaying the speed of approaching vehicles will be installed in both directions south of the Site entrance, as a traffic calming measure.

In accordance with Council Resolution No. C2021-50, no filling will occur with the exception of installing berms as part of the site preparation works prior to the intersection improvements being in place to the satisfaction of the Town and York Region.

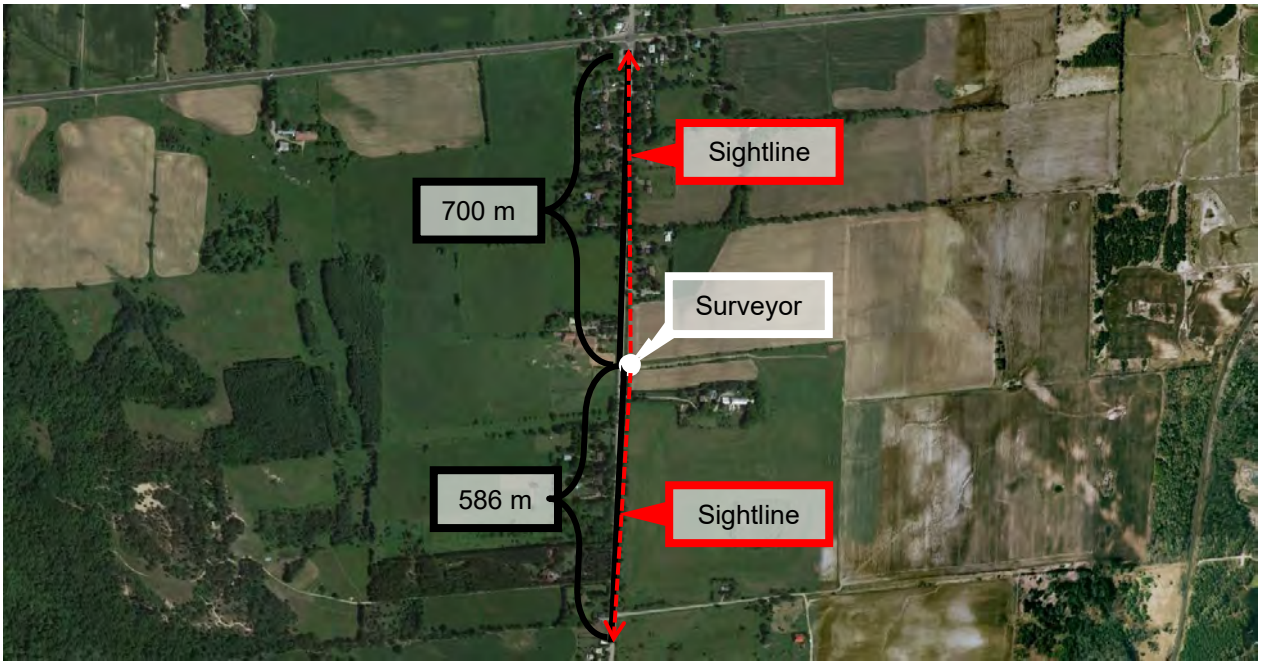
In addition, as a result of comments received from members of the public York Region completed a safety audit of McCowan Road corridor between Mount Albert Road and Davis Drive. York Region's audit concluded that McCowan Road has sufficient capacity and posted speed is appropriate. The full results of the safety audit are included in the Traffic Impact Study included in **Appendix J**.

2.10.6.4 Sightlines

Sightline distance requirements were reviewed based on Ministry of Transportation Ontario's (MTO) Geometric Design Manual. Design speed of 80 km per hour based on the posted speed of 60 km per hour within the vicinity of the Site access. The sightline distance requirements associated with the Site access are the turning sight distances for stopped vehicles exiting the Site. Although all exiting vehicles from the Site are exiting via left turns, for analysis purposes, vehicles exiting via both left and right turns were considered for the sightline analysis.

The measured sight distance is 700 m for the southbound traffic approaching from the right for vehicles exiting left from the Site. The measured sight distance for the northbound traffic approaching from the left of the exiting vehicle is 586 m. The sight distances are shown in **Figure 2.5**

Figure 2.5 Measured Site Lines



The measured sight distances are longer by at least 236 m compared to what is required by the MTO manual. The measured sight distances are approximately 350 m longer for vehicles approaching from the right (for southbound traffic approaching the Site access), and 236 m longer for vehicles approaching from the left (for northbound traffic approaching the Site access). Detailed sightline analysis can be found in the Traffic Impact Study included in **Appendix J**.

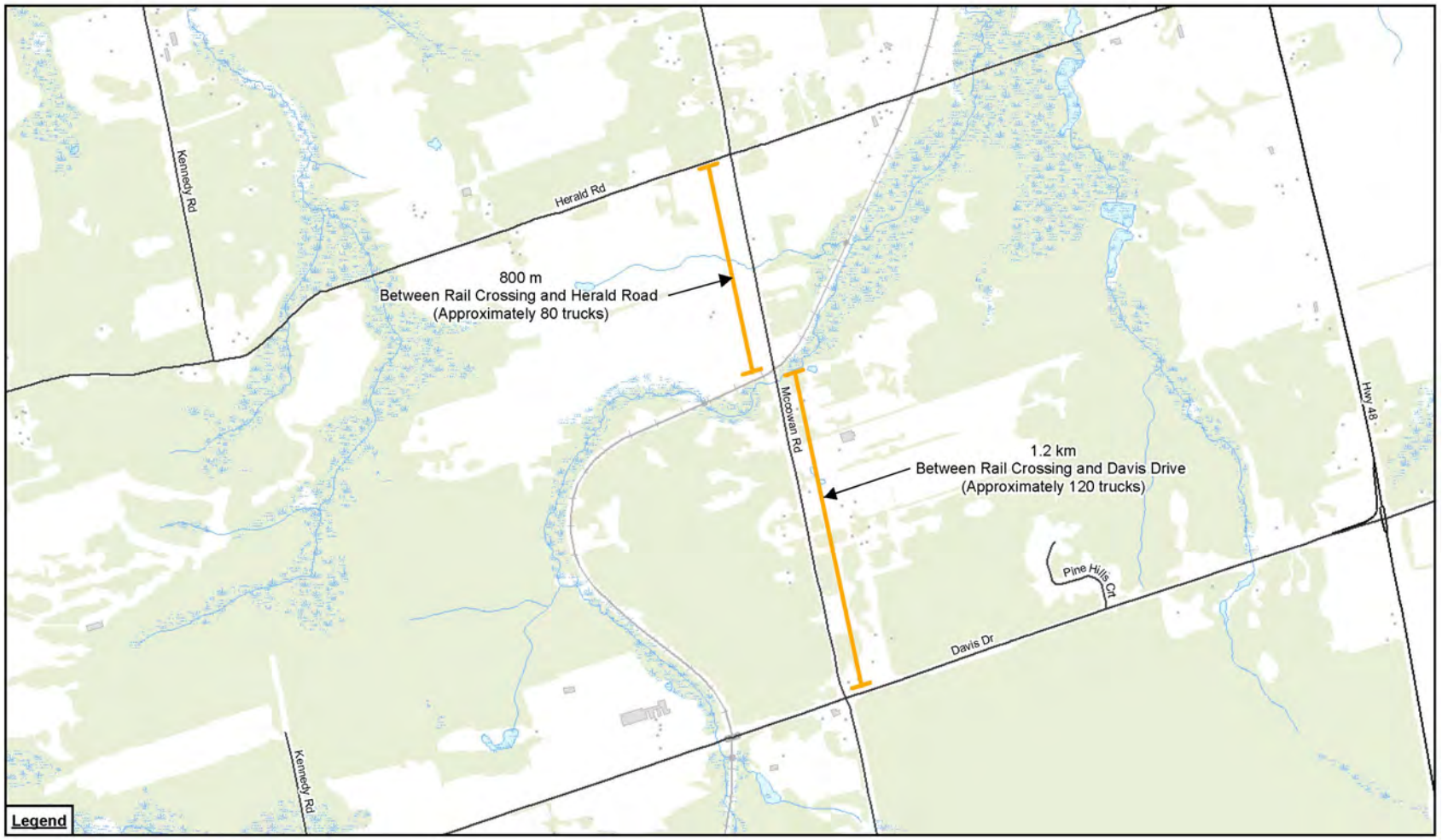
2.10.6.5 Rail Crossing

As a result of concerns raised from members of the public at the November 19, 2019 Council meeting, an analysis of potential congestion at the rail crossing on McCowan Road between Davis Drive and Herald Road was undertaken. The distance between the rail crossing and Herald Road is 800 m, which means that approximately 80 trucks would need to be stopped at the train crossing before they caused congestion at the intersection of Herald Road and McCowan Road (see **Figure 2.6**). The distance between the rail crossing and Davis Drive is 1.2 km, which means that approximately 120 trucks would need to be stopped at the train crossing before they caused congestion at the intersection of Davis Drive and McCowan Road As a result, it is unlikely that the number of trucks generated by the Site would cause major congestion at the intersections of Herald Road and McCowan Road or Davis Drive and McCowan Road.

2.10.6.6 Recommendations

The study intersections, with the proposed exclusive turning lane improvements, will service the fill operations without any significant issues. The Site access satisfies the sightline requirements.

Figure 2.6 Distance to Rail Crossing from Herald Road and Davis Drive



2.10.7 Dust and Mud Control Plan

In order to ensure the Site is property maintained and to minimize disturbance to the public, the following dust and mud tracking control program will be implemented. Dust and mud control is critical to ensure property and the environment are protected and maintained. During seasons of low precipitation, dust control measures are to be implemented to suppress and contain dust within the Site. Mud tracking measures will be required during seasons of high precipitation.

The proposed measures will be operational at the start of the filling operations, and reviewed concurrently with the Erosion and Sediment Control inspections to ensure they are functioning and effective. Mud and dust tracking are priority considerations for this Site. As a result, the risk management program described in **Section 2.13** includes mitigation strategies in the event of mud tracking on McCowan Road and dust complaints. Reports of mud and/or dust will be addressed immediately during business hours or when the site opens the following business day if a complaint is received after hours.

2.10.7.1 On-Site Dust Controls

In order to mitigate and control dust during the fill operations, a series of controls will be implemented at the Site including a full time on-Site water truck, a gravel road constructed to the area of work, limiting working area to expose only the needed work area, and stabilizing areas that are not being worked on within a prescribed period of time. These controls are detailed below.

Water Truck

A water truck will be accessible at all times to spray haul roads, material stockpiles (where possible), and other areas being actively worked. During seasons of low precipitation, the water truck will be used to suppress and contain dust within the Site. Dust will be monitored regularly to ensure that water is reapplied as necessary to suppress dust from being picked up by wind. The Operator will review the Site throughout the day and document the usage of the water truck to ensure the roads and surrounding properties are not adversely impacted by dust migration. Reports of dust will be addressed immediately during business hours or when the site opens the following business day if complaint is received after hours.

Gravel Road

In addition to the existing asphalt driveway along the north boundary of the Site, gravel pathways will be constructed from the termination of the asphalt driveway to the area of work. Trucks speeds will be limited to reduce the amount of dust generated. Haul trucks will travel through the Site using the gravel pathways to minimize the reworking of existing surface soils.

Limited Area of Work

Any open area of work will be limited to the size of one week's worth of work area during Stage 2 and Stage 3 of the fill operation. Machinery shall only operate within the specified area of work to reduce disturbance within the Site. Trucks will access the area of work using a constructed gravel road to the greatest extent possible, as described above.

Seeding of Non-active Areas

Areas that are not expected to be worked on for an extended length of time shall be seeded to cover and protect exposed, loose soil. The Operator will inspect and maintain seeded areas.

2.10.7.2 On-Site Mud Tracking Controls

In order to mitigate mud tracking during the fill operations, a series of controls will be implemented at the Site, including a very long private asphalt access road fully contained within the Site, a full-time sweeper and flusher truck, an extended mud mat, and steel shaker racks. These controls are detailed below.

Asphalt Access Road

The existing asphalt access driveway along the north boundary of the Site will be maintained to enable truck movement into the Site, through the Site checkpoint, and following fill placement, departure from the Site. This asphalt road is approximately 270 m in length between the Site entrance/exit and the extended mud mat (see **Drawing SP-1**).

Full Time Sweeper and Flusher Truck

Any mud tracking related to truck traffic will be monitored and cleaned with the Sweeper and Flusher Trucks located on-Site full-time. The Operator will review the Site throughout the day and document the usage of their sweeper/flusher truck to ensure the roads are maintained in a state of cleanliness satisfactory to the road authorities. In addition while the facility is operational, sweeping and flushing will take place as needed per the following:

- Friday evenings after last truck has left the Site.
- After significant rainfall events, until internal haul roads have dried sufficiently.
- After receiving notifications from the Town or Region of complaints of excessive mud from this Site. Complaints received outside of operational hours will be assessed and actions applicable to the Site completed once the Site reopens.

Extended Mud Mat and Steel Shaker Racks

Prior to exiting the Site, trucks will be required to drive over a 60 m rip-rap vibration path, which will promote sediment removal by shaking of the wheels of trucks leaving the Site. This will be further enhanced with travel over steel shaker racks. Shaker rack will be 15m long to allow for at least three full tire rotations to ensure vehicles bounce enough to dislodge mud and sediment. Storage below the rack will be a minimum of 150 mm and grades such that drainage is directed to silt settling areas. The mud mat and steel shaker rack will provide sediment and mud removal from truck wheels and minimize mud tracking of dirt and sediment onto roads. This system will be provided and maintained year-round during fill placement. These features are strategically placed prior to the long private asphalt driveway, so that the private asphalt road is utilized to promote mud removal prior to reaching the public road. Additional racks/ extensions may be required at the request of the Town

2.10.7.3 Inspection Protocol, Documentation and Reporting

The referenced on-Site controls will be inspected weekly by the engineering consultant's qualified ESC inspector (Certified Inspector of Sediment and Erosion Control – CAN-CISEC), and prepare an inspection report. The qualified ESC inspection report will be circulated to the Town and the Operator noting Site conditions and recommendations for application of best management practices. As outlined in the Risk Management Matrix (per **Appendix E**), should there be conditions on-Site causing excessive mud tracking onto McCowan Road, or other significant erosion or sediment concerns identified, truck access and egress may be stopped until these issues are satisfactorily addressed.

The ESC inspection report will provide the Operator with a summary of the deficiencies and recommended corrective actions needed, along with a request for a rectification schedule to be included in the Operator's response. Erosion and sediment control reporting will be undertaken weekly, in conjunction with the overall reporting described in **Section 2.12**.

As per the Risk Management Matrix (labeled as **Appendix E**), inspections conducted will include review of following areas/features:

a. McCowan Road to ensure mud is not tracked onto this roadway.

b. Construction traffic (speed limits).

c. Erosion due to wind and dust during dry weather seasons – utilization of controls as described in Section 2.10.7.1.

d. Usage of the mud mat when exiting the Site during wet weather seasons.

e. Drainage scars on incomplete sloped areas.

f. Erosion and sediment controls in place, following single or continuous storm events.

2.10.7.4 Timing for Action, Resolution and Response Protocol

Responses to mud and dust control concerns reported and received by the Operator are to be responded to and/or addressed immediately during business hours or when the Site opens the following business day, if a complaint is received after hours. In accordance with **Section 2.15**. Public Complaint and Incidents, where the concern is received and documented through the Town By-law office, or York Region's transportation staff, the Operator will provide a response on actions taken to the By-law office within two business days. For any issues requiring immediate attention, these will be addressed directly, or as quickly as practically possible.

2.10.8 Tree Protection

A tree inventory was conducted on the northern portion of the Site within the area most likely to be affected by fill and grading activities. In areas where the potential for root damage or damage from construction equipment and Site grading activities, tree protection fencing shall be used to mitigate root and tree damage and to define tree protection zones. Tree protection fencing shall be the primary means of protecting Site trees and shall delineate and protect the root systems of trees to be preserved.

Tree protection details are provided on **Drawings TP-1** and **TP-2**. Proposed tree protection fence is shown on **Drawing TP-3**. A minimum 5 m setback will be maintained from the dripline of any tree along McCowan and Mill Road, to provide an acceptable tree protection zone. All trees not included in the inventory, but have a crown that is within 5 m of the proposed Site grading limit will have tree protection fencing installed. Protection provided in accordance with Town guidelines.

One inventoried tree, Tree 73, is proposed for removal based on the proposed limits of fill and grading activities. Tree 100 may also require removal; however, it is recommended to retain Tree 100 through adjustment of the limit of grading works such that the crown (dripline) is protected.

2.10.9 Noise Impacts

The Noise Impact Study is included in **Appendix L** and summarized in the following sections**.**

An excavator and dozer will be loading or moving the soil into piles during the daytime operation hours. The noise from the operation has been assessed as being emitted from the Site along the on-Site truck route that runs beside the boundary of the soil berm. The worst-case operating areas for noise are located on the west property line adjacent to the residences on McCowan Road and on the southern property line.

The results of the Study indicate that the steady state sound emitted from operations at the Site show compliance with the MECP publication “NPC-300, ‘Environmental Noise Guidelines – Stationary and Transportation Sources – Approval and Planning” (August 2013) at the existing worst-case points-of-reception (PORs) with administrative controls and an L-shaped property line berm. The noise evaluation was modelled and presented in **Appendix L.** Provisions described in both scenarios will be implemented at the start of the fill operations to provide full noise protection to existing and potential neighbouring residences.

The evaluation and modelling included in the Noise Impact Study was based on the originally proposed 200 trucks per day. As a result of a request by the Town of East Gwillimbury, the maximum number of trucks that will be permitted was reduced from 200 trucks per day to 150 trucks per day. Since this change represents a reduction in the volume of trucks, the conclusions of the Noise Impact Study remain valid.

2.10.9.1 Compliance with Existing Residences

The following controls are proposed to ensure compliance at existing PORs. They are to be enforced during daytime, evening, and nighttime periods unless otherwise indicated below:

2.10.9.1.1 Vehicle Tail Gate "Banging"

At times, trucks unloading material sometimes allow the rear tailgate to fall creating a banging noise. The Site will implement an administrative control to completely restrict the banging of tailgates by any vehicle entering the Site. This policy will be posted at the entrance to the Site and at various locations throughout the fill site and to instruct all drivers and ensure compliance. If a driver is not adhering to this policy, notification will be issued to the driver and their employer. If there have been multiple complaints of a driver not adhering to this policy, they will be asked to

leave the Site, refused future entry to the Site, and their employer will be notified that the driver will not be permitted to enter the Site.

2.10.9.1.2 L-Shaped Property Line Berm

The proposed operations modelled at the worst-case location adjacent to the residences along McCowan Road, including the proposed 6.5 m tall soil berm that will be built up along the western property line. This area is modelled to conservatively assess noise impact on the sensitive receivers.

At the request of the Town, an additional berm will be constructed on the northern property boundary. Since this berm is not required to comply with MECP noise limits, it is not included in the modelling undertaken in the Noise Impact Study (**Appendix M**). While not required to ensure compliance with MECP noise limits, this additional berm will provide additional noise and visual mitigation for properties north of the Site (see Drawing DET-2).

As discussed in Section 2.6.2.11, all berms will be removed following completion of fill operation.

2.10.9.2 Compliance with Potential Vacant Lot Residences

Noise abatement controls in the form of a southern property line berm 6.5 m tall is proposed to ensure that noise limits are met at a vacant lot receiver (potential two story residence) south of the Site should a residential building of two stories or greater be erected in the future.

The sound levels estimated at the existing and potential points-of-reception were based on the implementation of the proposed property berms and associated administrative control measures which are predicted to be below the MECP sound level limits, as summarized in **Table 2.2**.

Table 2.2 Acoustic Assessment Summary

Point of Reception ID	Point of Reception Description	Time of Day	Scenario 1 Sound Levels (L_{EQ}) (dBA)	Scenario 2 Sound Levels (L_{EQ}) (dBA)	Performance Limit[1] (L_{EQ}) (dBA)	Compliance with Performance Limit (Yes/No)
Steady State Noise Impact						
POR1A	McCowan Road Residence Facade	07:00–19:00	49.0	48.5	50	Yes
		19:00–23:00	—	—	45	Yes
		23:00–07:00	—	—	45	Yes
POR1B	McCowan Road Residence OPOR	07:00–19:00	49.9	49.2	50	Yes
		19:00–23:00	—	—	45	Yes
		23:00–07:00	—	—	—	Yes
POR2A	McCowan Road Residence Facade	07:00–19:00	47.1	44.1	50	Yes
		19:00–23:00	—	—	45	Yes
		23:00–07:00	—	—	45	Yes
POR2B	McCowan Road Residence OPOR	07:00–19:00	48.7	44.3	50	Yes
		19:00–23:00	—	—	45	Yes
		23:00–07:00	—	—	—	Yes
POR3A	McCowan Road Residence Facade	07:00–19:00	48.7	47.0	50	Yes
		19:00–23:00	—	—	45	Yes
		23:00–07:00	—	—	45	Yes
POR3B	McCowan Road Residence OPOR	07:00–19:00	48.3	44.9	50	Yes
		19:00–23:00	—	—	45	Yes
		23:00–07:00	—	—	—	Yes

Point of Reception ID	Point of Reception Description	Time of Day	Scenario 1 Sound Levels (L_{EQ}) (dBA)	Scenario 2 Sound Levels (L_{EQ}) (dBA)	Performance Limit[1] (L_{EQ}) (dBA)	Compliance with Performance Limit (Yes/No)
POR4A	McCowan Road Residence Facade	07:00–19:00	47.3	47.5	50	Yes
		19:00–23:00	—	—	45	Yes
		23:00–07:00	—	—	45	Yes
POR4B	McCowan Road Residence OPOR	07:00–19:00	45.7	47.1	50	Yes
		19:00–23:00	—	—	45	Yes
		23:00–07:00	—	—	—	Yes
POR5	McCowan Road Vacant Lot POR5	07:00–19:00	48.7	50.0	50	Yes
		19:00–23:00	—	—	45	Yes
		23:00–07:00	—	—	45	Yes
POR6A	McCowan Road Residence Facade	07:00–19:00	46.6	45.8	50	Yes
		19:00–23:00	—	—	45	Yes
		23:00–07:00	—	—	45	Yes
POR6B	McCowan Road Residence OPOR	07:00–19:00	48.6	48.0	50	Yes
		19:00–23:00	—	—	45	Yes
		23:00–07:00	—	—	—	Yes

2.11 Agricultural Justification

The Site was used for agricultural cropland purposes (primarily potatoes, corn, wheat, soybeans, and hay), from at least 1927 to the late 1980s or early 1990s. Following completion of the filling operation, the Site will be used for agricultural purposes.

2.12 Reporting

This Plan requires the Operator to maintain logs and report on the Site's activities. The benefit of the reporting process is that it provides evidence to the Town the details of the ongoing operations and enables work to be stopped if there are non-compliance issues. In the case of a major compliance breach the permit can be revoked. This approach puts the onus on the Owner or Operator to maintain compliance with this Plan and provides the Town with options to facilitate compliance.

2.12.1 Operational Reporting

The operational reporting will include metrics such as date, hours of operation, number of trucks per day, dates and testing results for soil sampling, GPS details of placement for each fill source imported, dates for submission of reports, and details of any incidents, compliance issues and actions taken. These logs will be available to the Town's environmental peer review consultant for examination and to ensure any compliance issues are identified and dealt with immediately. The operational reporting will be prepared by the Operator and/or the Qualified Person's representative, reviewed by the Qualified Person, and will include any recommendations issued by the Reviewing Qualified Person, consideration and scheduling to address the noted recommendations. **Template 1**, titled Operational Report, will be used for this reporting.

As per Section 2.10.7.3, Erosion and sediment control inspection will be conducted on a weekly basis by the engineering consultant's qualified ESC inspector (Certified Inspector of Sediment and Erosion Control – CAN-CISEC) or before and after any significant precipitation event to protect against impacts to adjacent properties and documented in an inspection report. Inspection reports will be included in the Operational Reports.

The Operational Report will be submitted within 45 days of the duration period ending.

2.12.2 Semi-Annual Reporting

Semi-annual reporting will be undertaken and provided to the Town to identify an overview of the status of the semi-annual groundwater sampling and monitoring results, and any relevant issues for the Town review and reference. This semi-annual report will reference progress from the previous six months on fill related or operational incidents that arose and actions on SEC reports and any Incident Report forms. Included in this package will be collective groundwater sampling and monitoring results, and summary and recommendations from the Reviewing Qualified Person on all works being reported and consideration and scheduling to address the noted recommendations. The format and details for the semi-annual reporting are identified in **Template 2**, titled Semi-Annual Report.

The Semi-Annual Report will be submitted within 45 days of the duration period ending.

2.12.3 Annual Reporting

The Operator will provide an annual report to the Town to provide a general overview of the status of the operations, a collaboration of the continual and quarterly report detailing, groundwater monitoring results, surveyed fill import volumes and fee payment details, and endorsement and/or recommendations by the Reviewing Qualified Person. The recommendations would include any formal changes to the Fill Management Plan to address any compliance issues, complaints or other issues identified during the year. A summary of the year's activities including number of truckloads of fill, volume of fill imported, Site area(s) filled, complaints received, work orders, test results, sources of fill, traffic and signage review, mud and dust control, erosion and sediment control, environmental monitoring, compliance assessment, and other details as noted in **Template 3** titled Annual Report are required to be included. The Site Alteration Permit will not be renewed until all items have been addressed and the requirements of the Permit fulfilled.

The Annual Report will be provided three months prior to the Permit renewal date. The results of the Annual Report will be briefly reviewed and comments provided for any work that may be required.

2.12.4 Fill Progress Survey and Fee Payment

2.12.4.1 Survey Requirements

Prior to the commencement of the Site alteration under the Town permit a topographical survey will be prepared and provided to the Town to identify the 'original' or baseline surface topography. This survey will be referenced as the baseline and calculation of the first anniversary total fill volume will be compared to it to equal the filling works completed for that period. Annually, the Operator is to coordinate and provide a current topographical survey to document the filling progress, operational tracking and Town fee payment calculation. The survey may be prepared by an Ontario Land Surveyor (OLS) or non-OLS surveyor with third party review.

2.12.4.2 Volume Reporting Requirements

The Town fee is based on the volume of fill imported. To ensure volumes are accurately assessed and reported, Rice will coordinate and provide a topographical survey of the property for submission with the Annual Monitoring Report to the Town. Each annual to-date survey will be compared against the previous to-date assessment to identify the volume of fill imported for the current period ending. Therefore, the calculated volume to be applied to the applicable Town fees to be paid will be assessed as follows:

Annual Volume Total = Volume Filled To-date – Previous Volume To-date Assessed

2.12.4.3 Topographic Survey Scheduling and Fill Volume Estimates

The year-end survey will be available within 45 days of the submission of the Annual Report.

If final survey data is not available within the anniversary date for the calculation of volumes received during the period, the following can be done:

- The volume since the most recent survey up to the date to which fee payments are applicable can be estimated based on the number of truckloads received.
- The fee calculation will be based on a topographic survey no older than four months.
- This means the topographic survey needs to be included in the Annual Report (which is due three months before the expiry of the Permit) and must have been completed at least a month prior to the submission of the Annual Report.

Ideally, fee payments will be based on topographic surveys; however, it is recognized this is not always practical so truck counts will be used to estimate the volume of fill from the last topographic survey to the end date of the reporting period. Adjustments in fill volumes and fees paid when based on truck count estimates will be made following the next topographic survey.

As the filling approaches the final approved contours the duration of the Site Alteration Permit may be shortened and/or the required frequency of topographic surveying may be increased to ensure the approved contours are not exceeded. Therefore, the following survey schedule is proposed:

- Annual survey up to 70% of the fill volume has been completed;
- Semi-annual survey to 90% of the fill volume capacity; and
- Quarterly to 100% of the fill volume capacity.

The survey schedule may vary depending on the rate of filling and Town personnel will be notified in advance if the schedule will need to be adjusted.

Reporting of the survey surface comparison and volume calculation will form part of the Annual Report package to be issued to the Town, and will be submitted to the Town with payment of the applicable fees per the Town By-law.

2.13 Risk Management

2.13.1 Purpose and Objective

A Risk Management Matrix is presented in **Appendix E**. A risk is an uncertain event or condition that, if it occurs, has a positive or negative effect on a project's objectives. This matrix presents risk identification, probability of occurrence and impacts, preventative controls in place, mitigation strategies, notification and follow up requirements. Corrective measures to be taken if an incident occurs are also identified including Site closure if the specified action is not implemented within the timelines required. To ensure the Site is appropriately managed, the Operator will be responsible to control risks and perform risk assessments on a regular basis.

A Risk Management Matrix has been prepared to prevent and mitigate the potential for adverse effects to the environment and human health. The Risk Management Matrix contains an analysis of likely risks with both high and low impact, as well as mitigation strategies. The Risk Management Matrix will be reviewed annually by the Operator to ensure risks are managed appropriately.

2.13.2 Assessing Risks

The initial step in the Risk Management Matrix is risk identification. Risk identification is an integral component of the risk management matrix. Once a risk has been identified, then the risk is assessed with respect to the probability of it occurring and the consequence if it has occurred. The strategy on how to manage a potential risk is to be determined on the probability and potential consequence that can result of the risk not being addressed. Once these have been identified, then the corrective action to take should that risk occur will be determined. The Operator will identify and manage the risks on a regular basis.

Given that the Site is operating in an area where there are other aggregate operations, any risks associated with truck traffic and scheduling management, soil testing and acceptance, resident complaints, unsuitable or contaminated fill administration and maintenance of local haul routes will have to be identified and addressed. The Risk Management Matrix includes and identifies potential risks that may occur based on the filling operations. For this Site, mud and dust tracking beyond the Site are priority considerations. The Operator will undertake the preventative measures outlined as part of their operation protocols and institute the necessary requirements to address any foreseen risks.

2.13.3 Updating Risk Management Matrix

The Risk Management Matrix will be reviewed annually and updated where required. The updated Risk Management Matrix will be included in the annual update of the Fill Management Plan.

2.14 Complaint Procedures

2.14.1 Receipt and Documentation of Complaints

Any and all complaints or incidents with respect to the Site operations will be documented by the Operator in a format outlined in **Template 4** Complaint/Incident Report Form. Where a complaint is received or incident raised and documented through the Town By-law office, the Operator will provide a documented response to the By-law office on actions taken. Where a complaint is received or incident raised and documented directly from a member of the public, the Operator will provide a documented response to the member of public on actions taken and provide a copy of the responses to the Town By-law office. Each complaint or incident response will be documented on using the Complaint/Incident Report Form, as per Template 4.

2.14.2 Resolution and Response Protocol

Responses to complaints received by and incidents identified to the Operator will be responded to and/or addressed within two business days. If the complaint is received or incident noted and documented through the Town By-law office, the Operator will provide a response on actions taken to the By-law office within the noted two business day timeframe. For any issues confirmed as requiring immediate attention (traffic, mud on the road, etc.), these will be addressed directly, or in the timeliest manner possible.

All documented complaints and/or incidents received by the Operator will be first assessed for urgency and then a review of the operations will be undertaken to determine what operational

protocols can or need to be adjusted to prevent future complaints and/or incidents of the same nature. Following this, the complaint/incident will be addressed as required and, as noted, documented in Complaint/Incident Report for the Operator (and Town) tracking reference.

If concerns are raised by well users within the baseline survey area about changes in water supply (quantity and quality), GHD will mobilize a technician to the property to assess the current well condition and collect a water sample if necessary.

Mitigation measures or strategies are required, as discussed in **Section 2.13** under the Risk Management section, to avoid risk of specific complaints/incidents are outlined within the Risk Management Matrix. For the most part, the mitigation measures outlined confirm adherence to documented procedures and Site operational protocols.

2.14.3 Reporting of Complaints

In order for classification and tracking of complaints/incidents and to review for considerations of adjusting protocols related to operations or Site maintenance, all complaints/incidents received are to be provided in a documented format. The Operator will maintain records of all complaint/incident responses in the Complaint/Incident Report format for the duration of the Agreement. A copy of all complaints/incidents will be included as part of the operational reporting documentation. Operational Reporting frequency is monthly and may not be required after the first year of operation as outlined in **Section 2.12**.

Rice will erect a sign at the Site entrance which will contain contact information for Rice Group, including a 24/7 toll free number. Where involved, other applicable parties will be notified of complaints and/or incidents received, and documentation on these communications and actions will be noted within the Complaints/Incident Report.

3. Consultation with the Town, Agencies and Public

Extensive consultation has been undertaken in the preparation of this Plan to ensure the interests, concerns and comments of key stakeholders are taken into consideration. This included consultation with the public, Town of East Gwillimbury staff and Council, the Town of East Gwillimbury's peer reviewer, York Region, and Lake Simcoe Region Conservation Authority, and is described in more detail in the following subsections.

3.1 Public Information Centre

A Public Information Centre (PIC) was held to present information about the proposed fill operations and obtain comments from community members for consideration prior to finalizing the Plan. The PIC was held on Wednesday, June 5, 2019, from 5:00 p.m. to 8:00 p.m., at the Mount Albert Lions Club in East Gwillimbury.

The local community was notified of the PIC through a notice on the Town of East Gwillimbury's website, advertisements in two editions of the East Gwillimbury Express, and hand delivery of a notice to 98 residences and businesses on McCowan Road and Mount Albert Road.

The format of the PIC was a drop-in session where members of the public could attend during the given hours, review the information, and speak individually with staff from the Operator, GHD, the Town of East Gwillimbury and the site owner. Approximately 28 individuals attended the PIC, including members of Council.

Community members were invited to provide comments via one-on-one conversations at the PIC, by providing written comments via comment forms, email, or letter prior to or following the PIC. In addition to the one-on-one conversations at the PIC, comments were received via four comment forms received at the PIC, and one phone call and seven emails/letters prior to and following the PIC.

Comments received related primarily to the impact of truck traffic in the area, impacts to private wells, the quality of fill being received, and the measures in place to ensure the Operator is compliant with the Plan and Fill By-law. Many community members who live in the community of Holt were pleased to see that trucks would not be permitted to travel north through the intersection of McCowan Road and Mount Albert Road.

Following the PIC, an email was sent to PIC attendees who provided their email address thanking them for coming and providing a copy of the display boards. In August 2019, a subsequent email was sent to PIC attendees with responses to their comments and questions and notifying them that a memo would be presented to Town Council on August 13, 2019 (see below). The notification, display boards and correspondence to PIC attendees is included in **Appendix D**.

3.2 Consultation with the Town of East Gwillimbury and Other Agencies

The following consultation was undertaken with the Town of East Gwillimbury and other agencies:

- Correspondence with Lake Simcoe Region Conservation Authority on August 14, 2017.
- Correspondence to the Town on January 18, 2018.
- Regular meetings with staff from the Town between January 2018, and March 2020.
- Meeting with staff from York Region on February 9, 2018.
- Memorandum from Town of East Gwillimbury Staff to Committee of the Whole Council on April 17, 2018, providing an update on the 2017 Annual Fill Program, which included this Site.
- Meeting with York Region's Transportation Branch on March 25, 2019.
- Circulation of the draft Fill Management Plan to York Region's Transportation Branch and Environmental Promotion and Protection Branch in March 2019.
- Staff Report to Town of East Gwillimbury Committee of the Whole Council on May 7, 2019, notifying Council of the application. Representatives from the Operator and Site Owner were in attendance.
- Staff Report to Town of East Gwillimbury Council on August 13, 2019, regarding the PIC.
- Staff Report and presentation by GHD to the Town of East Gwillimbury Council on November 19, 2019
- Staff Report and presentation by GHD to the Town of East Gwillimbury Council on February 19, 2020.
- Presentation by GHD to the Town of East Gwillimbury Council on October 20, 2020
- Staff Report and presentation by GHD to the Town of East Gwillimbury Council on January 19, 2021

Copies of correspondences are included in **Appendix D**.

The November 19, 2019, and February 19, 2020, Council meetings were held in the evening and residents were provided an opportunity to make deputations. Residents who had previously expressed an interest in the project were notified of these Council meetings by email and hand delivered notices.

At the November 19, 2019 Council meeting, GHD presented an overview of the Fill Management Plan, including an overview of the proposed fill operations, proposed mitigation measures related to traffic and protection of groundwater and wells, reporting and risk mitigation measures, and proposed next steps. A copy of the presentation is included in **Appendix D**. Comments received from members of the public and Council at the November 19, 2019 Council meeting, and responses from Rice were documented in a comment/response table that was subsequently presented to Council at the February 19, 2020 Council meeting, included in **Appendix D**.

At the February 19, 2020 Council meeting, GHD provided a summary of the comment/response table, including the changes that were made to the Fill Management Plan as a result of comments received. Similar to the November council meeting, residents were able to make deputations to

Council. Comments received from members of the public at this meeting and responses from Rice are documented in a comment/response table included in **Appendix D**.

In June 2020, the Fill Management Plan was posted to the Town of East Gwillimbury's website for comment. Residents were notified of the opportunity to review and provide comment. No comments were received during this comment period.

At the October 20, 2020 Council meeting, GHD presented an overview of the Fill Management Plan and changes that had been made to the Fill Management Plan as a result of comments received. A copy of the presentation is included in **Appendix D**. Similar to previous council meetings, residents were able to make deputations to Council. Comments were received prior to, during and following the meeting up to December 23, 2021. Comments received from members of the public at this meeting and responses from Rice are documented in the comment/response table included in **Appendix D**. Subsequently, GHD made another presentation to Council on January 19, 2021.

Changes made to the Fill Management Plan as a result of comments received during consultation with the public, Council and agencies is summarized in **Section 3.5**.

At the February 17, 2021 Council meeting, Resolution No. C2021-50 was passed authorizing the Town to prepare a Site Alteration Agreement for the Site, subject to the following specific terms and conditions set out in the resolution:

1. The fill permit would be restricted to have a preference for local Rice Group affiliated source sites and East Gwillimbury source sites, and an annual average of 100 trucks per day, with a daily maximum of 150 trucks per day;
2. Working day hours of Monday to Friday 7 a.m. to 5 p.m. (excluding holidays and maintenance activities) with allowance under special circumstances to 6 p.m. for fill importation purposes;
3. No operating of heavy machinery on Saturdays or Sundays;
4. The truck route to/from the site is via Davis Drive and McCowan Road south of the site entrance (with Rice Group to pursue an alternate route);
5. A maximum of 600,000 m^3 of fill is to be imported to the site and Staff is directed to work with the applicant to revise the proposed fill grades in the Fill Management Plan to best match into the existing terrain;
6. No filling shall occur with the exception of installing berms as part of the site preparation works prior to the road improvements being in place to the satisfaction of the Town and the Region of York (Rice is proposing a significant berm as detailed in the Fill Management Plan that will assist with screening and noise mitigation);
7. Only fill required for the berm is permitted to be imported/ installed in advance of road improvements and access to the site for this period is only via the existing RTL on W/B Davis Drive and McCowan Rd south of the site entrance;
8. Distribution and installation of up to 3 x 70mm diameter trees will be made available to each property on McCowan Road between Mt. Albert Road and Davis Drive;
9. The permit will be reviewed annually with a detailed assessment prior to renewal and the agreement will have a fill term of 5 years;

10. The Imported fill and Fill Management Plan is to conform with Site Alteration By Law 2013-066 and all Provincial Regulations in accordance with O.Reg 406/19 Onsite and Excess Soil Management;
11. Additional safety measures as detailed in the Fill Management Plan including turn lanes on McCowan Road into the site and Left Turn Lanes on Davis Drive are to be incorporated as well as camera radar boards on McCowan Road;
12. Rice Group is to install two radar speed boards on Davis Drive with the permission of the Region;
13. Once the pit is open, the Rice Group will hold an open-house day for the area residents to learn more about the operation.

As a result of this Council Resolution, included in **Appendix D**, the Fill Management Plan was revised to satisfy these conditions.

3.2.1 Town of East Gwillimbury Peer Review

At the request of the Town of East Gwillimbury, R.J. Burnside & Associates Limited conducted a peer review of the draft and revised draft Plan. This peer review included the Plan, Drawings, Templates, Risk Management Matrix, Fill Acceptance Protocol, Oak Ridges Moraine Conservation Plan Conformity Report, Hydrogeological Assessment, Traffic Impact Study, and Noise Impact Study. Meetings were held with the Town of East Gwillimbury and the peer reviewer on December 7, 2018, and September 27, 2019.

The peer reviewer concluded the following:

> *"In general, the application and supporting documentation was thorough, practical and met the requirements of the By-law and Guideline. No significant issues of concern were noted that cannot be addressed with minor additions and modifications."*

As part of the first round of review, the peer reviewer made the following recommendations:

- Include the Phase One ESA as an appendix to the Plan;
- Include supporting calculations and design details for the settlement control ponds;
- Add two monitoring wells and at least two data loggers to the monitoring well network;
- Identify groundwater as the primary environmental receptor and include additional rationale for the groundwater monitoring plan;
- Use the higher forecasts of truck trip generation for the assessment of traffic impacts;
- Consider revising the haul route to avoid the community of Holt; and
- Identify road dust and mud control as a priority issue and revise the road dust and mud control plan appropriately.

The Plan was revised to address all of the comments from the peer reviewer. Subsequently, the revised Plan was provided to the peer reviewer with a summary of how each of the peer review comments were addressed for their review. A copy of the peer review comments and GHD's responses are included in **Appendix D**.

The second round of peer review comments concluded the following:

> *"Although there are a few items to complete/clarify the Fill Management Plan and supporting documents are comprehensive and except for the items noted above meet the requirements of the Town.*
>
> *Consideration could be given moving ahead with preparing the wording of a draft Agreement while the remaining items are addressed."*

In summary, the second peer review made the following recommendations:

- Include information regarding borehole logs, vertical gradients, groundwater flow and other details from the additional monitoring wells which were installed in August 2019.
- Within the groundwater section of the FMP include monitoring parameters for electrical conductivity and sodium absorption rate.
- Update the monitoring duration post completion to include monitoring until the filing of a Record of Site Condition for Agricultural land use is completed, and all other requirements of the Permit and Agreement are complete.

These comments were addressed in the final Fill Management Plan. A copy of the comments received and how they were considered is included in **Appendix D**. The peer reviewer subsequently confirmed that the Plan meets the requirements of the By-law, has adequately addressed peer review comments, and is aligned with the requirements of O Reg. 406/19 (see **Appendix D**).

3.3 Consideration of Comments Received

As a result of consultation with the public and the Council, several revisions were made to the proposed fill management operations, mitigation strategies, and future monitoring in response to comments received from members of the public, Town of East Gwillimbury staff and Council, York Region and the Peer Reviewer. These revisions include:

- Restrict trucks to McCowan Road south of the Site to avoid trucks travelling through the community of Holt at Mount Albert and McCowan Road.
- Reduce the number of trucks permitted from 200 per day to 150 per day.
- Implement improvements to the intersection of McCowan Road and Davis Drive to include a left turn lane from Davis Drive to northbound McCowan Road, and add a right turn taper lane at the Site.
- Installation of radar speed signs to display the speed of approaching vehicles in both directions south of the Holt Pit entrance as a traffic calming measure.
- Installation of a sign at the at the Site entrance with contact information for Rice and/or GHD, including a 24/7 toll free number.
- Monitoring of additional parameters to the groundwater quality monitoring program.
- Commitment for a representative of the Qualified Person to be on-Site during operational hours while fill is being imported to the Site to undertake the field work associated with the Qualified Person's role.

- Commitment to build an additional berm on the northern property boundary to assist in visual and noise mitigation.
- Installation of video surveillance cameras will be installed prior to permit issuance at the entrance directed to McCowan Road to record truck movements.
- Installation of a four-way stop at Herald Road and McCowan Road.
- Review of Automated Traffic Recorder Data collected in 2018 and 2020 and inclusion of the results of this analysis in the Traffic Impact Study (**Appendix J**).

4. Financial Assurance

Rice will provide financial assurance to the Town of East Gwillimbury, as per By-law 2013-066 and the specifics of the Agreement. The purpose of financial assurance is to allow the Town to access funds for various purposes and contingencies in accordance to the Agreement. Financial Assurance will comprise the following:

a) Cash deposit as determined the Town's Fill By-law 2013-066 and Fee and Charges By-law 2015-078 for oversight, auditing, administration and Peer Review services. The amount will be topped up on a regular basis. This is expected to cover the expected expenditures of the Town to fulfill their mandate as outlined in the Agreement;

b) Security Deposit in the form of cash or a Letter of Credit in the amount determined by the Town's Fee and Charges By-law to guarantee that the work will be carried out in accordance with By-law 2013-066, the approved Fill Management Plan and the provisions of the Agreement;

c) The Town would be able to access the Cash Deposit to address operational deficiencies and take whatever actions are necessary to bring the Site into compliance with the Fill Management Plan and Agreement. These fines would be used to pay for such things as:

- Cleaning roads;
- Road repairs;
- Site maintenance and control (fencing, security, etc.);
- Maintenance drainage and erosion control;
- Auditing fill quality through drilling and sampling programs;
- Documentation audits; and
- Contouring fill and removal of unsuitable materials.

d) Post Closure Maintenance and Care Security would be in the form of the Security Deposit, as determined by the Town’s Fill By-law 2013-066, in the form of cash or a Letter of Credit to ensure that post closure requirements are completed as per the Agreement; and

e) The Security Deposit would also be accessed by the Town in event of a failure to comply with the Agreement, to address any environmental issues (contamination or other impacts) or Site restoration activities (as outlined in the Fill Management Plan, Town By-laws, and other regulatory requirements) that may be required. The Security Deposit would also be accessed to address overfilling and ensure the Site's final closure conditions are met.

The Financial Assurance will remain in place for the entire period of the Agreement.

5. Continuous Improvements

As outlined in Section 2.13 (Risk Management) and Section 2.14 (Complaint Procedures), response mechanisms are designed to be self-correcting with issues identified and resolved quickly, with open regular disclosure and the requirement for mitigation and correction to prevent a reoccurrence. Through this process of continuous improvement, complaints/incidents should be aggressively addressed, and will be evaluated annually as part of the Permit renewal process. Penalties for non-compliance are outlined in the Risk Management Matrix included in **Appendix E**.

6. Insurance

For the period of the Agreement, Rice is to keep in force comprehensive insurance in the amount of not less than $5,000,000 per occurrence against all claims, including personal injury, death, property damage and environmental damage (i.e., for the investigation and remediation of soil and groundwater, etc.) resulting directly or indirectly from the activities outlined in the Agreement and in this Fill Management Plan. The policy will name the Town of East Gwillimbury as a named additional insured, as well as the current firm contacts noted within Section 2.6.2.2. The exact details of the insurance will be outlined in the Agreement.

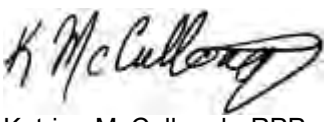
7. Summary

This Fill Management Plan has been prepared to support the application being made by Rice, under the Town of East Gwillimbury's Fill By-law 2013-66, for a portion of a property located at 18725 McCowan Road. With that in mind, the information contained herein demonstrates that the fill activities will be undertaken in accordance with the Town of East Gwillimbury's Fill By-law 2013-66 and applicable provincial legislation and guidelines. Following completion of filling activities, the Site will be returned to agricultural operations, and a Record of Site Condition will be obtained.

All of Which is Respectfully Submitted,

GHD

Thomas Guoth, P.Eng.



Katrina McCullough, RPP