



Supporting Document 3-12

Agriculture Effects Assessment Report

Eastern Ontario Waste Handling Facility Future
Development Environmental Assessment

GFL Environmental Inc.

Moose Creek, Ontario

August 12, 2022

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Executive Summary

DBH Soil Services Inc. was retained by GFL Environmental Inc. (GFL) to conduct an assessment of the effects of the Eastern Ontario Waste Handling Facility (EOWHF) landfill expansion on Agriculture as part of the EOWHF Landfill Expansion Environmental Assessment (EA). Agriculture includes the on-site (Study Area) and off-site (Secondary Study Area) agricultural components of the Built Environment.

The EA is being carried out in accordance with the requirements of the *Environmental Assessment Act* (EAA) and Terms of Reference (ToR), which was approved by the Ministry of the Environment, Conservation and Parks (MECP) on January 14, 2021.

The proposed expansion will involve the development of an area within the northeast corner of the existing EOWHF site, and the lands to the east of the existing EOWHF including the eastern half of Lot 16, Lots 14 and 15, and the majority of Lot 13, Concession 10.

The existing EOWHF landfill was previously approved under the *Environmental Assessment Act* (EAA) in 1999 and 2019, and is operated by GFL under the MECP Environmental Compliance Approval (ECA) A420018. The landfill is one of several integrated services offered by the company at the EOWHF. The landfill is approved to accept solid non-hazardous municipal, industrial, commercial, and institutional wastes generated within the Province of Ontario for disposal. The landfill has a permitted annual fill rate of 755,000 tonnes per year and an average daily fill rate of 2,500 tonnes per day. The permitted maximum daily fill rate of 4,000 tonnes per day includes landfill and compost.

The purpose of the proposed undertaking is to provide approximately 15.1 million cubic metres (m³) of additional landfill disposal capacity at the existing EOWHF over a 20-year planning period, with operations anticipated to begin in 2025 and closure anticipated in 2045. The undertaking will enable GFL to continue to provide disposal services for residual non-hazardous solid waste to their customers once the landfill reaches its currently approved disposal capacity and continue to provide economic support to the local community over the long term. No changes to the approved fill rates or site access routes are proposed.

The proposed future development of additional landfill disposal capacity at the EOWHF may be achieved through alternative landfill configurations. Two alternative methods for carrying out the undertaking were identified in the approved ToR and are developed to a preliminary conceptual design level in the Conceptual Design Report (CDR). Both alternative methods continue to use established operating procedures currently in place at the EOWHF and would maximize the use of existing site infrastructure.

A net effects assessment was carried out for the two alternative methods following the methods outlined in the approved ToR incorporating the information contained in the CDR and the Agriculture Existing Conditions Report. The results of the net effects assessment are used in a comparative evaluation of the two proposed alternative methods.

It was determined that the net effects of Alternative Method 1 and Alternative Method 2 on agriculture are the same for either alternative. No preferred alternative is identified

from an agricultural perspective as there is no substantial difference in net effects between the alternative methods.

The commitments associated with Agriculture are as follows:

- The construction and operation of the EOWHF landfill future development will take place within the existing on-site study area.
- Established operating procedures currently in place at the EOWHF will continue to be used (e.g., for the management of leachate, dust, litter, odour (landfill gas), noise, and animals and birds).
- The use of existing site infrastructure will be maximized.
- No additional large equipment will be required for the EOWHF landfill future development.
- There will be no changes to traffic volumes beyond currently approved levels or changes to waste haul routes are anticipated as a result of the EOWHF landfill future development.

Acronyms, Units and Glossary

Acronyms

Acronym	Definition
CDR	Conceptual Design Report
EAA	Environmental Assessment Act
EOWHF	Eastern Ontario Waste Handling Facility
GFL	GFL Environmental Inc.
GHG	Greenhouse Gas
HDR	HDR Corporation
MDS	Minimum Distance Separation
OMAFRA	Ontario Ministry of Agriculture, Food and Rural Affairs
PPS	Provincial Policy Statement
ToR	Terms of Reference

Units

Unit	Definition
Ha	hectare
km	kilometre
m	metre

Glossary

Term	Definition
Approval	Permission granted by an authorized individual or organization for an undertaking to proceed. This may be in the form of program approval, certificate of approval or provisional certificate of approval
Capacity (Disposal Volume)	The total volume of air space available for disposal of waste at a landfill site for a particular design (typically in m ³); includes both waste and daily cover materials, but excludes the final cover.
Composting facility	A facility designed to compost organic matter either in the presence of oxygen (aerobic) or absence of oxygen (anaerobic).
Environment	As defined by the Environmental Assessment Act, environment means: <ul style="list-style-type: none"> • air, land or water; • plant and animal life, including human life; • the social, economic and cultural conditions that influence the life of humans or a community; • any building, structure, machine or other device or thing made by humans; • any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities; or • any part or combination of the foregoing and the interrelationships between any two or more of them (ecosystem approach).

Glossary

Term	Definition
Environmental Assessment	A systematic planning process that is conducted in accordance with applicable laws or regulations aimed at assessing the effects of a proposed undertaking on the environment
Evaluation criteria	Evaluation criteria are considerations or factors taken into account in assessing the advantages and disadvantages of various alternatives being considered
Greenhouse gas	Any of the gases whose absorption of solar radiation is responsible for the greenhouse effect, including carbon dioxide, methane, ozone, and the fluorocarbons.
Indicators	Indicators are specific characteristics of the evaluation criteria that can be measured or determined in some way, as opposed to the actual criteria, which are fairly general
Landfill gas	The gases produced from the wastes disposed in a landfill; the main constituents are typically carbon dioxide and methane, with small amounts of other organic and odour-causing compounds
Landfill site	An approved engineered site/facility used for the final disposal of waste. Landfills are waste disposal sites where waste is spread in layers, compacted to the smallest practical volume, and typically covered by soil.
Leachate	Liquid that drains from solid waste in a landfill and which contains dissolved, suspended and/or microbial contaminants from the breakdown of this waste.
Methane gas	A colourless, odourless highly combustible gas often produced by the decomposition of decomposable waste at a landfill site. Methane is explosive in concentrations between 5% and 15% volume in air.
Mitigation	Measures taken to reduce adverse impacts on the environment.
Proponent	A person who: <ul style="list-style-type: none"> • carries out or proposes to carry out an undertaking; or • is the owner or person having charge, management or control of an undertaking.
Receptor	The person, plant or wildlife species that may be affected due to exposure to a contaminant.
Terms of Reference	A terms of reference is a document that sets out detailed requirements for the preparation of an Environmental Assessment.
Undertaking	Is defined in the Environmental Assessment Act as follows: <ul style="list-style-type: none"> • An enterprise or activity or a proposal, plan or program in respect of an enterprise or activity by or on behalf of Her Majesty in right of Ontario, by a public body or public bodies or by a municipality or municipalities; • A major commercial or business enterprise or activity or a proposal, plan or program in respect of a major commercial or business enterprise or activity of a person or persons other than a person or persons referred to in clause (1) that is designated by the regulations; or • An enterprise or activity or a proposal, plan or program in respect of an enterprise or activity of a person or persons, other than a person or persons referred to in clause (a), if an agreement is entered into under section 3.0.1 in respect of the enterprise, activity, proposal, plan or program ("enterprise").
Waste	Refuse from places of human or animal habitation; unwanted materials left over from a manufacturing process.

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1 Introduction

DBH Soil Services Inc. was contracted by GFL Environmental Inc. (GFL) to conduct an assessment of the effects of the future development of the Eastern Ontario Waste Handling Facility (EOWHF) on Agriculture as part of the EOWHF Future Development Environmental Assessment (EA).

The EA is being carried out in accordance with the requirements of the *Environmental Assessment Act* (EAA) and Terms of Reference (ToR), which was approved by the Ministry of Environment, Conservation and Parks (MECP) on January 14, 2021.

The environment was divided into environmental aspects, components and evaluation criteria as listed in **Table 1-1**. Existing conditions reports and effects assessment reports have been prepared to address the environmental components.

Table 1-1. Environmental Aspects, Components and Evaluation Criteria

Environmental Aspect	Environmental Component	Evaluation Criteria
Natural Environment	Atmospheric Environment	<ul style="list-style-type: none"> • Air Quality • Noise • Odour
	Geology and Hydrogeology	<ul style="list-style-type: none"> • Groundwater Quality • Groundwater Quantity
	Surface Water Environment	<ul style="list-style-type: none"> • Surface Water Quality • Surface Water Quantity
	Ecological Environment	<ul style="list-style-type: none"> • Terrestrial Ecosystems • Aquatic Ecosystems
Socio-Economic Environment	Economic	<ul style="list-style-type: none"> • Economic Effects on / Benefits to Local Community
	Social	<ul style="list-style-type: none"> • Effects on Local Community • Visual Impact of Facility
Cultural Environment	Cultural Environment	<ul style="list-style-type: none"> • Cultural Heritage Resources • Archaeological Resources
Built Environment	Transportation	<ul style="list-style-type: none"> • Effects from Truck Transportation along Access Roads
	Current and Planned Future Land Use	<ul style="list-style-type: none"> • Effects on Current and Planned Future Land Uses
	Aggregate Extraction and Agricultural	<ul style="list-style-type: none"> • Aggregate Resources • Effects on Agricultural Land

The purpose of the proposed undertaking is to provide approximately 15.1 million cubic metres (m³) of additional landfill disposal capacity at the existing EOWHF over a 20-year planning period, with operations anticipated to begin in 2026 and closure anticipated in 2045. The undertaking will enable GFL to continue to provide disposal services for residual non-hazardous solid waste to their customers once the landfill reaches its currently approved disposal capacity and continue to provide economic support to the

local community over the long term. No changes to the approved fill rates or site access routes are proposed.

Two alternative methods for carrying out the undertaking were identified in the approved ToR and are developed to a preliminary conceptual design level in the Conceptual Design Report (CDR). Both alternative methods provide a landfill volume of approximately 15.1 million m³ based on the approved fill rate of 755,000 tonnes per year over a 20 year planning period. Studies completed for the EOWHF have indicated that, based on the underlying soils, the design alternatives are limited to varying lateral configurations with a consistent height. Both alternative methods will continue to use established operating procedures currently in place at the EOWHF and would maximize the use of existing site infrastructure.

Alternative method 1 (**Figure 1-1**) consists of implementing the future development through five stages: one stage adjacent to and north of the existing landfill (Stage 5); and four stages oriented east-west within the future development lands (Stages 6 through 9). Stages 6 through 8 will be identical in size, while Stages 5 and 9 will be smaller. A stormwater management system will be constructed consisting of conveyance ditches around the perimeter of each stage and a retention pond located northwest of Stage 8. The existing pond located northeast of Stage 5 will be modified to attenuate peak flows if required.

Alternative method 2 (**Figure 1-2**) consists of implementing the future development through four stages: one stage adjacent to and north of the existing landfill (Stage 5); and three stages oriented north-south within the future development lands (Stages 6 through 8). Stages 6 and 7 will be identical in size, while Stages 5 and 8 will be smaller. A stormwater management system will be constructed consisting of conveyance ditches around the perimeter of each stage and a retention pond located north of Stages 6 and 7. The existing pond located northeast of Stage 5 will be modified to attenuate peak flows if required.

For both alternatives, the design of the stages will be consistent with the existing landfill design. Visual screening will be constructed along the north and east perimeters and a portion of the south perimeter consisting of earthen berms and/or vegetation plantings. A new road entrance will be constructed from Laflèche Road, which will include a new scale facility.

The purpose of this Effects Assessment Report is to present the potential environmental effects of the alternative methods on Agriculture, a comparison of the net effects of each alternative method, the selection of a preferred alternative, an assessment of the environmental effects of the preferred alternative, commitments and monitoring. The results from this study will be documented in an EA Study Report in accordance with the approved ToR, which will be submitted to the MECP for review.

Figure 1-1. Alternative Method 1



ISSUE	DATE	DESCRIPTION
H	2022-06-02	ISSUED FOR REVIEW
G	2022-05-13	ISSUED FOR REVIEW
F	2022-03-26	ISSUED FOR REVIEW
E	2021-11-17	ISSUED FOR REVIEW
D	2021-08-26	ISSUED FOR REVIEW
C	2021-08-26	ISSUED FOR REVIEW
B	2021-08-19	ISSUED FOR REVIEW
A	2021-03-20	DRAFT FOR DISCUSSION

DESIGN	AJC
DRAWN	AJC
CHECKED	MS
APPROVED	LF
PROJECT NUMBER	10287087

PLANNING PURPOSES ONLY
 NOT FOR CONSTRUCTION

GFL ENVIRONMENTAL EASTERN ONTARIO
 WASTE HANDLING FACILITY
 FUTURE LANDFILL EXPANSION
 CONCEPT



PROPOSED TOP OF FINAL
 CONTOURS
 ALTERNATIVE 1 PLAN

FILENAME: C-103.dwg
 SCALE: 1:150,000

DRAWING

Figure 1-2. Alternative Method 2



ISSUE	DATE	DESCRIPTION
H	2022-06-02	ISSUED FOR REVIEW
G	2022-05-13	ISSUED FOR REVIEW
F	2022-03-24	ISSUED FOR REVIEW
E	2021-11-17	ISSUED FOR REVIEW
D	2021-08-28	ISSUED FOR REVIEW
C	2021-06-28	ISSUED FOR REVIEW
B	2021-06-15	ISSUED FOR REVIEW
A	2021-03-28	DRAFT FOR DISCUSSION

DESIGN	AJC
DRAWN	AJC
CHECKED	MS
APPROVED	LF
PROJECT NUMBER	10287087

PLANNING PURPOSES ONLY
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GFL ENVIRONMENTAL EASTERN ONTARIO
 WASTE HANDLING FACILITY
 FUTURE LANDFILL EXPANSION
 CONCEPT

PROPOSED TOP OF FINAL
 CONTOURS
 ALTERNATIVE 2 PLAN

SCALE	1:150,000
FILENAME	C-104.dwg
DRAWING	

2 Effects Assessment Methods

Using the evaluation criteria, indicators, rationale and data sources from the approved ToR and the existing conditions from the Agricultural Existing Conditions Report, the effects assessment is carried out as follows:

- predict the potential environmental effects for each alternative method (Section 3).
- identify the preferred alternative based on a comparative evaluation of the potential environmental effects of each alternative method (Section 4); and
- conduct an effects assessment on the preferred alternative, including the identification of mitigation measures and monitoring programs (Sections 4 and 5).

2.1 Predict Potential Environmental Effects for Alternative Methods

The potential environmental effects for each alternative method are identified based on the application of the evaluation criteria, indicators and data sources in the approved ToR and based on the maximum allowable waste receipt level for the EOWHF landfill. The potential effects can be positive or negative, direct or indirect, and short- or long-term. Mitigation measures are identified to minimize or mitigate the potential effects and then the net effects are evaluated taking into consideration the application of mitigation measures.

2.1.1 Study Areas

The existing EOWHF is located within the Township of North Stormont, approximately 5 km north-northwest of the village of Moose Creek, Ontario, and 5 km east of the village of Casselman, Ontario, on the western half of Lot 16 and Lots 17 and 18, Concession 10, Township of North Stormont, United Counties of Stormont, Dundas and Glengarry, near the intersection of Highway 417 and Highway 138. The municipal street address for the facility is 17125 Laflèche Road, Moose Creek, Ontario. The lands to the east of the existing EOWHF being considered for the future development include the eastern half of Lot 16, Lots 14 and 15, and the majority of Lot 13 of Concession 10. The existing EOWHF encompasses a site area of 189 hectares, while the lands to the east of the existing EOWHF being considered for future development include approximately 240 hectares.

The study areas include the existing site as well as potentially affected surrounding areas. The on-site and off-site study areas identified for the EA in the approved ToR are as follows:

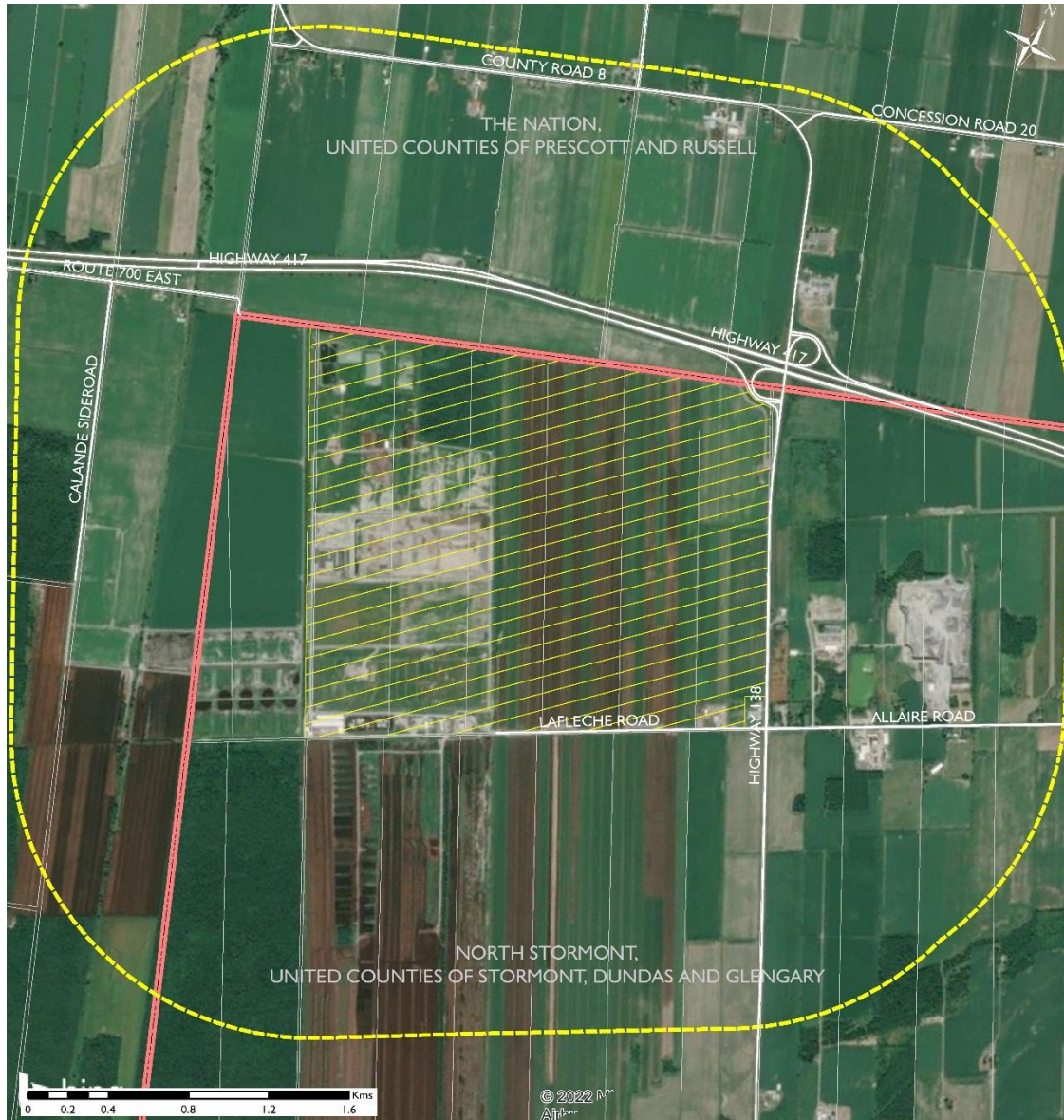
- On-site Study Area – the existing EOWHF, and the future development area comprising the eastern half of Lot 16, Lots 14 and 15, and the majority of Lot 13 of Concession 10 east of the EOWHF; and

- Off-site Study Area – the lands in the vicinity of the future development extending approximately 1 km from the on-site study area.

For the Agricultural effects assessment, the Off-site Study Area was extended to include the lands in the vicinity of the future development extending approximately 1.5 km from the On-site Study Area (**Figure 2-1**). The potentially affected areas are defined based on the requirements of the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) *Draft Agricultural Impact Assessment (AIA) Guidance Document (March 2018)*, and the OMAFRA *Minimum Distance Separation (MDS) Document: Formulae and Guidelines for Livestock Facility and Anaerobic Digester Odour Setbacks, Publication 853 (2016)*. While neither document specifically defines a 1.5 km distance for waste handling facilities or infrastructure, it is prudent to characterize and assess potential impacts to the farthest distance associated with the MDS and AIA documents.

Throughout this report, the On-Site Study Area is referred to as the “Study Area”, while the Off-Site Study Area is referred to as the “Secondary Study Area” and extends 1.5 km from the boundary of the Study Area.

Figure 2-1. Study Areas for Agriculture



2.1.2 Evaluation Criteria, Indicators and Data Sources

The evaluation criteria, rationale, indicators and data sources used for the agriculture effects assessment as per the approved ToR are provided in **Table 2-1**.

Table 2-1. Evaluation Criteria, Indicators and Data Sources for Agriculture

Evaluation Criteria	Rationale	Indicators	Data Sources
Aggregate Extraction and Agricultural			
Effects on Agricultural Land	Agricultural land may be affected by the development of the facility	<ul style="list-style-type: none"> • Predicted loss of agricultural land use • Predicted impacts on surrounding agricultural operations • Type(s) and proximity of agricultural operations (e.g., organic, cash crop, livestock) 	<ul style="list-style-type: none"> • Provincial Policy Statement • United Counties of Stormont, Dundas and Glengarry Official Plan • Township of North Stormont Official Plan and Zoning By-law • Aerial mapping and field reconnaissance • Canadian Lands Inventory mapping • Proposed facility characteristics • Landfill design and operations data • Agriculture Existing Conditions Report

2.1.3 Key Design Considerations and Assumptions

The alternative methods of carrying out the undertaking are described in detail in the CDR. Regarding the alternative methods, the key design considerations and assumptions as they relate to Agriculture are described below.

Summary of Existing Conditions

The Study Area comprises Agriculture Resource Lands (central area), Rural District (the existing landfill area), and Employment District lands in the eastern portion near Highway 138. The Secondary Study Area comprises Rural District, Employment District, Agriculture Resource Lands, Extractive Resource Lands (Mineral Aggregate Reserve) and Extractive Resource Lands (Licensed Pit & Quarry).

The Study Area is a mix of zoning that includes General Agriculture (AG), Waste Disposal (WD), and Locally Significant Wetlands (within the existing EOWHF area). Further, a review of By-Law No. 40-2015 was reviewed where it was determined that a portion of the Study Area within the existing EOWHF had a site-specific application to amend the Comprehensive Zoning By-Law 08-2014 to change zoning from the “Rural (R)” and “Area of Natural and Scientific Interest (ANSI) zones to the “Waste Disposal – Exception Two (WD-2)” zone. The Nation Municipality Comprehensive Zoning By-Law (2-2006) indicated that the lands in the Secondary Study Area were zoned Agricultural (A), Agricultural Exception (A-X), Highway Commercial Exception (CH-X), Highway Commercial (CH) and Rural (RU).

The Secondary Study Area (within the United Counties of Stormont, Dundas and Glengarry) is a mix of zoning that includes General Agricultural (AG), Highway Commercial (CH-7), Rural Industrial (MR-3), Rural (RU), Quarry in holding (H-MXQ), Quarry (MQ), Waste Disposal (WD-1), Highway Commercial (CH), Locally Significant

Wetlands and an Area of Natural or Scientific Interest (ANSI) (south of the existing EOWHF and Laflèche Road).

The Agriculture Existing Conditions Report, based on the Agricultural Impact Assessment (AIA) prepared to support an Official Plan Amendment and Zoning By-Law Amendment for the project, determined that the Study Area and Secondary Study Area are located within the Winchester Clay Plain Physiographic Unit. The Winchester Clay Plain is described as a clay plain that is located in an area of low relief lying almost entirely in the drainage basin of the South Nation River. Clay plains dominant the area, although there are sections of protruding till materials, a few low drumlins, shallow soils over bedrock and many hectares of bog. The soils in the Winchester Clay Plain are mostly poorly drained, with some areas of imperfectly drained materials.

The Study Area and the Secondary Study Area are a relatively simple mix of topography. The eastern portion of the Study Area includes very gently rolling lands, created through a process of landforming fields. The fields between the existing EOWHF and the Highway 138 consist of long narrow fields (roughly 55 m wide), with ditches between each field. The ditches are shallow to the south and are deeper to the northern portions of the Study Area. The fields between the ditches have been contoured with a slightly higher centre portion (0.5 to 1 m) that would extend higher than the edge of the fields near the ditches. This will allow for rapid surface water drainage to the nearby ditches.

The topography in the Secondary Study Area is similar to the eastern portions of the Study Area, with contoured (landformed) fields south of Laflèche Road. Relatively level to very gently sloping lands were noted in all directions from the Study Area. The highest point of topography within the Study Area and the Secondary Study Area is located within the existing EOWHF area.

Climate data indicated that the Study Area and Secondary Study Area are located between the 2900 - 3100 Crop Heat Units (CHU-M1) available for corn production area in Ontario. The Crop Heat Units (CHU) index was originally developed for field corn and has been in use in Ontario for 30 years. The CHU ratings are based on the total accumulated crop heat units for the frost-free growing season in each area of the province. CHU averages range between 2500 near North Bay to over 3500 near Windsor. The higher the CHU value, the longer the growing season and greater are the opportunities for growing value crops.

The land use survey identified that the Study Area comprised approximately 45.1 percent built-up areas, 43.8 percent sod, and 11.1 percent common field crop.

The Secondary Study Area comprised land use of approximately 45.9 percent common field crop, 15.8 percent peat extraction, 10.9 percent forage/pasture, 9.6 percent woodlands, 9.0 percent sod, 2.5 percent built up, 2.3 percent grains, 2.2 percent quarry lands, 1.5 percent scrubland, 0.2 percent pond, and 0.1 percent open field.

The potential agricultural impact from the EOWHF future development is the loss of lands used for the production of sod and common field crop.

One agriculture-related building was observed within the Study Area. This building is located just west of the Highway 138, along the north side of Laflèche Road, and is part

of the Manderley Sod Farm. The building is used for equipment storage and maintenance for the production of sod at this location.

There are no buildings on the Study Area lands that are used for housing of or production of livestock.

A total of 16 agricultural facility sites (active, remnant, vestige) were identified in the Secondary Study Area. There will be no loss of agricultural buildings in the Secondary Study Area as a result of the EOWHF future development.

There is no tile drainage registered to the Study Area. There is a constructed drain that crosses the Study Area from south to north along the eastern boundary of the existing EOWHF (the Fraser Drain). There is a second constructed drain (Upper Tayside Drain) that extends along the eastern portion of the proposed future development area and crossing under Highway 138. There is no net loss of tile drained lands as a result of the EOWHF future development.

There is no capital investment related to irrigation systems identified within the Study Area or the Secondary Study Area. There is no net loss of irrigation as a result of the EOWHF future development.

The land tenure of the Study Area lands indicates that the lands are considered locally owned. Within the Secondary Study Area, the majority of the lands are also locally owned.

The soil capability (Canada Land Inventory (CLI)) from the detailed soil survey of the proposed future development lands indicated that approximately 30.6 percent of the area is considered CLI Class 1-3 lands (Prime Agricultural Lands). The remaining portion (approximately 69.4 percent) is considered as Not Rated.

A review of the online Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) Agricultural System Portal indicated that there were no farmers markets, pick your own operations, nurseries, specialty farms (crop or livestock), frozen food manufacturing, refrigerated warehousing/storage, livestock assets or abattoirs in the Study Area or Secondary Study Area. The closest transportation network (major roadway) is Highway 417 which is located immediately north of the existing EOWHF and the proposed future development area. Highway 138 runs immediately east of the proposed future development and has direct access to Highway 417.

The EOWHF future development should have no impact on the agricultural system or network.

Design Considerations and Assumptions

With respect to Agriculture, the key design considerations relate to the potential nuisance controls (dust, noise, litter, animals and birds, and odours), surface water quality, surface water quantity, ground water quality, ground water quantity, traffic, effects on current and future land uses, and air quality on the adjacent Secondary Study Area. The Study Area lands will be removed from agricultural use and as such will not require additional design considerations.

The approved EOWHF ToR presented the proposed evaluation criteria, indicators and data sources for the Environmental Assessment. The above-mentioned evaluation

criteria from other technical disciplines were used as part of this assessment along with those listed in **Table 2-1**. The criteria, indicators, existing conditions, and potential impacts for the other technical disciplines are documented under separate cover.

2.2 Comparative Evaluation and Identification of the Preferred Alternative

The two alternative methods are comparatively assessed and evaluated using the criteria and indicators to determine the preferred alternative. The differences in the potential environmental effects remaining following the implementation of potential mitigation/management measures (i.e., net effects) are used to identify and compare the advantages and disadvantages of each alternative method.

The net environmental effects are utilized in a comparison of the two alternative methods to one another at the criteria and indicator level for each discipline. The following -two-step method was applied to carry out the comparative evaluation for Agriculture:

1. Identify the predicted net effect(s) associated with each alternative for each indicator and assign a preference rating (i.e., Preferred, Not Preferred, No Substantial Difference); and
2. Rate each alternative at the criteria level (i.e., Preferred, Not Preferred, No Substantial Difference) based on the identified preference rating for each indicator and provide a rationale.

2.3 Effects Assessment of the Preferred Alternative

An assessment of the environmental effects of the preferred alternative is carried out considering the same criteria, indicators and data sources, taking into account potential mitigation/management measures and cumulative effects. The effects assessment of the preferred alternative will be presented in the EA Study Report.

3 Net Effects Assessment

The results of the net effects assessment for each alternative method are provided in Sections 3.1 and 1.1.

To identify the potential effects of the EOWHF landfill expansion on Agriculture, the requirements for the expansion are examined against the current agricultural uses and conditions on-site (Study Area) and off-site (Secondary Study Area). Potential effects on Agriculture can include direct and indirect impacts. Direct impacts on-site relate to the loss of lands that are designated and/or zoned as agriculture and are used for agricultural purposes. All on-site impacts are considered to be direct impacts. Direct impacts off-site may relate to changes in surface water, ground water, air quality, and traffic patterns. Indirect impacts off-site may relate to disturbance or nuisance effects (noise, odours, dust, animals and birds, and litter).

Municipalities will typically use a 500 m radius as a guideline for assessing the impact of a landfill site, consistent with the MECP Guideline D-4 "Land Use On or Near Landfills

and Dumps”. As noted previously, the AIA used a 1.5 km radius for assessing potential effects. The potential effects on Agriculture are determined by examining the existing agricultural conditions/ characteristics and identifying potential direct and indirect impacts that may result from the EOWHF future development.

3.1 Alternative Method 1

Lands adjacent to the EOWHF to the east are used for sod farming and common field crop production, to the south for peat extraction, sod farming and common field crop production, to the west for peat extraction and agricultural uses (common field crop), and to the north for agricultural purposes (cash crops, forage and livestock operations). The common field crops are currently soybeans or corn. Agricultural activities in the area contribute to dust and odour off-site (i.e., within the Secondary Study Area). There are no agricultural operations on the existing EOWHF site.

The construction and operation of Alternative Method 1 will take place on the existing EOWHF site (Stage 5) and the adjacent lands to the east resulting in the loss of approximately 233 ha of lands used for agricultural purposes in the Study Area.

A review of the Draft Transportation Effects Assessment Report (HDR, May 17, 2022) identified a Study Area for the Transportation Component of the Built Environment as including the intersection of Highway 417 with Highway 138, and the intersection of Highway 138 with Laflèche Road. The indicators used in the traffic study included disturbance to traffic operations. The traffic study is based on certain assumptions that include the future development will continue to operate at the existing level of daily and annual tonnage restrictions, there will be no changes to haul routes, and that site traffic may increase nominally (as the site is currently operating at its permitted annual tonnage limit). Based on the design considerations and assumptions, there will be no net effects on the transportation component of the Built Environment. As a result, there should be no additional impacts to agricultural traffic along the haul route.

A review of the Draft Noise Effects Assessment Report (HCC Engineering, May 13, 2022) identified a Study Area (the existing EOWHF and proposed development area) and an off-site study area of 1 km. The Draft Noise Effects study assessed predicted site related noise levels at a number of off-site receptors (residential properties, public facilities, businesses/farms, institutions). The Draft Noise Effects Assessment Report assessed daily operations, construction and rehabilitation operations. The Draft Noise Effects study was based on a number of assumptions which included that the haul routes location and use will not change, the landfill will accept trucks during daylight hours only, that there are only select equipment working onsite, and that there will be a maximum of 12 compost trucks in a busy hour. Based on the design considerations and assumptions, the potential effects are below the allowable limit and no mitigation measures are required. Therefore, there would be no additional impacts related to noise impacts on agricultural receptors as a result of the proposed development.

A review of the Draft Land Use Effects Assessment Report (Northern Futures Inc., May 20, 2022) identified a 500 m boundary for the off-site study area. A wider 1 km study area boundary was used to assess potential effects on the broader land use pattern. The Draft Land Use Effects study used current land use, planned land use, types and proximity of off-site recreational resources affected, and types and proximity of

off-site sensitive land uses (e.g., dwellings, churches, parks) within 500 m of the landfill footprint potentially affected. With respect to agriculture, the Draft Land Use Effects study included barns (permanent structure used in animal husbandry) as a sensitive land use. Champion Mushrooms was the only agricultural use within the 500 m. This operation would become legal non-conforming under the North Stormont Zoning By-Law which would prevent future building expansions or changes of use. Further, Alternative Method 1 does not provide the 200 m buffer between an expanding landfill and Champion Mushrooms (165 m measured distance).

A review of the Surface Water Quantity Draft Effects Assessment Report (HDR, June 24, 2022) identified an on-site study area consisting of the existing EOWHF and the proposed future development area, and an off-site study area extending 1 km from the on-site study area. The Surface Water Quantity Draft Effects report assessed surface water quality and surface water quantity on the on-site and off-site areas. The design considerations and assumptions indicated that the proposed development would increase the impervious surface area, peak flows and volume of surface runoff. A proposed stormwater management (SWM) design was developed to mitigate negative impacts to the surface water drainage system. The SWM would include wet ponds, oversized drainage ditches on the site, and sediment ponds. As noted in the Surface Water Quantity Draft Effects Assessment Report, the main differences between Alternative Method 1 and Alternative Method 2 are the configurations of the cells and the geometries of the proposed SWM ponds. The potential effects are an increase in runoff volume and suspended solids on-site, which will be mitigated by the SWM resulting in settling of suspended solids, and controlled surface water release off-site with no net effects off-site. Therefore, there would be no additional impacts to agricultural receptors as a result of the proposed development.

A review of the Air Quality and Odour Draft Effects Assessment Report identified an on-site study area consisting of the existing EOWHF and the proposed future development area, and an off-site study area extending 4 km from the on-site study area. The Air Quality and Odour Draft Effects Assessment Report assessed predicted off-site air concentrations of emitted contaminants of concern at a number of off-site receptors (residential properties, public facilities, businesses/farms, institutions). The Air Quality and Odour Draft Effects Assessment Report was based on an Air Quality and Odour Existing Conditions Report that was prepared to quantify the air quality and odour conditions within the study area that result from existing operations or currently approved operations. It is assumed that current odour and dust mitigation practices will continue, that existing infrastructure will remain unchanged (with the exception of the potential relocation of the composting pads to the south of the existing EOWHF), and that the composting processes and volumes will remain unchanged. It was noted that of the 180 contaminants identified, four were predicted to exceed criteria, standards or guidelines. Dust and nitrogen dioxide exceeded criteria, standards, or guidelines at the facility boundary. In both cases the concentrations fell below the criteria or standards a short distance beyond the boundary and concentrations did not exceed criteria or standards at any sensitive receptors. Therefore, there would be no additional impacts to agricultural receptors as a result of the proposed development.

The Socio-Economic Environment Effects Assessment concluded that the operations of one local business, Manderley Turf Products, will be displaced by the future

development; however, this displacement will be phased over time as the stages are developed, and will be mitigated through the continued provision of lands for sod production by agreement. At this time, the location of these additional lands has not been identified. Manderley Turf Products owns lands on the south side of Laflèche Road that are used for sod production, so it is assumed that the future development will result in the partial displacement of one local business and its business type (sod production) from the On-site Study Area. In addition, a small agricultural operation would be displaced; however, a lease is in place that details the exit arrangements and agricultural businesses would continue in the Off-site Study Area.

Alternative Method 1 will continue to use the established operating procedures currently in place at the EOWHF for the management of leachate, dust, litter, and animals and birds, and will maximize the use of existing site infrastructure. No changes to traffic volumes beyond the currently approved levels or changes to waste haul routes, or changes to the on-site operations are anticipated as a result of the EOWHF expansion; therefore, levels of dust are not expected to exceed the standards or guidelines on surrounding agricultural lands due to traffic or on-site operations. There would be no additional impacts related to noise impacts on agricultural receptors as a result of the proposed development. The Draft Land Use Effects study concluded that the Champion Mushrooms building was the only agricultural use within the 500 m. This operation would become legal non-conforming under the North Stormont Zoning By-Law which would prevent future building expansions or changes of use. Further, Alternative Method 1 does not provide the 200 m buffer between an expanding landfill and Champion Mushrooms (165 m measured distance). The review of surface water quality and quantity revealed the potential effects are an increase in runoff volume and suspended solids on-site, which will be mitigated by the SWM resulting in settling of suspended solids, and controlled surface water release off-site with no net effects off-site. Therefore, there would be no additional impacts to agricultural receptors as a result of the proposed development.

Consequently, no indirect impacts to agriculture off-site within the Secondary Study Area are anticipated as a result of the EOWHF future development.

The net effects assessment for Alternative Method 1 is presented in **Table 3-1**.

Table 3-1. Net Effects Assessment – Alternative Method 1

Evaluation Criteria	Indicator	Key Design Considerations and Assumptions	Potential Effects	Mitigation Measures	Net Effects
Effects on Agricultural Land	Predicted loss of agricultural land use	<ul style="list-style-type: none"> The EOWHF future development will comprise an area of 240 ha. 	<ul style="list-style-type: none"> There will be a direct net loss of 240 ha (233 ha of agricultural lands) 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> There will be a net loss of 240 ha of land (of which approximately 233 ha is currently used for agriculture)
	Predicted impacts on surrounding agricultural operations	<ul style="list-style-type: none"> Alternative Method 1 will continue to use established operating procedures currently in place at the EOWHF for the management of leachate, dust, litter, and vectors and vermin, and will maximize the use of existing site infrastructure. No additional dust is anticipated on surrounding agricultural lands due to traffic from the haul routes or on-site operations. Alternative Method 1 will continue to use the existing and established haul route. Alternative Method 1 will continue to operate at the existing daily and annual tonnage. Disturbance to traffic operations. Noise – the existing equipment and operations will remain unchanged. Current land use determined a sensitive land use (Champion Mushrooms) is approximately 165 m from the on-site study area Surface water quality – increase in runoff volume and suspended sediments Surface water quantity - increase in runoff volume and suspended sediments Air quality – will use the existing Fugitive Dust Management Plan for future operations 	<ul style="list-style-type: none"> No potential effects on surrounding agricultural lands; therefore, there are no potential effects on surrounding agricultural operations 	<ul style="list-style-type: none"> None required 	<ul style="list-style-type: none"> No net effects on surrounding agricultural lands; therefore, there are no potential effects on surrounding agricultural operations There are no net effects on the transportation component of the Built Environment Noise levels at all points of reception within the off-site study area will be within the MECP regulatory sound level limits Champion Mushrooms would become a legal non-conforming use Surface water will meet MECP monitoring requirements through the use of a SWM system Surface water quantity will be controlled within the SWM ponds Fine particulate concentrations exceed standards or guidelines

Table 3-1. Net Effects Assessment – Alternative Method 1

Evaluation Criteria	Indicator	Key Design Considerations and Assumptions	Potential Effects	Mitigation Measures	Net Effects
	<p>Type(s) and proximity of agricultural operations</p>	<ul style="list-style-type: none"> • A sod farm is located on the future development lands within the On-site Study Area • A variety of agricultural operations were observed in the Off-site Study Area including a mushroom farm, retired facilities, dairy, and poultry operations, The majority of the buildings for these operations are located between 1 km and 1.5 km from the On-site Study Area. • Alternative Method 1 will continue to use established operating procedures currently in place at the EOWHF for the management of leachate, dust, litter, and vectors and vermin, and will maximize the use of existing site infrastructure. 	<ul style="list-style-type: none"> • The future development would partially displace the operations of one local business (Manderley Turf Products). • A small agricultural operation would be displaced from the On-site Study Area; however, agricultural businesses would continue in the area. 	<ul style="list-style-type: none"> • GFL will continue to provide lands to Manderley Turf Products by agreement. 	<p>at the site boundary and fall to below the standard within 450 m of the boundary. Concentrations at receptors do not exceed standards</p> <ul style="list-style-type: none"> • Possible decrease of one local sod production operation due to the relocation of Manderley Turf Products.

3.2 Alternative Method 2

Lands adjacent to the EOWHF to the east are used for sod farming and common field crop production, to the south for peat extraction, sod farming and common field crop production, to the west for peat extraction and agricultural uses (common field crop), and to the north for agricultural purposes (cash crops, forage and livestock operations). The common field crops are currently soybeans or corn. Agricultural activities in the area contribute to dust and odour in the off-site (Secondary Study Area). There are no agricultural operations on the existing EOWHF site.

The construction and operation of Alternative Method 2 will take place on the adjacent lands to the east resulting in the loss of approximately 233 ha of lands used for agricultural purposes.

A review of the Draft Transportation Effects Assessment Report (HDR, May 17, 2022) identified a Study Area for the Transportation Component of the Built Environment as including the intersection of Highway 417 with Highway 138, and the intersection of Highway 138 with Laflèche Road. The indicators used in the traffic study included disturbance to traffic operations. The traffic study is based on certain assumptions that include the future development will continue to operate at the existing level of daily and annual tonnage restrictions, there will be no changes to haul routes, and that site traffic may increase nominally (as the site is currently accepting approximately 83% of its permitted annual tonnage). Based on the design considerations and assumptions, there will be no net effects on the transportation component of the Built Environment. As a result, there should be no additional impacts to agricultural traffic along the haul route.

A review of the Draft Noise Effects Assessment Report (HCC Engineering, May 13, 2022) identified a Study Area (the existing EOWHF and proposed development area) and a Secondary Study Area of 1 km. The Draft Noise Effects study assessed predicted site related noise levels at a number of off-site (Secondary Study Area) receptors (residential properties, public facilities, businesses/farms, institutions). The Draft Noise Effects Assessment Report assessed daily operations, construction and rehabilitation operations. The Draft Noise Effects study was based on a number of assumptions which included that the haul routes location and use will not change, the landfill will accept trucks during daylight hours only, that there are only select equipment working onsite, and that there will be a maximum of 12 compost trucks in a busy hour. Based on the design considerations and assumptions, the potential effects are below the allowable limit and no mitigation measures are required. Therefore, there should be no additional impacts to agricultural receptors as a result of the proposed development.

A review of the Draft Land Use Effects Assessment Report (Northern Futures Inc., May 20, 2022) identified a 500 m boundary for the off-site study area. A wider 1 km study area boundary was used to assess potential effects on the broader land use pattern. The Draft Land Use Effects study used current land use, planned land use, types and proximity of off-site recreational resources affected, and types and proximity of off-site sensitive land uses (e.g. dwellings, churches, parks) within 500 m of the landfill footprint potentially affected. With respect to agriculture, the Draft Land Use Effects study included barns (permanent structure used in animal husbandry) as a sensitive land use. Champion Mushrooms was the only agricultural use within the 500 m. This operation

would become legal non-conforming under the North Stormont Zoning By-Law which would prevent future building expansions or changes of use. Further, Alternative Method 2 does provide the 200 m buffer between an expanding landfill and Champion Mushrooms (297 m measured distance).

A review of the Surface Water Quantity Draft Effects Assessment Report (HDR, June 24, 2022) identified an on-site study area consisting of the existing EOWHF and the proposed future development area, and an off-site study area extending 1 km from the on-site study area. The Surface Water Quantity Draft Effects report assessed surface water quality and surface water quantity on the on-site and off-site areas. The design considerations and assumptions indicated that the proposed development would increase the impervious surface area, peak flows and volume of surface runoff. A proposed stormwater management (SWM) design was developed to mitigate negative impacts to the surface water drainage system. The SWM would include wet ponds, oversized drainage ditches on the site, and sediment ponds. As noted in the Surface Water Quantity Draft Effects Assessment Report, the main differences between Alternative Method 1 and Alternative Method 2 are the configurations of the cells and the geometries of the proposed SWM ponds. The potential effects are an increase in runoff volume and suspended solids on-site, which will be mitigated by the SWM resulting in settling of suspended solids, and controlled surface water release off-site with no net effects off-site.

A review of the Air Quality and Odour Draft Effects Assessment Report identified an on-site study area consisting of the existing EOWHF and the proposed future development area, and an off-site study area extending 1 km from the on-site study area. The Air Quality and Odour Draft Effects Assessment Report assessed predicted off-site air concentrations of emitted contaminants of concern at a number of off-site receptors (residential properties, public facilities, businesses/farms, institutions). The Air Quality and Odour Draft Effects Assessment Report was based on an Air Quality and Odour Existing Conditions Report that was prepared to quantify the air quality and odour conditions within the study area that result from existing operations or currently approved operations. It is assumed that current odour and dust mitigation practices will continue, that existing infrastructure will remain unchanged, and that the composting processes and volumes will remain unchanged. It was noted that of the 180 contaminants identified, four were predicted to exceed criteria, standards or guidelines. Dust and nitrogen dioxide exceeded criteria, standards, or guidelines at the facility boundary. In both cases the concentrations fell below the criteria or standards a short distance beyond the boundary and concentrations did not exceed criteria or standards at any sensitive receptors. Therefore, there would be no additional impacts to agricultural receptors as a result of the proposed development.

The Socio-Economic Environment Effects Assessment concluded that the operations of one local business, Manderley Turf Products, will be displaced by the future development; however, this displacement will be phased over time as the stages are developed, and will be mitigated through the continued provision of lands for sod production by agreement. At this time, the location of these additional lands has not been identified. Manderley Turf Products owns lands on the south side of Laflèche Road that are used for sod production, so it is assumed that the future development will result in the partial displacement of one local business and its business type (sod production)

from the On-site Study Area. In addition, a small agricultural operation would be displaced; however, a lease is in place that details the exit arrangements and agricultural businesses would continue in the Off-site Study Area.

Alternative Method 2 will continue to use the established operating procedures currently in place at the EOWHF for the management of leachate, dust, litter, and animals and birds, and will maximize the use of existing site infrastructure. No changes to traffic volumes beyond the currently approved levels or changes to waste haul routes, or changes to the on-site operations are anticipated as a result of the EOWHF expansion; therefore, levels of dust are not expected to exceed the standards or guidelines on surrounding agricultural lands due to traffic or on-site operations. There would be no additional impacts related to noise impacts on agricultural receptors as a result of the proposed development. The Draft Land Use Effects study included that the Champion Mushrooms building was the only agricultural use within the 500 m. The review of surface water quality and quantity revealed the potential effects are an increase in runoff volume and suspended solids on-site, which will be mitigated by the SWM resulting in settling of suspended solids, and controlled surface water release off-site with no net effects off-site. Therefore, there would be no additional impacts to agricultural receptors as a result of the proposed development.

The net effects assessment for Alternative Method 2 is presented in **Table 3-2**.

Table 3-2. Net Effects Assessment – Alternative Method 2

Evaluation Criteria	Indicator	Key Design Considerations and Assumptions	Potential Effects	Mitigation Measures	Net Effects
Effects on Agricultural Land	Predicted loss of agricultural land use	<ul style="list-style-type: none"> The EOWHF future development will comprise an area of 240 ha. 	<ul style="list-style-type: none"> There will be a direct net loss of 240 ha (233 ha of agricultural lands) 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> There will be a net loss of 240 ha of land (of which approximately 233 ha is currently used for agriculture)
	Predicted impacts on surrounding agricultural operations	<ul style="list-style-type: none"> Alternative Method 2 will continue to use established operating procedures currently in place at the EOWHF for the management of leachate, dust, litter, and vectors and vermin, and will maximize the use of existing site infrastructure. No additional dust is anticipated on surrounding agricultural lands due to traffic from the haul routes or on-site operations. Alternative Method 2 will continue to use the existing and established haul route. Alternative Method 2 will continue to operate at the existing daily and annual tonnage. Disturbance to traffic operations. Noise – the existing equipment and operations will remain unchanged. Surface water quality – increase in runoff volume and suspended sediments Surface water quantity - increase in runoff volume and suspended sediments Air quality – will use the existing Fugitive Dust Management Plan for future operations 	<ul style="list-style-type: none"> No potential effects on surrounding agricultural lands; therefore, there are no potential effects on surrounding agricultural operations 	<ul style="list-style-type: none"> None required 	<ul style="list-style-type: none"> No net effects on surrounding agricultural lands; therefore, there are no potential effects on surrounding agricultural operations There are no net effects on the transportation component of the Built Environment Noise levels at all points of reception within the off-site study area will be within the MECP regulatory sound level limits Surface water will meet MECP monitoring requirements through the use of a SWM system Surface water quantity will be controlled within the SWM ponds Fine particulate concentrations exceed standards or guidelines at the site boundary and fall to below the standard within 450 m of the boundary.

Table 3-2. Net Effects Assessment – Alternative Method 2

Evaluation Criteria	Indicator	Key Design Considerations and Assumptions	Potential Effects	Mitigation Measures	Net Effects
	Type(s) and proximity of agricultural operations	<ul style="list-style-type: none"> • A sod farm is located on the future development lands within the On-site Study Area • A variety of agricultural operations were observed in the Off-site Study Area including a mushroom farm, retired facilities, dairy, and poultry operations, The majority of the buildings for these operations are located between 1 km and 1.5 km from the On-site Study Area. • Alternative Method 1 will continue to use established operating procedures currently in place at the EOWHF for the management of leachate, dust, litter, and vectors and vermin, and will maximize the use of existing site infrastructure. 	<ul style="list-style-type: none"> • The future development would partially displace the operations of one local business (Manderley Turf Products). • A small agricultural operation would be displaced from the On-site Study Area; however, agricultural businesses would continue in the area. 	<ul style="list-style-type: none"> • GFL will continue to provide lands to Manderley Turf Products by agreement. 	<p>Concentrations at receptors do not exceed standards</p> <ul style="list-style-type: none"> • Possible decrease of one local sod production operation due to the relocation of Manderley Turf Products.

4 Comparative Evaluation of Net Effects and Identification of the Preferred Alternative

A comparative evaluation of the net effects of each alternative method and the identification of a preferred alternative are carried out in accordance with the methods described in Section 2.2. The results of the comparative evaluation are provided below.

4.1 Comparative Evaluation Results

The net effects of Alternative Method 1 and Alternative Method 2 on Agriculture are the same for either alternative.

There is no substantial difference, and no preferred alternative is identified from an agricultural perspective as there is no substantial difference in net effects between the alternative methods.

The results of the comparative evaluation for Agriculture are provided in **Table 4-1**.

Table 4-1. Comparative Evaluation of Net Effects for Agriculture

Evaluation Criteria	Indicators	Net Effects of Alternative Methods	
		Alternative Method 1	Alternative Method 2
Effects on Agricultural Land	Predicted loss of agricultural land use	<ul style="list-style-type: none"> There will be a net loss of 240 ha of land (of which approximately 233 ha is currently used for agriculture) <p style="text-align: center;">No Substantial Difference</p>	<ul style="list-style-type: none"> There will be a net loss of 240 ha of land (of which approximately 233 ha is currently used for agriculture) <p style="text-align: center;">No Substantial Difference</p>
	Predicted impacts on surrounding agricultural operations	<ul style="list-style-type: none"> Alternative Method 1 does not provide the 200 m buffer between the future development landfill and the existing sensitive land use at 1454 Highway 138 (Champion Mushrooms). This would cause the sensitive land use to become legal non-conforming under the North Stormont Zoning Bylaw, which would prevent future building expansions or changes in use. <p style="text-align: center;">Not Preferred</p>	<ul style="list-style-type: none"> No net effects on adjacent agricultural lands or operations; therefore, there are no potential effects on surrounding agricultural operations <p style="text-align: center;">Preferred</p>
	Type(s) and proximity of agricultural operations	<ul style="list-style-type: none"> Possible decrease of one local sod production operation due to the relocation of Manderley Turf Products. <p style="text-align: center;">No Substantial Difference</p>	<ul style="list-style-type: none"> Possible decrease of one local sod production operation due to the relocation of Manderley Turf Products. <p style="text-align: center;">No Substantial Difference</p>
	<i>Criteria Rating & Rationale</i>	<p>Alternative Method 2 is preferred over Alternative Method 1 for Effects on Agricultural Land. Alternative Method 2 allows the adjacent agricultural operation (sensitive land use) to continue to be in compliance with the Township of North Stormont Zoning Bylaw. There is no substantial difference regarding the predicted loss of agricultural land use or type(s) and proximity of agricultural operations.</p>	

4.2 Advantages and Disadvantages of the Preferred Alternative

The differences in net effects are used to identify and compare the advantages and disadvantages of each alternative method.

The net effects of Alternative Method 1 and Alternative Method 2 on agriculture are the same for either alternative method regarding the predicted loss of agricultural land and agricultural operations; however, Alternative Method 1 does not provide the 200 m buffer between the future development landfill and the existing sensitive land use at 1454 Highway 138 (Champion Mushrooms). This would cause the sensitive land use to become legal non-conforming under the North Stormont Zoning Bylaw, which would prevent future building expansions or changes in use. Therefore, Alternative Method 2 is the preferred alternative.

Alternative Method 2 will have no net effects to surrounding agricultural operations, and will result in a net loss of approximately 233 ha of agricultural land and the possible decrease of one local sod production operation due to the relocation of Manderley Turf Products.

5 Commitments and Monitoring

No mitigation measures are proposed for either Alternative Method as no effects are predicted beyond the direct loss of land within the EOWHF site and future development lands (i.e., within the Site Area). Similarly, no monitoring is proposed for either Alternative Method.

5.1 Agriculture Commitments

The commitments associated with Agriculture are as follows:

- The construction and operation of the EOWHF future development will take place within the on-site study area.
- Established operating procedures currently in place at the EOWHF will continue to be used (e.g., for the management of leachate, dust, litter, odour (landfill gas), noise, and animals and birds).
- The use of existing site infrastructure will be maximized.
- No additional large equipment will be required for the EOWHF future development.
- There will be no changes to traffic volumes beyond currently approved levels or changes to waste haul routes anticipated as a result of the EOWHF future development.

6 References

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