



**Environmental Screening Report
South Easthope Landfill Site
Expansion**

Prepared for:
Township of Perth East

Prepared by:
Azimuth Environmental
Consulting, Inc.

April 2023

AEC 22-003



Environmental Assessments & Approvals

April 21, 2022

AEC 22-003

Township of Perth East
P.O. Box 455
25 Mill Street East
Milverton, ON
N0K 1M0

Attention: Mr. Wes Keupfer, Public Works Manager

**Re: Environmental Screening Report
South Easthope Landfill Site**

Dear Wes:

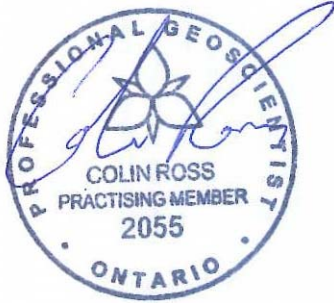
We are pleased to provide the following report for your review regarding the above-noted undertaking. This Environmental Screening Report (ESR) was prepared as input to the Statement of Completion for and Environmental Screening Process to be submitted to the Ministry of the Environment, Conservation & Parks (MECP) for expansion of the South Easthope Landfill Site.

This report presents the results of an Environmental Screening Process initiated in 2022 as well as a consultation process with key government agencies, the public and First Nations groups. A Notice of Completion of the report was published in April 27th and 29th and will provide a sixty (60) day review period prior to submission of a Statement of Completion to the MECP.

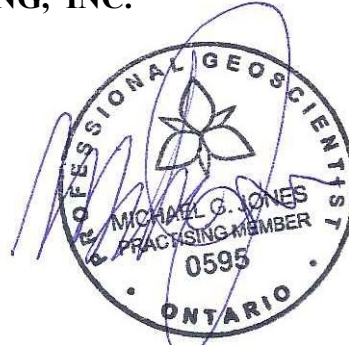


Yours truly,

AZIMUTH ENVIRONMENTAL CONSULTING, INC.



Colin Ross, B.Sc., P.Geo.
Senior Hydrogeologist



Mike Jones, M.Sc., P.Geo.
President

Attach:

cc: Mark Badali – Regional Environmental Planner (REP) – Southwest Region – MECP
Wes Kuepfer, Public Works Manager, Township of Perth East

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1.0 INTRODUCTION

The Corporation of the Township of Perth East owns and is responsible for the operation and maintenance of the South Easthope Landfill (Site) in accordance with the Provisional Environmental Compliance Approval (ECA) No. A 150902, issued by the Ministry of the Environment, Conservation & Parks (MECP) September 5, 2007 (formally No. A 150901, issued October 2004). An Ontario Water Resources Act (OWRA) Certificate of Approval (Sewage) Number 0032-5ZBJJH issued by the MECP on August 4, 2004 and recently revised (6224-B5KK74) in 2020, provides conditions for the facilities at the Site, including storm water management. The Site is registered to accept domestic, commercial and industrial solid non-hazardous waste.

The South Easthope Landfill Site is located in Lot 26, Concession 5 Line 29 in the Township of Perth East (see Figure 1). The Township of Perth East operates the 5 ha landfill area within the 29.6 ha Site, with the remainder of the property acting as a Contaminant Attenuation Zone (CAZ) (Figure 2)

The Landfill Site was developed in cooperation with the former Townships of North Easthope, South Easthope, Mornington, and the village of Milverton. The landfill Site opened in June of 1989 with the site selection and design intended on serving the waste management needs of the four municipalities over a forty-year period. On January 1, 1998 these four municipalities and the Township of Ellice amalgamated into the Township of Perth East. The Township of Perth East assumed responsibilities for the Site as of January 1, 1998.

Environmental monitoring, including the collection of leachate, surface and ground water samples has been conducted at the Site since its opening in accordance to the monitoring conditions of the Site ECA's. The total waste capacity for this Site is 235,000 m³ (excluding final cover) or approximately 112,000 tonnes to 139,000 tonnes, with a total volume of 272,000 m³ between the bottom and final contours (M.K. Ince and Associates, 2001). Note that the cell configuration was modified as part of the revised Design and Operations report (Azimuth, Dec 2005, updated in Feb 2007). This resulted in effectively doubling the waste thickness and reducing the original footprint to maintain the approved volume.

As of 2022, the Site has a waste volume of ~192,000 m³, with a remaining waste volume of 43,000 m³. Given a 6,000 m³ to 10,000 m³ per year acceptance rate and the current total remaining waste volume, the current lifespan of the landfill is approximately 4 to 7 years, which falls in line with the original 40 year lifespan of the Site when filling began in 1989. Given the Site is approaching capacity; the Township is undertaking an



application to amend the existing ECA to accommodate this growth. As the undertaking is identified to have predictable environmental impacts which could be readily mitigated, and Environmental Screening Process (ESP) was completed in accordance with Section 18, Part III, of O. Reg. 101/07.

The following sections describe the activities undertaken under the ESP, the results of the screening process and the associated public consultation, the potential adverse impacts associated with the continued operation of the landfill, the recommended mitigation measures to minimize the potential impacts and the findings of the detailed studies undertaken.

2.0 SCREENING PROCESS OVERVIEW

2.1 Project Objectives and Scope

The primary objectives of the ESP are as follows:

- To document the process and conclusions of the ESP, including input and discussions with the public, First Nations groups, regulators and various levels of government.
- To prepare a support document for a statement of completion for submission to the MECP as input to the project approval process.

The work program established for this undertaking utilizes review comments from these organizations.

Upon completion and submission of this report, which signifies the “Statement of Completion”, the approval process for the expansion of the landfill will include the preparation of an amendment application for the existing ECA, in accordance with the Environmental Protection Act.

2.2 Environmental Screening Process

The Environmental Assessment Act was created to establish a regulatory process for evaluating the need for infrastructure (e.g., landfills, roads, municipal sewer/water) and assess the alternatives methods and designs capable of meeting that need. Approval under the Environmental Assessment Act (EA Act) required a full evaluation of the environmental implications and consultation with government agencies and the affected public. After the application of the EA Act on numerous projects the MECP recognized that certain types of project have predictable and mitigatable environmental impacts. For those types of projects that demonstrated no significant environmental impacts that could not be readily mitigated, the Province developed class environmental assessments. Class



environmental assessments provided a more streamlined approval process while requiring proponents to demonstrate the environmental impacts associated with the project are easily mitigated.

The ESP being applied to this landfill expansion approval requires the Township to evaluate all the potential environmental impacts and screen out those environmental impacts that are not applicable (e.g., loss of unique wildlife habitat, energy generation from methane collection) and focus on the potential impacts associated with the landfill operation. The ESP provides the proponent with the ability to eliminate types of potential environmental impacts from detailed study if a sound rationale can be provided as to why it is not applicable. This process enables the assessment to focus on those environmental impacts that could potentially have a significant impact. The screening process being followed is defined by the MECP the *Guide to Environmental Assessment Requirements for Waste Management Projects* (MECP, 2007) (hereafter referred to as the “Guide”). The following tasks were completed as part of this ESP in accordance with the aforementioned guideline.

2.2.1 Notice of Screening Project

Public notification of the project and soliciting public and government agency input is the first component of the ESP and includes a publishing a formal Notice of Commencement in the local newspaper the Stratford Beacon Herald on two occasions (Sep. 3rd & 8th, 2022), as well on the Township website. This notice was sent to the public (neighbours), First Nations groups and government agencies. The notice identified the purpose of the study, invited comments or concerns from the public and government and provided contact persons for further information. Appendix C provides a copy of the Notice of Commencement and the individual project notification letters as well as a list of recipients.

2.2.2 Project Need and Description

The existing landfill site is nearing its approved capacity under the current ECA. In order for the Township to continue managing waste disposal, they are required to complete the Environmental Screening Process and submit an application for an amendment to the existing ECA with supporting technical studies for review and approval by MECP. The municipality is seeking approval to continue operating the landfill in the same location for the next 15-25 years.

2.2.3 Screening Criteria

MECP has established screening criteria to permit the identification of the potential negative environmental effects of the proposed undertaking. The screening criteria



identify the potential environmental impacts generally associated with landfill operation and closure. The screening criteria were reviewed having regard for the existing landfill operations and site characteristics and those with the potential for an adverse impact were identified. Identifying the potential negative impacts at the outset of the project enabled the study to focus on the environmental components that could be affected and required further study to define the impact and recommend corrective mitigation measures. The screening checklist criteria provided in Schedule I of the MECP Guide were utilized. The results of the screening are discussed in Section 5.0.

2.2.4 Potential Environmental Effects

Based on the results of the Screening Criteria (Section 1.3.3), the effects (positive and negative) were identified and described. Areas where additional regulatory approvals are required were summarized as well as any additional studies required as a result of the effects identified during this process. This step in the screening process defined the environmental components requiring more detailed study to fully assess the impact of the construction of the landfill expansion and its continued operation, including activities associated with closure of the Site.

2.2.5 Second Point of Consultation

The mandatory second point of consultation with the MECP, public, First Nations groups and other agencies was completed to review the results of the application of the Screening Criteria and the Potential Environmental Effects analysis undertaken to establish what further studies are required. If further work was required, review comments received through this process was utilized to determine the level of work required. This was completed through issuance of the Screening Criteria through the public meeting notification letter which was sent directly to the all applicable agencies, First Nations and neighbours. As well, public notice was placed in the local newspaper the Stratford Beacon Herald on two occasions (Nov. 17th & 19th, 2022), as well on the Township website. Details of the meeting are provided in Section 2.2.8.

2.2.6 Detailed Site Assessment and Analysis

Environmental components identified in the screening criteria review to have a potential negative impact are further assessed to fully evaluate the potential environmental effects of the proposed undertaking. The analysis included field study, consultation with appropriate government agencies and data analysis to evaluate the basis, extent, duration, inter-relationships and magnitude of the potential effects.



2.2.7 Mitigation Measures

The results of the Potential Environmental Effects analysis (Section 1.3.4) and Detailed Site Assessment and Analysis (Section 1.3.6) were reviewed to identify the potential need for mitigation methods to address any environmental impacts. Mitigation measures are implemented to avoid, reduce or minimize the potential adverse effects. These measures may include modifications to the site layout, construction methods or operations. The landfill monitoring program was also reviewed to ensure it provided for the early identification of potential contamination issues in order that corrective measures can be undertaken in consultation with the MECP, if required.

2.2.8 Third Point of Consultation

The mandatory third point of consultation with the MECP, public, First Nations groups and other agencies was completed by providing information on the detailed site assessment and analysis, mitigation options and the design and operation plans for the landfill expansion. This form of consultation was done through a public meeting to discuss these issues and obtain public feedback. As noted above, notice of this public meeting was advertised in the local newspaper, on the Municipality's website as well as notices forwarded to all groups included in the first two consultation stages. The level of public consultation and the need for a second public meeting was based on the degree of public concern shown at the first public meeting and the nature of the public concerns.

This meeting was held at the Shakespeare Fire Hall on November 29, 2022.

2.2.9 Significant Net Effects and Reporting

At this point of the ESP, there was a complete understanding of the predicted net effects of the landfill expansion. The net effects represent the predicted impact after the application of all proposed mitigation. The assessment had regard for, but was not limited to, the significance of the affected environmental feature, magnitude and duration of effect, probability of the effect and applicable regulatory requirements, policies or guidelines.

If through the net effects analysis significant environmental effects were identified that required additional study to fully assess the impact, these studies were completed.

An environmental screening report was prepared that detailed the activities and findings of the ESP. Included in the report was the technical studies undertaken for approval under the Environmental Protection Act which is required to obtain an amended Environmental Compliance Approval (ECA) for the proposed expansion.



2.2.10 Notice of Study Completion and Fourth Point of Consultation

A notice of completion of the ESP was published twice in the local paper and on the municipality's website on April 27th. Notices were mailed to the MECP Regional Coordinator, affected government, First Nations groups and members of the public identified during the previous public consultation events. A public review period of a minimum of 60 calendar days will be provided to review the final report and to provide final comments. The ESP report and related studies were made available on the Township's website.

2.2.11 Elevation Requests

If there is an unresolved issue the concerned individual(s) can submit a request to the Director of MECP Approvals Branch to have the project elevated to requiring full EA Act approvals within the 60 day review period. Elevating it to a full EA Act approval would initiate detailed study on the area(s) of concern. The MECP will review the elevation request to determine if it has merit and warrants elevating the project to a full EA. It is the MECP rather than the Township or the consultant that decides if the concern warrants approval of an elevation request. Every effort will be made to address all issues during the government agency/public consultation program through working with the concerned individual(s) to proactively address their concerns.

2.2.12 Statement of Completion

If no elevation request is made within the 60 day review period for a full EA or if an elevation request is withdrawn or resolved, a Statement of Completion will be prepared in accordance with Schedule II of the ESP Guide and submitted to the MECP for acknowledgement. Once the Statement of Completion has been submitted, the municipality can proceed to undertake the expansion of the landfill in accordance with the conclusions and commitments in the Environmental Screening and the Certificate of Approval issued under the Environmental Protection Act.

The following sections detail the ESP implementation and the associated findings.

3.0 NOTICE OF COMMENCEMENT OF SCREENING

A notice of the commencement of the screening was prepared and published twice in the Stratford Beacon Herald. Publication dates were newspaper the Stratford Beacon Herald on two occasions (Sep. 3rd & 8th, 2022). This document was also posted on the municipality's website, as well as submitted directly to applicable government agencies, First Nations groups and neighbouring properties. A copy of these notices as well as the mailing list has been included in Appendix C.



Included in this notice of commencement, was a request for any input or additional information sources which may assist in ESP.

Response to this initial point of contact included comments from the Ministry of Natural Resources & Forestry (MNR) regarding requirements relating to completion of studies regarding Natural Heritage and Species at Risk (SAR). These comments and information were incorporated into the study.

Comments were also received from the Ministry of Tourism, Culture & Sport regarding requirements for archaeology studies to support the project. These comments were incorporated into our study with reference to work that was done for the original Site development in 1989.

4.0 PROJECT DESCRIPTION

The reason for this undertaking is to establish additional municipal waste disposal capacity for the Township of Perth East for an additional 10-20 year period at the existing South Easthope Landfill Site beyond the current remaining lifespan of 7-10 years.

In order to assess the future capacity needs of the municipality, average annual waste generation rates were needed. These rates can either be estimated from historical disposal volumes or estimated based on the population. Given historical records on waste generation rates are fairly well understood given annual topographic surveys have been undertaken at the Site since 1989, this information was the main source for estimating future capacity requirements for the Site. It is noted that annual volumes have shown to be variable over the period of record, although an increase has been observed since 2016 when the Ellice Landfill Site was closed which serviced the northern section of the Township. Despite all Township wastes now being directed to the South Easthope landfill site, efficiencies have been realized through increased waste to cover material ratio as well as well as other operational improvements such as use of a waste compactor.

Based on the annual data between 2016 and 2022, there is a range of 5,000 to 10,000 m³ in annual volumes of waste including interim cover material. It is noted that this range is reflective of years where additional cover material is utilized for establishment of berms for new cells which can create a larger annual volume which is not necessarily reflective of increased waste acceptance. As such, the average annual volume of ~7,000 m³ is considered a representative volume for estimate purposes.

It is noted that in 2020, the Township began utilizing weight scales at the Site entrance as well as dedicated waste diversion bins such that more accurate volumes / weight of



wastes and diversion materials will be collected which will assist in refining annual waste acceptance trends and remaining Site capacity.

5.0 PROVINCIAL POLICY STATEMENT

The *Planning Act* administered by the Ministry of Municipal Affairs and Housing (MMAH), sets out the requirements for land use planning in Ontario and establishes how land uses may be controlled and who may control them. This Act provides the basis for consideration of provincial interests related to land use planning, such as management of natural resources and farmland, preparation of official policies and plans to guide future development, and regulation and control of land use. The planning and approval of a landfill site often involves the *Planning Act* when the purchase of property is required for landfilling purposes. If the existing land use for the property as described by the zoning by-law and/or Official Plan does not conform to this type of land use, a zoning change or Official Plan amendment by the municipal government is necessary. The MMAH Provincial Policy Statement (PPS) of 2020 states in Policy 1.6.8.1 that “Waste management systems need to be provided that are of an appropriate size and type to accommodate present and future requirements, and facilitate, encourage and promote reduction, reuse and recycling objectives” and that “Waste management systems shall be located and designed in accordance with provincial legislation and standards.”

It is in the interest of the Township to ensure that its waste management systems continue to meet the standards set out in the PPS. The expansion of the Site is designed in accordance with provincial legislation and standards and fulfill Section 1.6.10 of the PPS.

6.0 SCREENING CRITERIA

A completed Screening Criteria Checklist is provided in Appendix D. No mitigation measures were considered in completing the checklist. The purpose of the application of the screening criteria is to determine if the expansion of the landfill has any potential environmental effects. The environmental factors assessed included the following:

- surface and ground water
- land use
- air and noise
- natural environment
- resources
- socioeconomic
- heritage and culture
- First Nations
- source water protection
- other



Under the MECP screening process, if there is no potentially adverse environmental effect associated with the expansion identified for an environmental factor, it is no longer considered as part of the impact assessment. If there is a potential for an impact, the assessment must evaluate the nature of the impact and provide the appropriate mitigative actions to minimize or monitor the impact during the operation of the landfill site (e.g., annual ground and surface water monitoring). The following subsections present the environmental considerations for each factor and the potential impacts that could be associated with the landfill expansion.

5.1 Surface and Ground Water

As the continued use of the expanded landfill site will provide additional source materials for leachate generation, there is potential for surface and ground water to become impacted as a result of continued leachate generation at the Site. However, an environmental monitoring program has been completed at this site since 1989 which includes the collection and assessment of water quality data for both the ground and surface water quality within and surrounding the landfill site. As well, a Leachate Treatment System (LTS) has been in place since 2004 which has assisted in managing leachate generated within the waste cells and preventing leachate impacts into the surround surface water features.

The current monitoring network has been established such that any potential for offsite impacts can be assessed in accordance with the MECP Reasonable Use Concept (RUC) (Guideline B-7, Ontario Water Resources Act). The RUC establishes procedures for determining what constitutes the reasonable use of ground water on property adjacent to sources of contaminants and establishes limits on the discharge of contaminants from facilities. This process, which is approved by the MECP, is used for determination of potential off-site impacts resulting from the disposal of waste into the shallow subsurface. Both the existing and proposed expansion area of the landfill have buffer or attenuation lands which surround the entire site and have historically provided sufficient leachate attenuation such that downgradient water quality meets RUC. As concentrations at the furthest downgradient monitors within the property boundary are still near background conditions, it is anticipated that the current landfill attenuation lands are appropriate for the proposed landfill expansion.

Further details pertaining to the ground and surface water quality of the Site are provided in the **2022 Annual Monitoring Report – South Easthope Landfill** (Azimuth, 2023), which has been submitted as part of the expansion approval application package. This annual report provides a detailed description of the environmental setting of the landfill, monitoring data and interpretation of impact and compliance with respect to both ground and surface water at the Site.



5.2 Land

This factor has regard for the potential impact of the landfill expansion on land use both on the site and the adjacent lands. MECP guidelines indicate that land use within 500 metres of a landfill site could potentially be impacted by landfill operations (e.g., odour, noise, litter, ground/surface water contamination). The landfill expansion must have regard for the municipal planning policies and land use and zoning designations associated with the adjacent lands and the applicable provincial planning policies. It must be determined if the proposed expansion is compatible with the adjacent land use and will not adversely impact the future use of those lands either indirectly (e.g., odour, noise) or directly (e.g. contamination).

As the proposed landfill expansion of 1.3 ha does not represent a large scale decrease in buffer areas or removal of perimeter tree or forested area, there is not expected to be any increased disturbance to surrounding lands. A minimum buffer along the landfill property boundaries will be maintained of 30 m and there is already an established forested buffer from the closest residence of ~500 m surrounding the Site which will continue to minimize visual impacts as the height of the proposed waste mound will be below the existing treetop elevations (Figure 3).

5.3 Air and Noise

Municipal waste disposal generates odours from the waste and noise from the operation of equipment to handle the waste and recyclables on-site and from traffic generated by the residents direct hauling their waste and recyclables to the site. The decomposition of waste can create odour and volatile gases such as methane which in sufficient volumes can pose a potential hazard. Small landfill sites generally do not have sufficient volumes of decomposing waste to generate potential hazardous levels of gases or odour. The volumes of gas are small and are passively vented through the waste to the atmosphere. Odour is generally limited to the area immediately adjacent to the site due to the small waste volumes.

Noise impacts associated with landfills are generally from the heavy equipment used onsite to handle the waste. Small landfill sites do not require regular operation of equipment to handle the waste due to the small volumes received. Equipment operation for compacting, grinding contouring the waste or application of cover material is limited to the routine operating hours of the landfill.

It is noted that with the proposed landfill expansion, waste acceptance rates, active waste cell area and general Site operations are expected to remain similar to what they are currently with the exception of improved and expanded leachate collection and treatment



infrastructure. As such, there is not expected to be a significant change to either the noise or air quality originating from the Site.

The closest residences are located 500 m north west of the proposed expansion area and there have not been any historical significant issues with respect to noise or odour which could not be readily mitigated. With the expanded footprint, the separation distance of this area will not be reduced and the general operations are not proposed to change as a result of the increased waste footprint.

Finally, it is noted that the Site is located within an agricultural setting such that there is an existing level of noise and odour that exist within the surrounding lands such that the current and proposed future operations of the landfill are not expected to represent a nuisance beyond the existing background conditions.

In the past any issues with noise, odour or dust have been addressed with relatively informal mitigation measures, which have included application of a dust suppressant along the gravel access routes, increased cover material application to reduce odours and limited equipment operation at the Site to during operational hours of the Site.

5.4 Natural Environment

The proposed expansion area of the Site is fully within a currently cropped agricultural field such that no removal of trees or other permanent vegetation is required. Despite this, expansion of the footprint does have the potential to impact wildlife habitat and vegetative species on the adjacent lands. However, due to the small size of the expansion area and no specific habitat removal, wildlife species utilizing the area for foraging or part of their life cycle will relocate to the adjacent lands. Provincial statues protect species of conservation concern (e.g., endangered, rare) requiring the retention of known and potential habitat, however the expansion of the Site is not predicted to adversely impact potential habitat for species of conservation concern.

A Natural Heritage Evaluation (NHE) screening was completed as part of the expansion study. The results indicate that the proposed expansion area does not present the potential for any significant impact to natural heritage features. For reference, the findings of this evaluation has been provided in Appendix G.

5.5 Resources

Resources considers the impact on natural resources, waste diversion programs or the utilization of by-products generated by landfilling (e.g., energy from waste). This factor considers if the expansion of the landfill site would result in a potentially adverse economic loss to the community (e.g., expansion onto agricultural land). Given the



relatively small size of the expansion area, the fact it is within the current landfill property, which is already utilized for contaminant attenuation, the loss of land area would represent a significant loss of economic resources. The municipality currently provides waste diversion facilities at the Site for the residents and this program will be unchanged with the landfill expansion. Landfill gas (methane) although likely generated at the Site, is expected to be minimal and of little economic value, given the small waste volume at the Site in both its current and expanded footprint area.

5.6 Socio-Economic

Landfill operations in proximity to residential, institutional, commercial or recreational land uses can have an adverse effect on the community character, the aesthetics of the area or business operations. The landfill site can attract birds that feed on the waste and in significant numbers the birds can represent a potential hazard to airplanes due to collisions with aircraft. Odour, noise, traffic, litter can adversely impact the adjacent community if the aforementioned impacts are persistent or at a level that impacts the enjoyment and/or use of the adjacent land uses. The aforementioned effects are generally directly related to the size of the landfill operation and the volume of waste received for disposal. Small landfill site operations generally do not receive sufficient volumes of waste to generate the magnitude of nuisance effects (e.g., odour, litter) that significantly impact the adjacent land uses. The expansion of the landfill site will increase the area approved for waste disposal, however the size of the active disposal area with exposed waste at any given time will not increase. The sequence of landfill operations on the Site will continue as it has historically with cell sequencing into the new expansion area.

5.7 Heritage and Culture

Heritage and cultural resources refers to historic buildings, archaeological site or landscapes that are characteristic of historic land uses or provide scenic vistas. Expansion of the landfill site would be a heritage and cultural concern if it adversely changed a historic feature through physical disturbance (e.g., building removal) or adversely altered a scenic landscape or disturbed an archaeological site. The active area of the site is entirely surrounded by forest / tree cover and is not in proximity to a scenic vista or topographic high from which residents could view the Site. Areas of high archaeological potential are generally associated with lakes and rivers. The Site is within 150 m of a small surface water feature referred to as the Wilhelm Drain. However, this is not considered a major surface water feature or transport route such that it is unlikely to any archaeological issues with the expansion lands. Similarly, the expansion area represents currently cropped agricultural lands such that the area is considered historically disturbed / developed.



Finally, an archaeological assessment was completed during the original Site development, which included the current expansion footprint. The results of this assessment indicated there were no artifactual remains present at the Site, including the expansion area such that there are no restrictions with respect to expansion relating to archaeology. For reference this report has been included as Appendix H.

5.8 First Nations

First Nations traditional activities involve the use of the natural resources for food, shelter, medicine and ceremonial purposes. Lands that historically would have been used for traditional First Nations activities would include all the lands in the municipality. As part of the consultation program, First Nations groups in the area have been informed of the expansion and asked if they had any concerns with the expansion to ensure potential impacts on traditional First Nations activities are addressed. The First Nations groups were consulted during every public consultation period related to the Screening process as was completed for the neighbouring properties and applicable agencies. Example letters for each consultation period are included in Appendices C, E & F. The seven First Nations groups (Asmjiwnaang, Bkejwanong, Caldwell, Chippewas of Kettle Pt, Chippewas of the Thames, Oneida and the Six Nations of the Grand River), which were included in the consultation process were the closest First Nations groups to the landfill property. At the time of the issuance of this report, no concerns from these local First Nations groups have been presented. The contact list has been included in Appendix C.

5.9 Source Water Protection

A review of the Source Water Protection Areas as identified on the MECP Source Protection Information Atlas website indicates the Site is located with the Upper Thames Source Protection Area (SPA). Specifically, the Site is located within a Wellhead Protection Area (WHPA-D) for the Tavistock municipal water supply wells 1, 2a & 3 which are approximately 2 km to the east of the Site. The southeastern portion of the Site is also located within a Significant Ground Water Recharge Area (SGRA) and a Highly Vulnerable Aquifer Area (HVA); however, the current and proposed active area of the landfill is approximately 2.5 km northwest of the wells.

As per the Upper Thames Source Protection Threats and Circumstances Tables, the Site as a “Waste Disposal Site” located in the WHPA-D with a vulnerable score of 2 does not represent a threat to the municipal wells. As such, no mitigation measures are proposed to address the presence of the landfill within the WHPA-D. It is noted that this follows the existing landfill operations protocols which does not include any special mitigation measures.



5.10 Other

This factor addresses if expanding the landfill will result in the creation of more non-hazardous or hazardous waste requiring disposal or other negative environmental impact not defined by the above criteria. The proposed expansion is not expected to present any additional issues outside of what has already been presented in this screening report.

7.0 POTENTIAL ENVIRONMENTAL EFFECTS

The potential environmental effects were identified through the application of the aforementioned screening criteria. The results, which are summarized in Appendix D, indicate that the only criterion where effects could be realized through the expansion is through the impairment of surface and ground water through the release of leachate from the landfill as well as nuisance odours from the waste.

However, as described in the previous sections as well as in supporting documentation, the landfill leachate effects on the surrounding environment, although measurable are adequately attenuated and mitigated such that all applicable regulations and guidelines are satisfied. As such, there is no offsite impairment of either the surface or ground water quality.

It should also be noted that environmental monitoring and collection and treatment of leachate at the Site has been recommended to be continued throughout the expansion period such that any potential changes to the ground or surface water quality can be dealt with if encountered.

In addition, issues with nuisance odours are not felt to be of major concern given the relatively small size of landfill, limited annual waste acceptance and lack of any active sensitive land use (residence) within 300 m of the active area of the landfill site and within 500 m of the expanded waste footprint area.

8.0 SECOND POINT OF CONSULTATION

Upon completion of the screening checklist, the findings were distributed to government agencies as well as First Nations groups. These letters were sent out on November 4th, 2022. Response regarding this notification included Perth County, which responded indicating they would review any applicable zoning requirements and provide any relevant information. No further response was received. Comment was also received from the Upper Thames River Conservation Authority (UTRCA) which listed a number of items of consideration relating to source water protection, storm water, buffers to natural heritage and hazard features. It was requested that they receive all technical documents for review and comment, which were provided following the completion of



the studies and issuance of the Notice of Completion for the ESR. It is noted that all comments were considered and incorporated into this report as well as all other technical documents.

As of the issue date of this report, no further response expressing any concern with the planned expansion has been received.

7.1 Public Open House

Following the completion of the screening checklist as well as releasing this information to the government agencies and First Nations groups, an open house was scheduled to provide the public with the findings of the studies completed to date as well as the proposed expansion plans for the landfill. Notification of the meeting date was sent out to the government agencies, First Nations groups, cottage associations as well as advertised in the local paper (Stratford Beacon Herald) on two separate occasions (November 17th and 19th, 2022) and posted on the municipality's website.

The open house took place on November 29, 2022 at the Shakespeare Fire Hall. At this time Azimuth provided a presentation outlining the environmental features of the site, results from the current and historic environmental monitoring programs, the proposed landfill expansion plans as well as an outline of the ESP, which was being undertaken as part of the expansion approval process. Following the presentation, Azimuth staff answered questions from the public. No specific issues of concern beyond being provided the ability to review documentation as it is finalized and kept up to date on process. This was completed through the Notice of Completion and issuance of the reports on the Township website.

9.0 SUPPLEMENTAL STUDIES

The only supplemental studies that have been completed in conjunction with the proposed landfill expansion are the 2022 Annual Monitoring Report – South Easthope Landfill Site (Azimuth, 2023) as well as a Species at Risk Screening / Environmental Impact Study (Appendix G). As discussed earlier, the annual monitoring report is being submitted as part of the complete landfill expansion application package along with a revised Design & Operations Plan for the Site.

10.0 MITIGATION MEASURES

As the only potential areas of concern with respect to the Screening Criteria Checklist were related to surface and ground water impacts from leachate as well as nuisance odours, it is felt that the only mitigation measures required at this time are the use of a leachate treatment collection and treatment facility as has been done at the Site since



2004. The type of treatment system utilized at the Site currently and proposed in the expanded scenario is geared primarily to the reduction of the organic and particulate components of the impacted water, which includes BOD, nitrogen species and TSS. The system also includes a sub-surface disposal trench which further mitigates leachate impacts within the limited permeability soils. This system has proven to be effective at the Site since 2004.

As discussed in previous sections, odour impacts are perceived to be minimal as the annual waste acceptance volumes are not anticipated to increase significantly with the proposed expansion. As for the potential surface and ground water impacts, the natural attenuation design with the leachate treatment and disposal system at the Site has operated within limited issues for the past 18 years and would expect to continue as such for the expansion period.

11.0 NOTICE OF COMPLETION

Upon completion of the Environmental Screening Report the report will be made available to the public, government agencies and First Nations groups. A notice of completion will be sent directly to the government agencies, First Nations groups, neighbouring property owners, and the members of the public who attended the public open house and provided mailing addresses. The general public will be notified through advertisement in the local paper as well as on the municipality's website.

This notice will indicate that the Screening Report and all supporting documents have been made available to the public on the municipality's website. It will also outline the 60-day review period for the public to submit any issues they have with the proposed landfill expansion. The notice issued to the Regional Coordinator, government agencies and First Nations groups will indicate that copies of the final screening report and supporting documentation can be mailed at their request.

For reference, a copy of this notice has been included in Appendix F.

12.0 CONCLUSIONS

Based on the results of the screening process and our assessment of potential impacts associated with the landfill expansion no adverse impacts are predicted and no further assessment is required under the environmental assessment process. The screening process and consultation program had identified no adverse environmental impacts beyond the potential impacts to ground and surface water on-site. A detailed hydrogeological and surface water assessment has been completed and will be submitted to the MECF for review and approval of the proposed landfill expansion under the



Environmental Protection Act. No adverse impacts or significant public concerns were identified during the consultation process.

13.0 REFERENCES

Azimuth Environmental Consulting Inc., 2023. 2022 Landfill Monitoring Report South Easthope Landfill Site.

Azimuth Environmental Consulting Inc., 2023. Revised Design and Operations Plan – South Easthope Landfill Site.



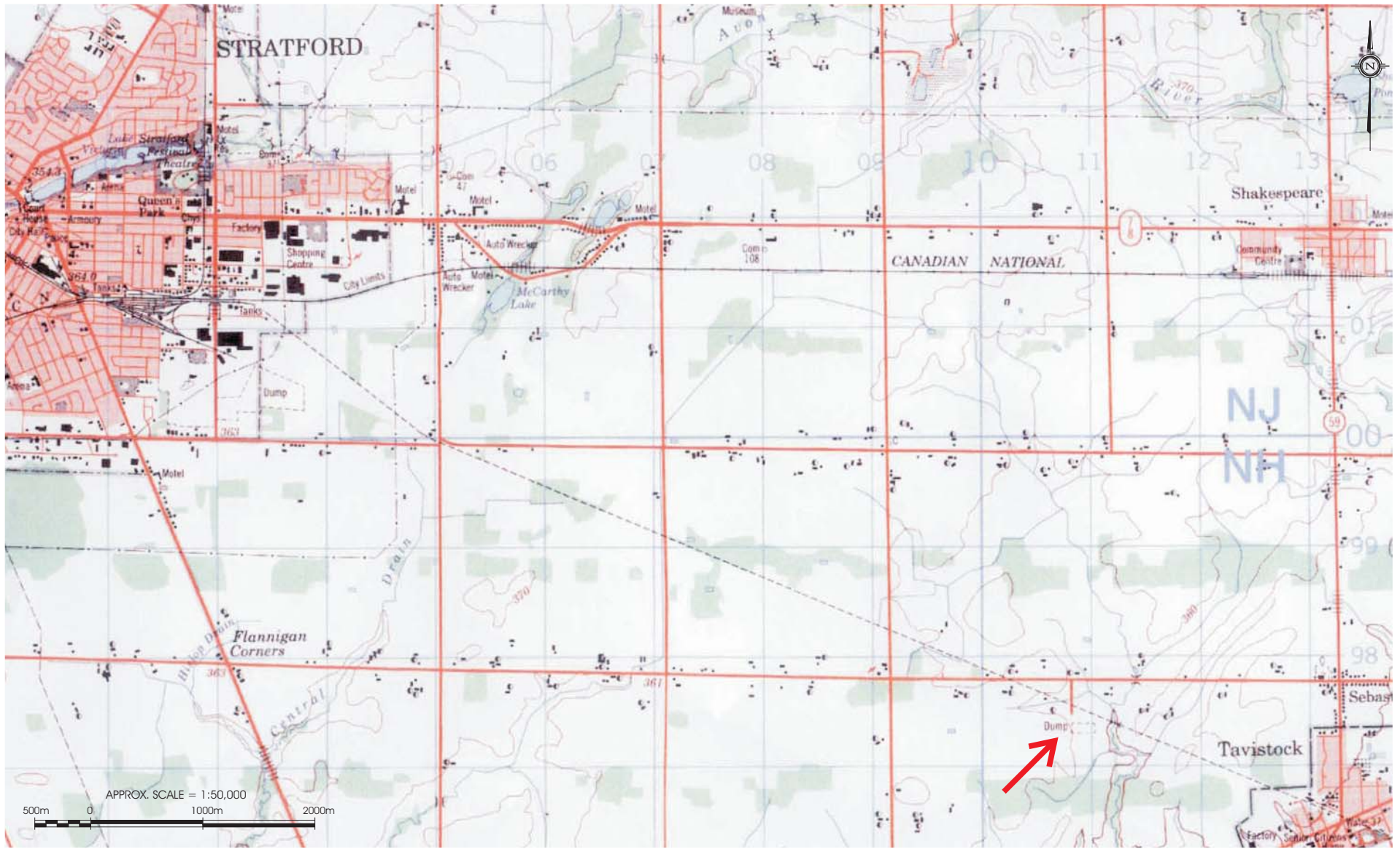
APPENDICES

- Appendix A: Figures**
 - Appendix B: Current Certificate of Approval**
 - Appendix C: Notices for Commencement and Public Open House**
 - Appendix D: Screening Checklist**
 - Appendix E: Public Consultation Responses**
 - Appendix F: Notice of Completion**
 - Appendix G: Natural Heritage Evaluation**
 - Appendix H: Archaeology Assessment**
-
-



APPENDIX A

Figures



Legend:

 Landfill Location



Site Location

Date Issued:	February 2023
Created By:	CMR
Project No.	22-003
File Name:	Figure-1.cdr

**South Easthope
Landfill**

Figure No.

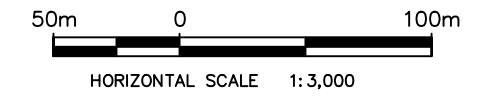
1



LEGEND:

Surface water locations shown on Figure 5.
 Topographic base from 2003 + Waste Surface Updated in 2016 Elevations are based on Blue Plan Engineering Survey.

- Property Boundary
- Waste footprint (2022)
- Active Waste Area
- Fence Line
- ⊕ Monitoring Wells



Landfill Property

South Easthope Landfill
Perth East

DATE ISSUED:	February 2023	Figure No.
CREATED BY:	JLM	2
PROJECT NO.:	22-003	
REFERENCE:		

Printed by ALU on February 27, 2023 at 9:48am
 File: Q:\20 Projects\20-003 2020 South Easthope Landfill Monitoring\04.0 - Drafting\20-003.dwg - Drafting\20-003.dwg - Layout: ES2 - PlotScale: 0.25



Projected by ALU on February 27, 2023 at 9:49am
 File: G:\22-003-003-003_South_Easthope_Landfill_Monitoring_04.0 - Drafting\22-003_South_Easthope_Landfill_Layout.dwg Layer: ES3_PlotScale_1

LEGEND:	
	APPROX. PROPERTY BOUNDARY
	PREGRADE SURFACE CONTOURS
	PROPOSED LANDFILL EXPANSION CONTOURS
	WATERCOURSE
	MONITORING WELL LOCATION
	SURFACE WATER MONITORING LOCATION

DATE ISSUED:	FEBRUARY 2023	Figure No. 3
CREATED BY:	A.L.	
PROJECT NO.:	22-003	
REFERENCE:	---	



APPENDIX B

Current Certificate of Approval

02-055
Landfill



Ministry of the Environment
Ministère de l'Environnement

AMENDED PROVISIONAL CERTIFICATE OF APPROVAL
WASTE DISPOSAL SITE
NUMBER A150902
Issue Date: May 24, 2007

The Corporation of the Township of Perth East
PO Box 455, 25 Mill Street East
Milverton, Ontario
N0K 1M0

Site Location: South Easthope Landfill
Lot 26, Concession 5
Perth East Township, County of Perth

You have applied in accordance with Section 27 of the Environmental Protection Act for approval of:

For the use and operation of a 5.0 hectare landfilling site within a total site area of 29.6 hectares, being known as the South Easthope Landfill

For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:

- a) "Regulation 347 " means Ontario Regulation 347 R.R.O. 1990
- b) "Owner " means the Corporation of the Township of Perth East;
- c) "Reasonable Use Guideline " means the Ministry Guideline B-7 entitled "Incorporation of the Reasonable Use Concept into MOE Groundwater Management Activities, dated April 1994, as amended
- d) "Director " means Director, Section 39, Environmental Protection act, R.S.O. 1990, C.E-19 as amended;
- e) "District Manager " means the District Manager in the London District Office, Southwestern Region, Ontario Ministry of the Environment;
- f) "Certificate " means this Provisional Certificate of Approval including all Notices of Amendment;
- g) "Ministry " means the Ontario Ministry of the Environment;
- h) "Point of Compliance " means the boundary at which MOE Guideline B-7 shall be evaluated;

- i) "CAZ " means the Contaminated Attenuation Zone;
- j) "EPA " means the Environmental Protection Act, R.S.O. 1990, C.E-19 as amended; and
- k) "OWRA " mean the Ontario Water Resource Act, R.S.O 1990, Chapter O.40

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

I. GENERAL

Compliance

1. The *Owner* and Operator shall ensure compliance with all the conditions of this *Certificate* and shall ensure that any person authorized to carry out work on or operate any aspect of the *Site/System* is notified of this *Certificate* and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
2. Any person authorized to carry out work on or operate any aspect of the *Site/System* shall comply with the conditions of this *Certificate* .

In Accordance

3. Except as otherwise provided for in this *Certificate* , the *Site* shall be designed, developed, built, operated and maintained in accordance with the application for this *Certificate* , dated November 21, 2006, and the supporting documentation listed in Schedule A.

Interpretation

4. Where there is a conflict between a provision of any document, including the application, referred to in this *Certificate* , and the conditions of this *Certificate*, the conditions in this *Certificate* shall take precedence.
5. Where there is a conflict between the application and a provision in any documents listed in Schedule "A", the application shall take precedence, unless it is clear that the purpose of the document was to amend the application and that the *Ministry* approved the amendment.
6. Where there is a conflict between any two documents listed in Schedule "A", other than the application, the document bearing the most recent date shall take precedence.
7. The conditions of this *Certificate* are severable. If any condition of this *Certificate* , or the application of any condition of this *Certificate* to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder

of this *Certificate* shall not be affected thereby.

Other Legal Obligations

8. The issuance of, and compliance with, this *Certificate* does not:
 - a. relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement; or
 - b. limit in any way the authority of the *Ministry* to require certain steps be taken or to require the *Owner* and *Operator* to furnish any further information related to compliance with this *Certificate* ;

Adverse Effect

9. The *Owner* and *Operator* shall take steps to minimize and ameliorate any adverse effect on the natural environment or impairment of water quality resulting from the *Site* , including such accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.
10. Despite an *Owner*, *Operator* or any other person fulfilling any obligations imposed by this *Certificate* the person remains responsible for any contravention of any other condition of this *Certificate* or any applicable statute, regulation, or other legal requirement resulting from any act or omission that caused the adverse effect to the natural environment or impairment of water quality.

Change of Owner

11. The *Owner* shall notify the *Director* , in writing, and forward a copy of the notification to the *District Manager* , within 30 days of the occurrence of any changes in the following information:
 - i. the ownership of the *Site* ;
 - ii. the *Operator* of the *Site* ;
 - iii. the address of the *Owner* or *Operator* ;
 - iv. the partners, where the *Owner* or *Operator* is or at any time becomes a partnership and a copy of the most recent declaration filed under the *Business Names Act* , R. S. O. 1990, c. B.17, shall be included in the notification;
12. No portion of this *Site* shall be transferred or encumbered prior to or after closing of the *Site* unless the *Director* is notified in advance and sufficient financial assurance is deposited with the *Ministry* to ensure that these conditions will be carried out. In the event of any change in *Ownership* of the works, other than change to a successor municipality, the *Owner* shall notify the successor of and provide the successor with a

copy of this *Certificate* , and the Owner shall provide a copy of the notification to the *District Manager* and the *Director*.

Certificate of Registration

13. Pursuant to Section 197 of the *EPA* , no person having an interest in the *Site* shall deal in any way with the *Site* without first giving a copy of this *Certificate* to each person acquiring an interest in the *Site* as a result of the dealing.
14. Two copies of a completed Certificate of Prohibition, containing a registerable description of the *Site* , shall be submitted to the Director for the Directors signature within 60 calendar days of the date of this *Certificate* for any landfilled owned lands that are not yet registered on title to the landfill.
15. The Certificate of Prohibition shall be registered in the appropriate land registry office on title to the *Site* by the *Owner* within 10 calendar days of receiving the Certificate of Prohibition signed by the *Director*, and a duplicate registered copy shall be submitted to the *Director* .

Inspections

16. No person shall hinder or obstruct a *Provincial Officer* from carrying out any and all inspections authorized by the *OWRA* , the *EPA* , or the *PA* , of any place to which this *Certificate* relates, and without limiting the foregoing:
 - a. to enter upon the premises where the approved works are located, or the location where the records required by the conditions of this *Certificate* are kept;
 - b. to have access to, inspect, and copy any records required to be kept by the conditions of this *Certificate* ;
 - c. to inspect the *Site*, related equipment and appurtenances;
 - d. to inspect the practices, procedures, or operations required by the conditions of this *Certificate* ; and
 - e. to sample and monitor for the purposes of assessing compliance with the terms and conditions of this *Certificate* or the *EPA* , the *OWRA* or the *PA* .

Information and Records Retention

17. Any information requested, by the *Ministry* , concerning the *Site* and its operation under this *Certificate* , including but not limited to any records required to be kept by this *Certificate* shall be provided to the Ministry, upon request, in a timely manner. Records shall be retained for two (2) years except for as otherwise authorized in writing by the Director.

18. The receipt of any information by the *Ministry* or the failure of the *Ministry* to prosecute any person or to require any person to take any action, under this *Certificate* or under any statute, regulation or other legal requirement, in relation to the information, shall not be construed as:
- a. an approval, waiver, or justification by the *Ministry* of any act or omission of any person that contravenes any term or condition of this *Certificate* or any statute, regulation or other legal requirement; or
 - b. acceptance by the *Ministry* of the informations completeness or accuracy.

II. Design, Operations and Maintenance

19. (1) Approval is hereby granted to design and operation in accordance with Item 1 through 10 in Schedule "A".
- (2) The maximum capacity for the site is 272,000 cubic meters including final cover.
20. Any changes to the Site Design and Operation Manual shall be submitted to the *Director* for acceptance prior to their implementation.
21. A sign shall be posted in a prominent location at the *Site* entrance clearly stating the *Owner's* name, Operator's name, Provisional Certificate of Approval Number, the hours of operation and contact telephone number to call with complaints or in the event of an emergency.
22. No burning or incineration of any materials shall be permitted at the *Site* .
23. Cover shall be placed over the entire working face with a minimum thickness of 150 mm of soil cover or an approved thickness of alternative cover material on a weekly basis.
24. Intermediate Cover shall be placed in areas where landfilling has been temporarily discontinued for six (6) months or more. A minimum thickness of 300 mm of soil cover or an approved thickness of alternative cover material shall be placed.
25. Clean wood chips may be used as weekly cover material (150 mm thickness)
26. The *Owner* shall undertake litter pick-up around the property in the early spring and late fall, including the fenceline and any surface water bodies on the property. The owner shall also undertake regularly scheduled litter pick-ups around the site between the months of May and September or as required after blustery days.
27. The Vector/Vermin control plan be undertaken by the *Owner* in accordance with the Vector/Vermin Control Plan set out in Schedule "B".

III. Record Keeping

28. The *Owner* shall establish and maintain a written record of daily operations at the *Site* . This record must be in a form of a log or a dedicated electronic file and it shall include as a minimum the following information:
- a) date of record;
 - b) hours of operation;
 - c) an approximation of the type, amount and source of waste received;
 - d) an estimate on the amount of recyclable materials (depending on item - i.e. number of containers, number of tires, appliances, batteries) removed from the site by the licensed hauler retained by the owner;
29. The *Owner* shall establish and maintain a written record of all environmental emergency situations at the *Site* . This record shall be in the form of a log or a dedicated electronic file and it shall include, as a minimum, the following information:
- a) type of the emergency situation and the resulting environmental impact;
 - b) actions taken to address the impact; and
 - c) actions taken to prevent the re-occurrence of a similar emergency situation in the future.
30. The *Owner* shall establish and maintain a written record of complaints received about the *Site* . The records shall be kept at the municipal office. This record shall be in the form of a log or a dedicated electronic file and it shall include, as a minimum, the following information:
- a) date and time of any complaints received at the Site and their nature;
 - b) name, address and telephone number of the complainant;
 - c) nature of the complaint;
 - d) date and description of any remedial actions taken to address the received complaints; and
 - e) actions taken to prevent the re-occurrence of a similar incident, in the future.
31. The *Owner* shall establish and maintain a written record of the site inspections. This record shall be in the form of a log or a dedicated electronic file and it shall include, as a minimum, the following information:
- a) date and time of inspection;
 - b) name, title and signature of trained personnel conducting the inspection; and
 - c) a listing of all equipment, fencing, signs, etc. inspected and any deficiencies observed; and

- d) recommendations for remedial action and the completion date of such action.

32. The *Owner* shall establish and maintain a written record of all occurrences of unapproved waste landfilled at the *Site* . This record shall be in a form of a log or a dedicated electronic file and it shall include, as a minimum, the following information:

- a) waste generator (if known);
- b) type of unapproved waste;
- c) an approximation on the amount of unapproved waste;
- d) nature of unapproved waste;
- e) steps taken to remove waste material; and
- f) actions taken by the *Owner* to prevent recurrence.

33. The *Owner* shall retain at the Municipal Office for a minimum of two (2) years from the date of their creation, or longer if requested in writing by the *District Manager* , all records and information relating to or resulting from the activities approved under this Certificate, and shall make all records and information available at all times for inspection by a Provincial Officer. A copy of the Design, Operations and Maintenance Plan shall be kept at the Site.

IV. Environmental Monitoring and Trigger Mechanisms

34. (1) Groundwater and surface water monitoring shall be undertaken by the *Owner* in accordance with the environmental monitoring program set out in Schedule "C".
- (2) The *Owner* may make request to changes to the monitoring program to the *District Manager* in accordance with the recommendations of the annual report as described in Condition 41 (2).
- (3) Within fourteen (14) days of receiving the written correspondence from the District Office confirming that the District Office is in agreement with the proposed changes to the environmental monitoring program identified in Condition 34(2), the *Owner* shall forward a letter identifying the proposed changes and a copy of the correspondences from the District Manager and all other correspondences and responses related to Condition 34(2) and 41(2), to the *Director* requesting the *Certificate* be amended to approve the proposed changes to the environmental monitoring plan.
- (4) In the event any other changes to the environmental monitoring program are proposed outside of the recommendation of the annual report, the *Owner* shall follow current ministry procedures for seeking approval for amending the Certificate of Approval.

35. The groundwater trigger mechanism plan and contingency plan is approved in accordance with Items 8 and 9 in Schedule "A".
36. In the event of a confirmed exceedance of a site-specific trigger level relating to leachate mounding or groundwater or surface water impacts due to leachate at the site's point of compliance, the Owner shall immediately notify the District Manager, and an investigation into the cause and the need for implementation of remedial or contingency actions shall be carried out by the Owner in accordance with the approved trigger mechanisms and associated contingency plans.
37. If monitoring results, investigative activities and/or trigger mechanisms indicate the need to implement contingency measures, the Owner shall ensure that the following steps are taken:
- a.) The *Owner* shall notify the *District Manager* , in writing of the need to implement contingency measures, no later than 30 days after confirmation of the exceedances;
 - b.) Detailed plans, specifications and descriptions for the design, operation and maintenance of the contingency measures shall be prepared and submitted by the *Owner* to the *Director* for approval; and
 - c.) The contingency measures shall be implemented by the *Owner* upon approval by the *Director* .
38. The *Owner* shall ensure that any proposed changes to the site-specific trigger levels for leachate impacts to the surface water or groundwater, shall be approved in advance by the *Director* via an amendment to this *Certificate*.

V. Leachate Treatment System

39. The *Owner* shall provide to the *District Office* in writing no later than seven (7) days after implementation, any changes in the design, operation and maintenance plan relating to the LTS.
40. The owner shall submit to the *District Manager* in writing, no later than thirty (30) days prior to implementation, any plans to implement upgrades to the LTS.

VI. Annual Report

41. (1) By no later than **June 30, 2007**, and by every other June 30 thereafter, the proponent shall submit, to the MOE *District Manager*, an annual report. The report shall be prepared by an qualified professional engineer, hydrogeologist and/or surface water specialist. The report shall contain, but is not limited to, the following information:
- a) a summary of type and quantity of incoming waste accepted during the reporting period;

- b) a summary of total amount of waste received at the site, remaining capacity and remaining life expectancy of the site;
- c) a summary of the site's operation procedure and compliance as per the Design and Operation Plan;
- d) a summary of recycling operations;
- e) a section of text describing the landfill's hydrogeologic setting;
- f) a location map illustrating the site relative to nearby existing groundwater and surface water features, based on known information;
- g) a site plan(s) illustrating the approved landfill footprint and currently filled area;
- h) a water table contour map;
- i) stratigraphic cross-sections which clearly illustrate the subsurface distribution of geological materials;
- j) the report shall document sampling protocols, and describe any problems encountered during the sampling runs which may have impacted the reliability of analytical results;
- k) all data shall be interpreted by the author(s) and shall be presented in a form that is easy to follow. All analytical results for all parameters must be presented in tabular form. All analytical results for the critical contaminants must be presented graphically on time-series graphs, and must be compared to the trigger levels in accordance with the environmental contingency plan that was established in the reasonable use assessment. Trends of ground water quality must be presented graphically on Piper or Durov plots and interpreted.
- l) the report shall identify the "Reasonable Use" (Guideline B-7) of the ground water that is to be impacted. The report should also identify expected and worst-case impacts;
- m) the report shall include the calculation of major ion balances for the groundwater sample analytical results. The % difference between the sums (expressed as milliequivalents per litre) of major cations and major anions shall be calculated. The % difference is defined as:

$$\% \text{ difference} = 100 \times \frac{\sum \text{cation} - \sum \text{anion}}{\sum \text{cation} + \sum \text{anion}}$$

If the analytical result of a ground water sample has an anion-cation balance % difference of greater than $\pm 10\%$, the Owner must take action to determine the cause of the imbalance, and ensure that it is addressed in future groundwater sampling and analyses;

- n) the report shall include a comparison of the results of surface water sampling to the PWQOs or Interim PWQOs described in Water Management, MOEE, July 1994, as amended from time to time;
- o) discussion of the Site's Contaminated Attenuation Zone (CAZ);

- p) QA/QC protocol shall be described; and
 - q) the report shall include conclusions and recommendations of the author(s), especially as they concern future sampling parameters, frequency and protocol.
 - r) a discussion on the effects of the LTS to the groundwater system and the landfill.
 - s) copies of the boreholes logs for the site.
- (2) In the event the *Owner* recommends any changes to the environmental monitoring plan in the Annual Report, the *Owner* shall provide a cover letter with the submission of the annual report that clearly indicates the report contains proposed changes to the environmental monitoring plan and request the District Office review the proposed changes. The cover letter shall be addressed to the *District Manager* .

VI. Closure Plan

42. At least 2 years prior to the anticipated date of closure of this *Site* , the *Owner* shall submit to the *Director* for approval, with copies to the *District Manager* , a detailed site closure plan pertaining to the termination of landfilling operations at this *Site* , post-closure inspection, maintenance and monitoring, and end use, based on the Landfill Closure Section of the Design and Operations Report. The plan shall include the following:

- a. a plan showing the *Site* appearance after closure;
- b. a description of the proposed end use of the *Site* ;
- c. a descriptions of the procedures for closure of the *Site*, including:
 - i. advance notification to the public of the landfill closure;
 - ii. posting of a sign at the Site entrance indicating the landfill is closed and identifying any alternative waste disposal arrangements;
 - iii. completion, inspection and maintenance of the final cover and landscaping;
 - iv. site security;
 - v. removal of unnecessary landfill-related structures, buildings and facilities;
 - vi. final construction of any control, treatment, disposal and monitoring facilities for leachate, groundwater, surface water and landfill gas; and
 - vii. a schedule indicating the time-period for implementing sub-conditions i) to vi) above.

- d. descriptions of the procedures for post-closure care of the Site, including:
 - i. operation, inspection and maintenance of the control, treatment, disposal and monitoring facilities for leachate, groundwater, surface water and landfill gas;
 - ii. record keeping and reporting; and
 - iii. complaint contact and response procedures;
 - e. an assessment of the adequacy of and need to implement the contingency plans for leachate and methane gas; and
 - f. an updated estimate of the contaminating life span of the *Site* , based on the results of the monitoring programs to date.
43. The *Site* shall be closed in accordance with the closure plan as approved by the *Director*.

Schedule "A"

1. Letter dated November 29, 2004 to Mr. Glenn Schwendinger, Township of Perth East from Mr. Mike Jones, Azimuth Environmental Consulting providing a Vector/Vermin Plan for the South Easthope and Ellice Landfills.
2. Report entitled "*Trigger Mechanism and Contingency Plan and the Design and Operations Plan for the South Easthope Landfill*" prepared for the Corporation of the Township of Perth East by Azimuth Environmental Consulting Inc. dated February 2005.
3. Letter dated May 5, 2005 addressed to Mr. Glenn Schwendinger, Corporation of the Township of Perth East from Mr. Dale I. Gable, Ministry of the Environment providing comments and requesting additional information on the submitted Design and Operations Plan.
4. Letter dated June 7, 2005 addressed to Mr. Dale Gable, Ministry of the Environment from Mr. Mike Jones, Azimuth Environmental Consulting Inc. providing a response to May 5, 2005 letter.
5. Letter dated September 14, 2005 addressed to Mr. Glenn Schwendinger, Corporation of the Township of Perth East from Mr. Dale I. Gable, Ministry of the Environment providing additional comments and requesting additional information on the submitted Design and Operations Plan.
6. Letter with supporting documentation dated December 1, 2005 addressed to Mr. Dale Gable, Ministry of the Environment from Mr. Mike Jones, Azimuth Environmental Limited Inc. providing a response to September 14, 2005 letter. The supporting documentation included the following:
 - i. Figure No. 2 - Site Location prepared by Azimuth Environmental Consultants Inc. (Project No. 02-055);
 - ii. Figure No. 2 - Site Layout prepared by Azimuth Environmental Consultants Inc. (Project No. 02-055) dated February 2005;
 - iii. Figure No. 3 - Final Contours prepared by Azimuth Environmental Consultants Inc. (Project No. 02-055) dated February 2005;
 - iv. Figure No. 4 - Waste Cell Phasing prepared by Azimuth Environmental Consultants Inc. (Project No. 02-055) dated February 2005;
 - v. Figure No. 5 - Site Configuration prepared by Azimuth Environmental Consultants Inc. (Project No. 02-055) dated February 2005.
7. Letter dated December 11, 2006 addressed to Mr. Bud Markham, Township of Perth East from Mr. Dale Gable, Ministry of the Environment requesting additional information on the updated information
8. Updated report dated February 2007 entitled "*Trigger Mechanisms and Contingency Plan and the Design and Operations Plan for the South Easthope Landfill* " prepared for the Township of Perth East by Azimuth Environmental Consultants Inc.

9. Letter dated February 26, 2007 addressed to Mr. Dale Gable, Ministry of the Environment from Mr. Mike Jones, Azimuth Environmental Consultants Inc. providing a response to comments on the pressure trench, trigger mechanisms and borehole logs.
10. Email from Mr. Mike Jones, Azimuth Environmental Inc. addressed to Mr. Dale Gable, Ministry of the Environment providing a copy of the existing borehole logs for the site.

Schedule "B"

This Schedule forms part of the Certificate of Approval No. A151001. It describes the Vector/Vermin Control Plan referred to in Condition 27.

1. The site and site buildings shall be inspected on a regular basis as part of the normal site operations. Inspection for animal signs shall be noted on daily operations and shall be logged in the operation logs.
2. Site staff shall note the presence of any animals during standard site operations.
3. Litter collected from around the site as required by Condition 9 shall be placed in the working face.
4. Cover material as required under Condition 6 and 7 shall be placed and maintained to minimize any open refuse.
5. Ensure that the active landfilling face is minimized
6. Recyclables and recovered materials shall be segregated and removed from the site as soon as complete transfer loads are available or before the end of the year, whichever occurs first. This shall minimize the amount of cover available to animals. Materials with standing water are drained or overturned to minimize opportunities for water supply and breeding potential.
7. Grassed areas around the site are not cut since this reduces the loafing potential for gulls. Longer grass could obscure views of approaching predators so that gulls do not feel safe minimizing their residence time at the property. At selected times of the year, long grass can encourage proliferation of insects that are a food source and can encourage the presence of wildlife, however, this shorter duration event is considered to be less important and to date not pose a significant concern such that a change is warranted.
8. If wildlife is evident and populations are increasing above nuisance levels, the site operator shall undertake action to eliminate the attracting mechanism.
9. If rodents or mammals are the issue, the owner shall call a commercial extermination/pest control company to undertake a control program. The pest control company will set up traps and kill significant vermin to return the population to its non-nuisance levels.
10. If vectors are avian, the control program, must also consider controls available under the Migratory Bird Act. If a migratory bird is involved, the owner is limited to disturbance of nesting sites before hatching of young. Other disturbances techniques for adult birds could be used.
11. Activities shall be discussed in the annual monitoring program.

Schedule "C"

This Schedule forms part of the Certificate of Approval No. A151001. It describes the groundwater and surface water monitoring program referred to in Condition 34.

C.1. Groundwater

C.1.1 Groundwater Monitoring Program Objectives

The overall goal of the groundwater monitoring program is to detect and assess effects of the landfill on local water resources. The following objectives have been identified to achieve this goal:

- a) to monitor groundwater quality in the groundwater system;
- b) to identify and characterize movement of leachate related contaminants in the systems;
- c) to evaluate the effectiveness of the attenuation zone; and
- d) to determine the need for implementation of contingency plans.

C.1.2 Monitoring Plan

The groundwater monitoring plan shall be carried out by the Owner to address the stated objectives and will include:

C.1.2.1 Landfill Monitoring Frequency

The groundwater monitoring program shall be conducted twice per year during the spring and fall.

C.1.2.2 Groundwater Monitor Sampling Locations

Table C-1 identifies the groundwater monitors sampling locations. If a monitoring well is dry or damaged then that well does not have to be sampled that sampling event. Static water levels shall be collected in all the groundwater monitors prior to purging and sampling:

Table C-1: Groundwater Sampling Location

OW-2	OW-3	OW-4A
OW-4B		

C.1.2.3 Analytical Parameters

The parameters which shall be measured in the field, along with the chemical and physical laboratory analyses which shall be collected on the groundwater samples from the groundwater monitors, shall include the following:

Table C-2: Analytical Parameters

pH (field)	Alkalinity	Nickel
pH (lab)		Selenium
Temperature(field)		Strontium
Conductivity (field)	Fluoride	Biochemical Oxygen Demand *
Conductivity (lab)	Sulphate	Titanium
Bicarbonate	Magnesium	Zinc
Hardness as(Calcium Carbonate)	Potassium	Phenols *
Chloride	Mercury	Total Phosphorus
Nitrite	Total Organic Carbon	Iron
Nitrate	Orthophosphate	Manganese
Calcium	Sodium	Phosphorus
Bromide		VOC(s) *
Ammonia Nitrogen	Arsenic	
Total Dissolved Solids	Boron	
Colour	Chromium	
Aluminium	Copper	
Barium	Lead	
Cadmium		

C.1.2.4 Groundwater Monitor Inspections

Any groundwater monitoring well found to be damaged, not functioning or otherwise improperly maintained, shall within a reasonable time be properly repaired or replaced. The District Manager shall be notified prior to any well being replaced.

C.1.2.5 Groundwater Monitoring Protocols

Standard and/or generally accepted groundwater sampling (including well development, sample collection, storage and transport) and analytical protocols shall be adhered to during all groundwater monitoring sessions. Groundwater elevation measurements shall be of the static groundwater elevation within the groundwater monitoring well measured prior to well development.

C.1.2.6 Method Detection Limits

All laboratory analyses on groundwater samples shall be performed by an accredited analytical laboratory and the detection limits (MDLs) for the specific analyses should commensurate with the standards established in the current Ontario Drinking Water Quality Objectives.

C.2. Surface Water

C.2.1 Surface Water Monitoring Program Objectives

The primary goal of the Surface Water Monitoring Program is to monitor for any landfill-related impairment of surface water above Provincial Water Quality Objectives (PWQOs). Where the concentration of a specific parameter already exceeds the PWQO in background surface waters, the aim is to allow no further deterioration of surface water quality.

C.2.2 Monitoring Plan

The surface water monitoring plan shall be carried out by the Owner to address the stated objectives and will include:

C.2.2.1 Landfill Monitoring Frequency

The surface water monitoring program shall be conducted twice per year during the spring and late summer/early fall.

C.2.2.2 Surface Water Sampling Locations

Table C-3: Surface Water Sampling Locations

SW 1	SW 2	SW 3
Leachate Ponds		

C.2.2.3 Analytical Parameters

The parameters which shall be measured in the field, along with the chemical and physical laboratory analyses which shall be collected on the surface water samples, shall include the following:

Table C-4: Surface Water Analytical Parameters

pH (field)	Alkalinity	Nickel
pH (lab)	Fluoride	Selenium
Temperature(field)	Sulphate	Strontium
Conductivity (field)	Magnesium	Biochemical Oxygen Demand
Conductivity (lab)	Potassium	Titanium
Bicarbonate	Reactive Silica	Zinc
Hardness as(Calcium Carbonate)	Total Organic Carbon	Phenols
Chloride	Orthophosphate	Total Phosphorus
Nitrite	Sodium	Iron
Nitrate	Turbidity	Manganese
Calcium	Arsenic	Molybdenum

Bromide	Boron	Phosphorus
Ammonia Nitrogen	Chromium	VOC(s) (*)
Total Dissolved Solids	Copper	
Colour	Lead	
Aluminium	Mercury	
Barium	Total Suspended Solids (*)	
Cadmium		

C.2.2.4 Surface Water Monitoring Protocols

Standard and/or generally accepted surface water sampling (sample collection, storage and transport) and analytical protocols shall be adhered to during all surface water sampling sessions.

C.2.2.5 Method Detection Limits

All laboratory analyses on surface water samples shall be performed by an accredited analytical laboratory and the detection limits (MDLs) for the specific analyses should commensurate with the standards established in the current Provincial Water Quality Objectives.

The reasons for the imposition of these terms and conditions are as follows:

- 1. The reason for Condition Nos. (1), (2), (3), (4), (5), (6), (7), (8), (9), (10), (11), (12), (16), (17), and (18) is to clarify the legal rights and responsibilities of the Owner.*
- 2. The reason for Condition Nos. (13), (14) and (15) are included, pursuant to subsection 197(1) of the EPA, to provide that any persons having an interest in the Site are aware that the land has been approved and used for the purposes of waste disposal.*
- 3. The reasons for Condition Nos. (19), (20), (21), (22), (23), (24), (25) and (26) are to ensure the landfill is operated in accordance with Ministry standards, and to ensure the long-term protection of the health and safety of the public and the environment.*
- 4. The reason for Condition No. (27) is to incorporate the submitted Vector/Vermin Plan into the Certificate.*
- 5. The reasons for Condition Nos. (28), (29), (30), (31), (32), (33) and (34) is to ensure the monitoring and reporting are completed in accordance with Ministry standards, and to ensure the long-term protection of the health and safety of the public and the environment.*
- 6. The reasons for Condition Nos. (35), (36), (37) and (38) is to ensure the owner has a plan with an organized set of procedures for identifying and responding to potential issues relating to groundwater and surface water contamination near or at the site's compliance point.*
- 7. The reason for Condition Nos. (39) and (40) are added to ensure that Owner informs the Ministry on plans for any proposed changes to the leachate treatment system.*
- 8. The reasons for Condition No. (41) are to ensure the Owner submits an annual summary report to the Ministry so that the landfilling operation can be evaluated to ensure compliance with the Ministry's requirements on annual operations and monitoring. This is to ensure the long-term protection of the health and safety of the public and the environment.*
- 9. The reason for Condition Nos. (42) and (43) is to ensure the Owner has an established approved plan for the closure and post-closure maintenance of the landfill site. This is to ensure the long-term health and safety of the public and the environment.*

This Provisional Certificate of Approval revokes and replaces Certificate(s) of Approval No. A150902 issued on November 14, 1988

In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the waste disposal site is located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
2300 Yonge St., Suite 1700
P.O. Box 2382
Toronto, Ontario
M4P 1E4

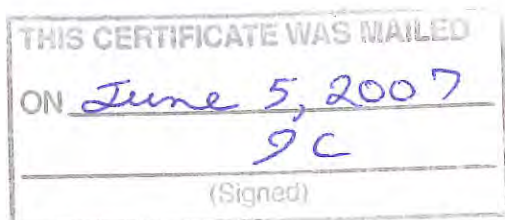
AND

The Director
Section 39, *Environmental Protection Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca

The above noted waste disposal site is approved under Section 39 of the Environmental Protection Act.

DATED AT TORONTO this 24th day of May, 2007



Tesfaye Gebrezghi, P.Eng.
Director
Section 39, *Environmental Protection Act*

DG/

c: District Manager, MOE London - District
Mike Jones, Azimuth Environmental Consulting Inc. ✓

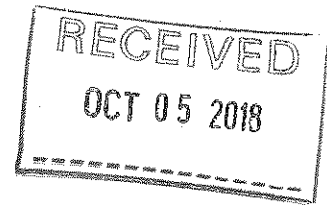
AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER A150902

Notice No. 1

Issue Date: September 25, 2018

The Corporation of the Township of Perth East
25 Mill Street East
Post Office Box, No. 455
Milverton, Ontario
N0K 1M0



Site Location: South Easthope Landfill
Lot 26, Concession 5
Perth East Township, County of Perth

You are hereby notified that I have amended Approval No. A150902 issued on May 24, 2007 for the use and operation of a 5.0 hectare landfilling site within a total site area of 29.6 hectares, being known as the South Easthope Landfill , as follows:

I. The following Conditions are hereby added:**Transfer Station**

Conditions 44-53 apply to the operation of the *Transfer Station* only.

Operations

44. The Transfer Station shall be designed, developed, built, operated, maintained, and the management and disposal of all waste shall be carried out, in accordance with the *EPA , Regulation 347* , and except as otherwise provided by this Approval, with the application for this *Approval* , dated **March 13, 2018**, and the supporting documentation listed in Items 11 and 12 of Schedule "A". At no time shall the discharge of a contaminant that causes or is likely to cause an adverse effect be permitted.

Waste Types

45. Only solid non-hazardous household domestic waste shall be accepted at the *Transfer Station* .

Waste Limits

46. No more than 300 tonnes of waste per day shall be accepted at the *Transfer Station* .
47. No more than 250 tonnes waste shall be stored or be present at the *Transfer Station* at any time. If for any reason waste cannot be transferred from the *Transfer Station*, the *Transfer Station* shall cease accepting waste.

Signage

48. A sign shall be posted and maintained at the *Transfer Station* in a manner that is clear and legible, and shall include the following information:
 - a. the name of the *Transfer Station* and *Owner* ;
 - b. this *Certificate* number;
 - c. the name of the *Operator* ;
 - d. the normal hours of operation;
 - e. the allowable and prohibited waste types;
 - f. a telephone number to which complaints may be directed;
 - g. a twenty-four (24) hour emergency telephone number (if different from above); and
 - h. a warning against dumping outside the *Transfer Station* .

Incoming / Outgoing Waste

49. All incoming and outgoing wastes shall be inspected by trained personnel prior to being received, transferred and/or shipped to ensure wastes are being managed and disposed of in accordance with the *EPA* and *Reg. 347*.

Site Security

50. The *Transfer Station* shall be operated and maintained in a secure manner, such that unauthorized persons cannot enter the *Transfer Station* .

Closure Plan

51. The *Owner* shall submit to the *District Manager* written notification of the decision to cease activities at the *Site* . The notification and closure schedule shall be submitted either not later than four (4) months prior to the planned permanent closure of the *Site* or forthwith in the situation of an unplanned permanent closure of the *Site* or indefinite cessation of *Site* activities.
52. Within 10 days after closure of the *Transfer Station*, the *Owner* shall notify the *Director*, in writing, that the *Transfer Station* is closed and that the approved *Closure Plan* has been implemented.

Log Book

53. A log shall be maintained on-site, either electronically or in written format, and shall include the following information as a minimum:

7. The reasons for Condition 51 and 52 are to ensure that the Transfer Station is closed in accordance with Ministry standards and to protect the health and safety of the public and the environment.
8. The reason for Condition 53 is to provide for the proper assessment of effectiveness and efficiency of site design and operation, their effect or relationship to any nuisance or environmental impacts, and the occurrence of any public complaints or concerns. Record keeping is necessary to determine compliance with this Environmental Compliance Approval, the EPA and its regulations.

This Notice shall constitute part of the approval issued under Approval No. A150902 dated May 24, 2007.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of Part II.1 of
the Environmental Protection Act
Ministry of the Environment, Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.gov.on.ca

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 25th day of September, 2018

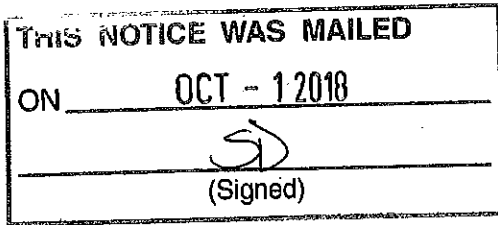
- a. the date;
- b. quantity and source of waste received;
- c. quantity of waste at the Transfer Station at the end of the operating week;
- d. quantities and destination of each type of waste shipped from the Transfer Station;
- e. a record of inspections required by this Approval;
- f. a record of any spills or process upsets at the site, the nature of the spill or process upset and the action taken for the clean up or correction of the spill, the time and date of the spill or process upset, and for spills, the time that the Ministry and other persons were notified of the spill in fulfilment of the reporting requirements in the EPA .
- g. a record of any waste refusals which shall include; amounts, reasons for refusal and actions taken; and
- h. the signature of the Trained Personnel conducting the inspection and completing the report.

II. The following Items are hereby added to Schedule "A":

11. Application for a Provisional Certificate of Approval for a Waste Disposal Site dated March 13, 2018 and signed by Glenn Schwendinger, CAO, Township of Perth East, including all supporting documentation.
12. Email dated July 16 2018 from Jennette Walker, GM BluePlan Engineering Ltd., to Alan Tan, Senior Waste Engineer, Environmental Approvals Branch of MECP.

The reasons for this amendment to the Approval are as follows:

1. The reason for Conditions 44 is to ensure that the Transfer Station is operated in a manner which does not result in a nuisance or a hazard to the health and safety of the environment or people.
2. The reasons for Conditions 45, 46 and 47 are to specify the types of waste that may be accepted at the Transfer Station, the amounts of waste that may be stored and processed at the Transfer Station, and the maximum rate at which the Transfer Station may receive waste.
4. The reason for Conditions 48 is to ensure that users of the Transfer Station are fully aware of important information and restrictions related to Transfer Station operations and access under this Environmental Compliance Approval.
5. The reason for Conditions 49 is to ensure that all wastes are properly classified to ensure that they are managed, processed and disposed in accordance with O. Reg. 347, R.R.O. 1990 and in a manner that protects the health and safety of people and the public.
6. The reason for Condition 50 is to ensure the controlled access and integrity of the Transfer Station by preventing unauthorized access when the Transfer Station is closed and no site attendant is on duty.



Dale D. Gable

Dale Gable, P.Eng.
Director

appointed for the purposes of Part II.1 of the
Environmental Protection Act

AT/

c: District Manager, MECP London - District
Jennette Walker, GM BluePlan Engineering Limited

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 6224-B5KK74

Issue Date: February 13, 2020

The Corporation of the Township of Perth East
25 Mill Street East
Post Office Box, No. 455
Milverton, Ontario
N0K 1M0

Site Location: South Easthope Landfill
Lot 26, Concession 5
Township of Perth East, County of Perth

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

construction of a leachate storage pond and a subsurface leachate disposal system at the South Easthope Landfill Site, located at the above site location and consisting of the following Works:

Proposed Works

construction of a leachate storage pond and a disposal system (located approximately 40 m east of the western upgradient property boundary) to complement the existing leachate management system comprising of the following:

- one (1) leachate storage pond to receive leachate overflow from the waste cells and,
- approximately 100 m long, 30 cm deep x 30 cm wide shallow buried pressure trench system to dispose treated leachate into the ground,

including all piping and pumping equipment, associated controls and appurtenances,

all in accordance with the documents listed in Schedule 'A'.

Existing Works

existing stormwater management facilities and establishment of leachate collection, treatment and disposal system to service the South Easthope Landfill Site, located at the above site location and consisting of the following Works:

Stormwater Management Facilities

The stormwater collection, treatment and disposal facilities constitute of the following:

- approximately 600 m of ditches and swales to collect stormwater from the landfill site;
- two (2) stormwater ponds (Pond 1 and Pond 2) connected in series having approximate volumes of 400 m³ and 320 m³, respectively and approximate areas of 270 m² and 220 m²; respectively;
- approximately 25 m of vegetated riprap channel to the property boundary; and
- approximately 300 m of swale receiving stormwater from the vegetated riprap channel and discharging to the Wilhelm Drain.

Leachate Collection & Treatment System

The leachate collection, treatment and disposal system consists of the following:

- three (3) temporary storage ponds adjacent to the waste area to collect leachate from the waste cells, each measuring 40 m x 20 m x 2.5 m deep;
- one (1) 40 m x 20 m x 2.5 m deep proposed permanent holding pond having a volume of greater than 400 m³ and an area of approximately 300 m² for secondary solids removal and balancing leachate received from the temporary ponds;
- one (1) pumping chamber of 1,000 L capacity for dosing the Waterloo Biofilter System reactor equipped with a dosing pump capable of pumping 1.1 L/s at 5 m TDH;
- one (1) 2.5 m diameter x 2.5 m high Waterloo Biofilter System bioreactor filled with foam media rated to handle flowrate up to 5 m³/day;
- one (1) pumping chamber of 1,000 L capacity for recirculation and discharge to the pressure trench equipped with a discharge pump rated to pump 2.3 L/s at 5 m TDH;
- approximately 100 m long, 30 cm deep x 30 cm wide shallow buried pressure trench constructed fed from the center and having at least one inspection port for each 30 m of lateral; and
- all associated controls and appurtenances necessary for the operation of the Works.

all in accordance with the Application for Approval of Municipal and Private Sewage Works submitted by the Township of Perth East dated August 25, 2003 along with a design letter brief (modified on April 16, 2004), drawings and supporting data.

For the purpose of this environmental compliance approval, the following definitions apply:

"Approval" means this environmental compliance approval and any schedules attached to it, and the application;

"BOD5" (also known as TBOD₅) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demand;

"CBOD5" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample.

"Director" means a person appointed by the Minister pursuant to section 5 of the EPA for the purposes of Part II.1 of the EPA;

"District Manager" means the District Manager of the appropriate local district office of the Ministry where the Works is geographically located;

"EPA" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended;

"Ministry" means the ministry of the government of Ontario responsible for the EPA and OWRA and includes all officials, employees or other persons acting on its behalf;

"Owner" means The Corporation of the Township of Perth East and its successors and assignees.

"Overflow" means any discharge from the Works that does not undergo any treatment or only receives partial treatment before it is discharged to the environment.

"OWRA" means the Ontario Water Resources Act, R.S.O. 1990, c. O.40, as amended.

"Partial Treatment" means any treatment that does not include the full train of unit processes described and approved in the Approval.

"Peak Flow Rate" means the maximum rate of sewage flow for which the plant or process unit was designed.

"Existing Works" means those portions of the sewage works previously constructed and approved under an Approval.

"Proposed Works" means the sewage works described in the Owner's application, this Approval, and to the extent approved by this Approval.

"Substantial Completion" has the same meaning as "substantial performance" in the Construction Lien Act;

"Works" means the sewage works described in the Owner's application and this Approval and includes both Existing Works and Proposed Works.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL PROVISIONS

(1) The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Works is notified of this Approval and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.

(2) Except as otherwise provided by these Conditions, the Owner shall design, build, install, operate and maintain the Works in accordance with the description given in this Approval, the application for approval of the works and the submitted supporting documents and plans and specifications as listed in this Approval.

(3) Where there is a conflict between a provision of any submitted document referred to in this Approval and the Conditions of this Approval, the Conditions in this Approval shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.

(4) Where there is a conflict between the listed submitted documents, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.

(5) The requirements of this Approval are severable. If any requirement of this Approval, or the application of any requirement of this Approval to any circumstance, is held invalid or unenforceable, the application of such requirement to other circumstances and the remainder of this Approval shall not be affected thereby.

2. EXPIRY OF APPROVAL

This Approval will cease to apply to those parts of the Proposed Works which have not been constructed within five (5) years of the date of this Approval.

3. CHANGE OF OWNER

(1) The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within 30 days of the change occurring:

- (a) change of Owner;

- (b) change of address of the Owner;
- (c) change of partners where the Owner is or at any time becomes a partnership, and a copy of the most recent declaration filed under the Business Names Act, R.S.O. 1990, c.B17 shall be included in the notification to the District Manager;
- (d) change of name of the corporation where the Owner is or at any time becomes a corporation, and a copy of the most current information filed under the Corporations Information Act, R.S.O. 1990, c. C39 shall be included in the notification to the District Manager.

(2) In the event of any change in ownership of the Works, other than a change to a successor municipality, the Owner shall notify in writing the succeeding owner of the existence of this Approval, and a copy of such notice shall be forwarded to the District Manager and the Director.

4. OVERFLOW

(1) Any Overflow of untreated leachate from any portion of the Works is prohibited, except where:

- (a) it is necessary to avoid loss of life, personal injury, danger to public health or severe property damage;
- (b) the District Manager agrees that it is necessary for the purpose of carrying out essential maintenance and the District Manager has given prior written acknowledgment of the Overflow;
or
- (c) the District Manager has given prior written acknowledgment of the Overflow.

(2) The Owner shall maintain a logbook of all Overflow events which shall include, at a minimum, the time, location, duration, quantity of Overflow, the authority for Overflow pursuant to subsection (1), and the reasons for the occurrence.

5. MONITORING AND RECORDING

(1) The Owner shall, upon commencement of operation of the Works, carry out the following monitoring program:

(a) Leachate Monitoring

(i) influent leachate samples shall be collected in April, July and October each year from the existing temporary (leachate) storage ponds prior to the leachate entering the permanent holding pond and shall be analyzed for the following parameters:

pH
alkalinity

chlorides
sulphates

conductivity	calcium
total suspended solids	barium
chemical oxygen demand (COD)	boron
5-day biochemical oxygen demand (BOD5)	sodium
total Kjeldahl nitrogen (TKN)	iron
total ammonia nitrogen	magnesium
nitrates	

(ii) effluent leachate samples shall be collected in April, July and October each year from the pumping chamber discharging to the pressure trench and shall be analyzed for the parameters listed in columns 2 and 3 of Table 1. The samples collected in April and October shall be analyzed for the indicator parameters listed in column 3 of Table 1 while the sample collected in July shall be analyzed for the comprehensive parameters listed in column 2 of Table 1.

(b) Groundwater Monitoring

(i) groundwater samples shall be collected in April, July and October each year from a groundwater monitoring well installed upgradient of the pressure trench at the West property line (adjacent to the trench) and shall be analyzed for the parameters listed in columns 4 or 5 of Table 1. The samples collected in April and October shall be analyzed for the indicator parameters listed in column 5 of Table 1 while the sample collected during July shall be analyzed for the comprehensive parameters listed in column 4 of Table 1.

(c) Surface Water Monitoring

(i) surface water samples shall be collected twice each year in Spring and Autumn at the outlet of Pond 2 and shall be analyzed for the parameters listed in column 4 of Table 1.

Table 1

Parameter (Column 1)	Leachate Monitoring		Ground and Surface Water Monitoring	
	Comprehensive Parameter (Column 2)	Indicator Parameter (Column 3)	Comprehensive Parameter (Column 4)	Indicator Parameter (Column 5)
General				
Alkalinity	x	x	x	x ²
BOD5	x	x	x ¹	
COD	x	x	x ¹	
DOC	x	x	x ²	x ²
Phenol	x		x	
Sulphate	x	x	x	x ²
Total Dissolved Solids	x	x	x	x ²
Suspended Solids	x	x	x ¹	

Table 1...continued

Parameter (Column 1)	Leachate Monitoring		Ground and Surface Water Monitoring	
	Comprehensive Parameter (Column 2)	Indicator Parameter (Column 3)	Comprehensive Parameter (Column 4)	Indicator Parameter (Column 5)
General - Nutrients				
Ammonia	x	x	x	x ²
Nitrate	x	x	x	x ²
Nitrite	x		x	
TKN	x		x	
Total Phosphorus	x		x	
General - Major Ions				
Chloride	x	x	x	x ²
Calcium	x	x	x ²	x ²
Iron	x	x	x	x ²
Magnesium	x	x	x ²	x ²
Manganese	x		x ²	
Potassium	x		x ²	
Sodium	x	x	x ²	x ²
Trace Metals				
Arsenic	x		x	
Barium	x	x	x	x ²
Boron	x	x	x	x ²
Cadmium	x		x	
Chromium	x		x	
Copper	x		x	
Lead	x		x	
Mercury	x		x	
Zinc	x		x	
Volatiles				
Benzene	x		x ²	
1,4 Dichlorobenzene	x		x ²	
Dichloromethane	x		x ²	
Toluene	x		x ²	
Vinyl Chloride	x		x ²	
Field Test				
Temperature			x ¹	
Conductivity	x	x	x	x ²
Dissolved Oxygen			x ¹	
pH	x	x	x	x ²

Note: x¹ only for surface water and x² only for groundwater

(2) The Owner shall retain for a minimum of three (3) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this Approval.

6. OPERATION AND MAINTENANCE

(1) The Owner shall review and assess monitoring results from the surface water sampling point outlined in Section 5 "Surface Water Monitoring" of this Approval against the following trigger points in Table 2:

Table 2

Trigger Concentrations for Surface Water Monitoring	
Parameter	Trigger Concentration (milligrams per litre)
CBOD5	>10.0
Ammonia (un-ionized)*	>0.1
Chlorides	>250

*Note: Ammonia (un-ionized) concentration shall be calculated from the monitoring results of ammonia, pH, and field temperature.

(2) In the event that a monitoring result for any of the trigger parameters listed in Table 2 exceeds the corresponding trigger concentration, the Owner shall notify the District Manager within seven (7) days of the receipt of the analytical results.

(3) The Owner shall exercise due diligence in ensuring that, at all times, the Works and the related equipment and appurtenances used to achieve compliance with this Approval are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate funding, adequate operator staffing and training, including training in all procedures and requirements of this Approval, the Act and regulations, process controls and alarms.

(4) The Owner shall prepare an operations manual within six (6) months of Substantial Completion of the Proposed Works, that includes, but not necessarily limited to, the following information:

- (a) operating procedures for routine operation of the Works;
- (b) inspection programs, including frequency of inspection, for the Works and the methods or tests employed to detect when maintenance is necessary;
- (c) repair and maintenance programs, including the frequency of repair and maintenance for the Works;
- (d) procedures for the inspection and calibration of monitoring equipment;
- (e) a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the District Manager; and
- (f) procedures for receiving, responding and recording public complaints, including recording any follow up actions taken.

- (5) The Owner shall maintain the operations manual current and retain a copy at the location of the Works or operational office of the Owner for the operational life of the Works. Upon request, the Owner shall make the manual available to Ministry staff.
- (6) The Owner shall provide for the overall operation of the Works with an operator who holds a licence that is applicable to that type of facility and that is of the same class as or higher than the class of the facility in accordance with Ontario Regulation 129/04.
- (7) The Owner shall undertake an inspection of the condition of the stormwater management ponds and ditches, at least once a year, and undertake any necessary cleaning and maintenance to prevent the excessive build-up of sediment and/or decaying vegetation.
- (8) The Owner shall undertake regular visual inspection of the trench bed and the field immediately adjacent to the trench bed for breakout and seepage, at least twice a year, and undertake any necessary mitigation measure to prevent future breakouts or seepages.
- (9) The Owner shall develop a Contingency Plan to manage leachate at the site in the event leachate breakouts are observed after the construction and operation of the pressure trench.
- (10) The Owner shall maintain a logbook to record the results of the stormwater management pond and the trench bed plus field inspections, and any cleaning and maintenance operations undertaken and shall keep the logbook at the site or operational office of the Owner for inspection by the Ministry.
- (11) An additional groundwater monitoring well shall be installed immediately adjacent to the proposed pressure trench on the downstream side to evaluate downstream groundwater mounding.

7. REPORTING

- (1) One week prior to the start up of the operation of the Proposed Works, the Owner shall notify the District Manager (in writing) of the pending start up date.
- (2) In addition to the obligations under Part X of the Environmental Protection Act, the Owner shall, within 10 working days of the occurrence of any reportable spill as defined in Ontario Regulation 675/98, loss of any product, by-product, intermediate product, oil, solvent, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation.
- (3) The Owner shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.
- (4) The Owner shall prepare and submit to the District Manager, a performance report, on an annual basis, within ninety (90) days following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the Works and subsequent

7. Condition 7 is included to provide a performance record for future references, to ensure that the Ministry is made aware of problems as they arise, and to provide a compliance record for all the terms and conditions outlined in this Approval, so that the Ministry can work with the Owner in resolving any problems in a timely manner.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 0032-5ZBJJH issued on August 4, 2004.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of Part II.1 of
the Environmental Protection Act
Ministry of the Environment, Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.gov.on.ca

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 13th day of February, 2020



Fariha Pannu.

Fariha Pannu, P.Eng.

Director

appointed for the purposes of Part II.1 of the
Environmental Protection Act

HV/

c: District Manager, DWECD, MECP London - District
Mike Jones, Azimuth Environmental Consulting



APPENDIX C

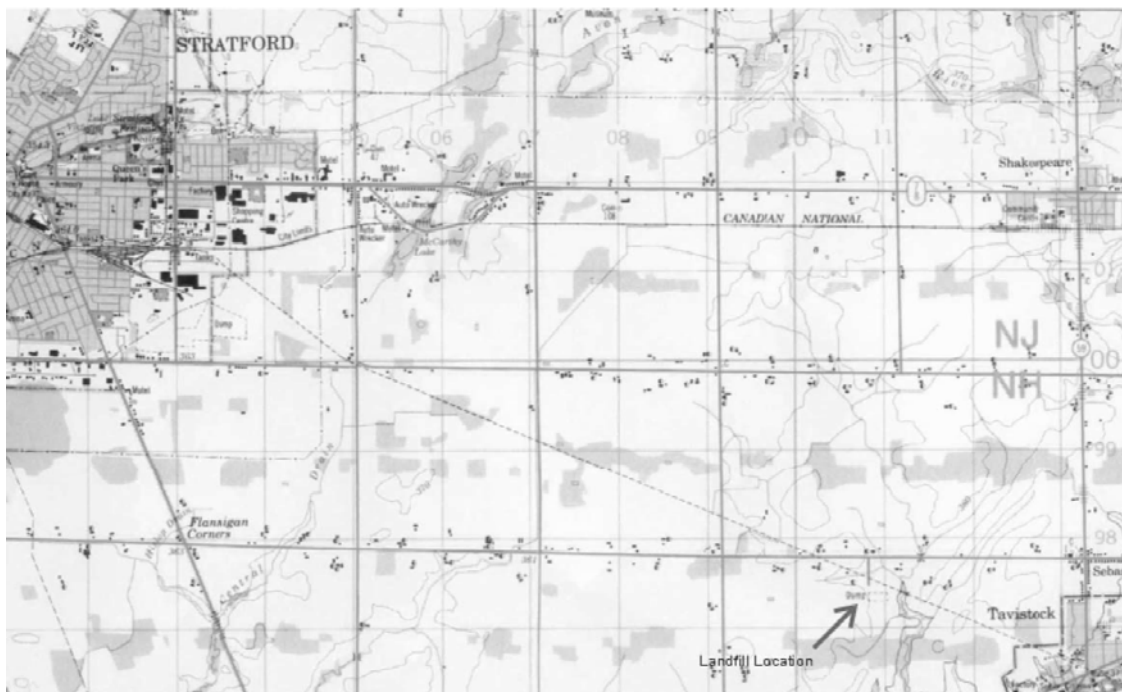
Notices for Commencement and Public Open House

NOTICE OF STUDY COMMENCEMENT SOUTH EASTHOPE LANDFILL EXPANSION

In order to extend the service life of the South Easthope Landfill site for the Township of Perth East (Township), the Township is undertaking to expand the capacity of the existing waste disposal site to meet the demand for an additional 15 year period.

Azimuth Environmental Consulting (Azimuth) has been retained by the Township to undertake an Environmental Screening Process as part of the Environmental Assessment Act requirements for small landfill sites (i.e., total capacity less than 100,000 m³ of waste). Under its current approval, the landfill has capacity for approximately 7 to 12 years. If approved by the Ministry of the Environment, Conservation & Parks (MECP) expansion will likely commence within the next five years. The expansion of the capacity does not represent an expansion of the current property boundaries, but rather an approval to increase the amount of waste permitted (waste footprint) within the current property limits and existing surrounding forest / treelines such that the development does not represent a significant alteration to the property.

Our role has been to evaluate the environmental conditions at and surrounding the landfill site in order to assess the feasibility of proceeding with the landfill expansion and obtaining all appropriate approvals as required for small landfill sites. The MECP has been consulted with respect to this process and will be involved in the process as they are responsible for issuance of the required approvals. The attached map shows the location of the land fill property and surrounding area.



The Township and Azimuth are contacting surrounding property owners, government agencies, First Nations communities in the area to identify and discuss their concerns regarding the proposed landfill expansion. To learn more about the proposed landfill expansion and the associated approval process or discuss your concerns please contact the project staff identified below. We respectfully ask that all feedback be provided by September 30th, 2022.

Azimuth Environmental Consulting, Inc.

Colin Ross, Senior Hydrogeologist
642 Welham Road, Barrie, ON L4N 9A1
705-721-8451 X 205
colin@azimuthenvironmental.com

Township of Perth East

Wes Keupfer, Public Works Manager
PO Box 455, 25 Mill Street East,
Milverton, ON N0K1M0.
519-595-2800 X234
wkuepfer@pertheast.com

This notice issued August 31, 2022.



Environmental Assessments & Approvals

August 31, 2022

AEC 22-003

Ontario Ministry of Environment, Conservation, and Parks
733 Exeter Rd
London, Ontario N6E 1L3

Attention: Jeff Mills, Senior Environmental Officer

**RE: South Easthope Landfill Expansion Project
Township of Perth East**

Dear Mr. Mills:

In order to service the continued need for a waste disposal facility in the Township of Perth East (Township), the Township is undertaking to expand the capacity of the existing South Easthope Landfill Site to meet the Township's demand for an additional 15-20 year period. Please see attached map for site location.

Azimuth Environmental Consulting (Azimuth) has been retained by the Township to undertake an Environmental Screening Process (ESP), as part of the Environmental Assessment Act requirements for small landfill sites (i.e., total capacity of less than 100,000 m³ of waste). Under its current approval, the landfill has capacity until approximately 2028. If approved by the Ministry of the Environment, Conservation & Parks (MECP), expansion will likely commence within the next five years. The proposed expansion of the capacity does not represent an expansion of the current property boundaries, but rather an approval to increase the amount of waste permitted (waste footprint) within the current property limits.

In addition to the ESP, Azimuth has been retained by the Township to undertake the work required to support an Environmental Compliance Approval (ECA) amendment to increase the approved waste and leachate treatment volume for the Site. Azimuth has been involved with the environmental monitoring and permitting at the Site since 2001.

Despite the requested increase in volumetric capacity, it does not represent an increase in annual waste acceptance rate or service area, but rather to extend the existing operations with an increase in the waste footprint size within the field immediately south of the existing waste mound. There is no expectation that any tree or natural vegetation



removal will be required as the anticipated expanded footprint will be located within an area that is currently cropped. The general configuration of the expanded area is known, but will be further refined as the expansion process continues. However the expectation is that the waste mound height will be maintained similar to the current waste mound such that there are not expected to be any visual impacts created by the expanded footprint to adjacent properties.

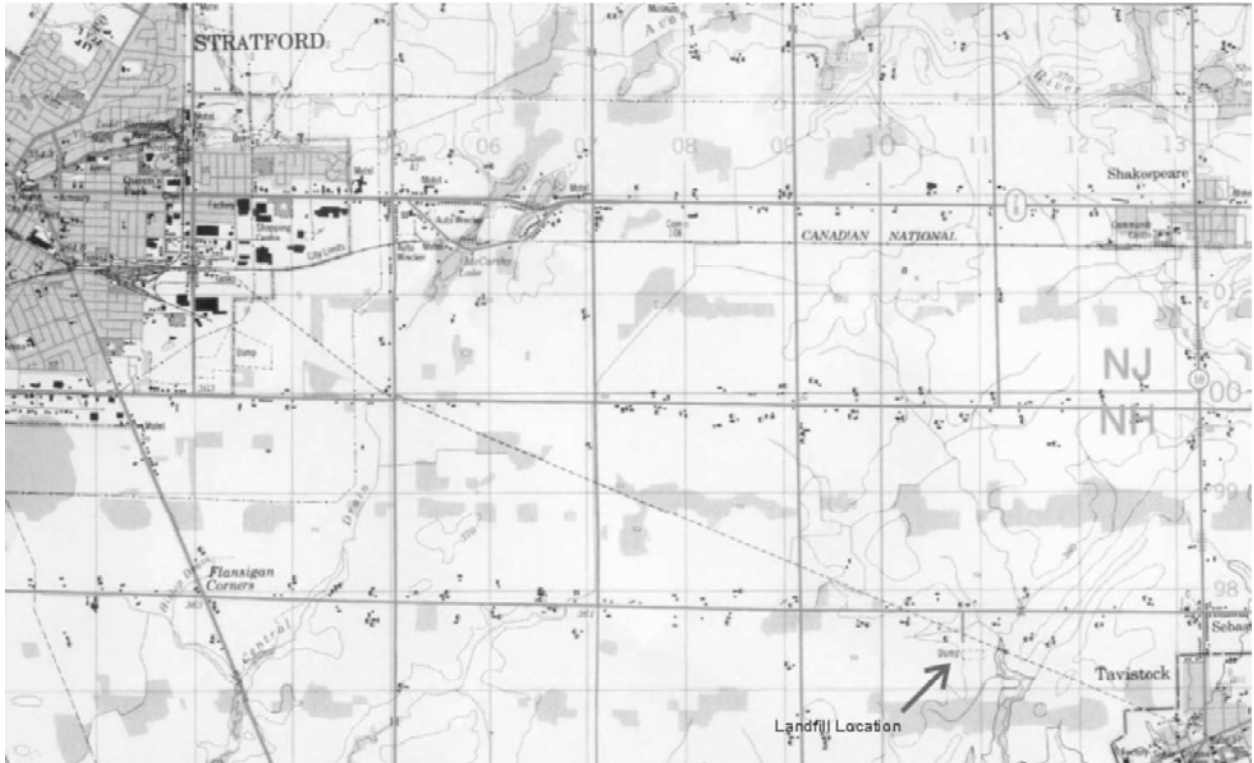
The general operations at the Site are not intended to be altered as part of this process with continued operations of the waste diversion areas at the entrance to the Site. The types of wastes accepted at the landfill site will also continue to be similar to what had been accepted historically at the facility.

The requested increase in approved volume is for 100,000 m³, which will take the site capacity from the currently approved volume of 235,000 m³ (excluding final cover) to 335,000 m³. As the Site is currently at 164,800 m³, the proposed expansion is needed to extend the lifespan beyond the current estimates of 7 to 12 years based on an annual fill rate of 6,000 to 10,000 m³.

Our role has been to evaluate the environmental conditions at and surrounding the landfill site in order to assess the feasibility of proceeding with the landfill expansion and obtaining all appropriate approvals as required for small landfill sites. As part of this process, Azimuth is required to notify applicable and local First Nations, government agencies and surrounding neighbours regarding the proposed landfill expansion. The MECP has been consulted with respect to this process and will be involved in the process as they are responsible for issuance of the required approvals.

This letter is to inform you of the proposed undertaking and to solicit your input in providing any comments or concerns regarding the project. We are requesting you provide any relevant environmental or other information that in your opinion should be included in the assessment of the proposed landfill expansion.

We are also interested in your knowledge regarding other land use activities within the study area that could potentially impact the suitability of the expansion. This information will be incorporated into the assessment of potential impacts. For reference, the location of the landfill site is illustrated on the following map.



Your response would be appreciated by September 30th, 2022. If you have no concerns regarding the proposed landfill expansion and do not require any further correspondence regarding the project please indicate that in writing to the undersigned.

If you have any questions, please contact me at (705) 721-8451 x205 or by email at colin@azimuthenvironmental.com. Thank you for your cooperation.

We thank you for your cooperation in this process.

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Colin Ross, B.Sc., P. Geo.
Senior Hydrogeologist

cc: Wes Kuepfer, Township of Perth East



TOWNSHIP OF PERTH EAST

PUBLIC OPEN HOUSE EXISTING SOUTH EASTHOPE LANDFILL EXPANSION

In order to extend the service life of the South Easthope Landfill site for the Township of Perth East (Township), the Township is undertaking to expand the capacity of the existing waste disposal site to meet the demand for an additional 15 year period.

Azimuth Environmental Consulting (Azimuth) has been retained by the Township to undertake an Environmental Screening Process as part of the Environmental Assessment Act requirements for small landfill sites (i.e., total capacity less than 100,000 m³ of waste). Under its current approval, the landfill has capacity for approximately 7 to 12 years. If approved by the Ministry of the Environment, Conservation & Parks (MECP) expansion will likely commence within the next five years. The expansion of the capacity does not represent an expansion of the current property boundaries, but rather an approval to increase the amount of waste permitted (waste footprint) within the current property limits and existing surrounding forest / treelines such that the development does not represent a significant alteration to the property.

Azimuth has been reviewing all available data including current and historic environmental monitoring data for the site as well as undertaking field studies in support of a detailed evaluation for the site to satisfy approval requirements established by the MECP. The purpose of the public open house is to present the results of our studies and the recommended design and operation for the landfill expansion for your review and comment. Following the incorporation of public, government agency and First Nations concerns, the application for expansion of the landfill and supporting technical studies will be completed for submission to the Ministry of Environment, Conservation & Parks (MECP), other government agencies, First Nations and public for the 60 day review period.

The public open house will take place on **Tuesday November 29th, 2022 at the Shakespeare Fire Hall located at 2174 Line 34 in Shakespeare at 7:00 to 9:00 p.m.** The open house format will be an informal question and answer period with a formal presentation by Azimuth at 8:00pm regarding the landfill expansion.

If you have any questions or require further information on the proposed expansion prior to the completion of the screening report and associated technical reports as part of the formal submission for approval, please contact me at (705) 721-8451 x 205 or by email at colin@azimuthenvironmental.com.

Any information that is collected under the authority of the Environmental Assessment Act or is collected and maintained for the purpose of creating a record that is available to the general public as described in s.37 of the Freedom of Information and Protection of Privacy Act. Personal information you provide as part of this process will become part of the public record that is available to the general public unless you request that your personal information remain confidential. For more information, please contact the MECP's Freedom of Information and Privacy Coordinator at 416-327-1434.



Environmental Assessments & Approvals

November 4, 2022

AEC 22-003

Ontario Ministry of Environment, Conservation, and Parks

Attention: Mark Baladi - Environmental Assessment Branch (SW Region)

**RE: South Easthope Landfill Expansion Project
Township of Perth East**

Dear Mr. Baladi:

Subsequent to the project commencement letter you received previously regarding the initiation of the Environmental Screening Process (ESP) for the expansion of the South Easthope Landfill Site, we would like to inform you of an upcoming public open house. The ESP is fulfilling requirements of the Waste Management Projects regulation O. Reg. 101/07, required under the *Environmental Assessment Act*.

The purpose of the public open house is to present the results of our studies and the recommended design and operation for the landfill expansion for your review and comment. Following the incorporation of public, government agency and First Nations concerns, the application for expansion of the landfill and supporting technical studies will be completed for submission to the Ministry of Environment, Conservation & Parks (MECP), other government agencies, First Nations and public for the 60 day review period.

The public open house will take place on **Tuesday November 29th, 2022 at the Shakespeare Fire Hall located at 2174 Line 34 in Shakespeare at 7:00 to 9:00 p.m.** The open house format will be an informal question and answer period with a formal presentation by Azimuth at 8:00pm regarding the landfill expansion.

Based on our studies to date there is sufficient area within the existing property limits to physically accommodate the expansion to provide a further 15 years of disposal capacity beyond the current lifespan of approximately 10 years. Attached for your information is the preliminary Screening Criteria Checklist we prepared in accordance with the MECP Environmental Screening process for small landfill sites. The environmental impacts



associated with the landfill are generally related to potential effects on ground and surface water and the associated natural features. The area to accommodate the expanded footprint is within the current approved landfill site area which is currently used for cropping. As such, no permanent vegetation removal is required.

If you have any questions or require further information on the proposed expansion prior to the completion of the screening report and associated technical reports as part of the formal submission for approval, please contact me at (705) 721-8451 x 205 or by email at colin@azimuthenvironmental.com.

Any information that is collected under the authority of the Environmental Assessment Act or is collected and maintained for the purpose of creating a record that is available to the general public as described in s.37 of the Freedom of Information and Protection of Privacy Act. Personal information you provide as part of this process will become part of the public record that is available to the general public unless you request that your personal information remain confidential. For more information, please contact the MECP's Freedom of Information and Privacy Coordinator at 416-327-1434.

Thank you for your cooperation.

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Colin Ross, B.Sc., P. Geo.
Senior Hydrogeologist

cc: Wes Kuepfer, Township of Perth East

Table 1 : South Easthope Landfill Expansion - Screening Criteria Checklist

Criterion		Yes	No	Additional Information
1. Surface and Ground Water				
1.1	cause negative effects on surface water quality, quantities or flow?		x	detailed surface water monitoring and assessment has been conducted at the Site for the past 25 years and will continue for duration of landfill operations. To date, these have not resulted in any measurable influence in the off-site surface water within the Wilhelm Drain which receives all surface water derived from the Site. Because the waste generation rate will remain consistent, there will not be a significant change in waste loading, and therefore the potential for impact remains consistent with existing conditions.
1.2	cause negative effects on ground water quality, quantities or movement?		x	detailed ground water monitoring and assessment has been conducted at the Site for the past 25 years and will continue for duration of landfill operations. To date, these have not resulted in any measurable influence in downgradient monitoring wells at the Site such that all leachate influence is contained within the property boundaries. Because the waste generation rate will remain consistent, there will not be a significant change in waste loading, and therefore the potential for impact remains consistent with existing conditions.
1.2	cause significant sedimentation or soil erosion or shoreline or riverbank erosion on or off site?		x	The proposed landfill expansion will not cause significant sedimentation or soil erosion. stormwater pond is currently in place at the Site which will collect surface runoff from the current landfill area in both the current and expanded footprint configuration. Expanded waste footprint is >50m from closest drainage feature and >200m from closest permanent surface water feature. The current design will attempt to connect to the current stormwater pond; however, could require an additional stormwater pond to accommodate the expansion area depending on the refined waste footprint and periphery drainage patterns.
1.4	cause negative effects on surface or ground water from accidental spills or releases (e.g., leachate) to the environment?		x	detailed ground and surface water monitoring and assessment historically been completed and will continue for duration of landfill operations. To date no negative impacts have resulted from accidental spills at the Site and there is no expectation that this will continue with the expanded landfill given the overall operations, waste type and annual volumes are not proposed to be changed.
2. Land				
2.1	cause negative effects on residential, commercial, institutional or other sensitive land uses within 500 metres from the site boundary?		x	existing landfill monitoring reports confirm leachate influences is restricted to landfill property. Closest residences 450 m away from the expansion area.
2.2	not be consistent with the Provincial Policy Statement, provincial land use or resource management plans?		x	no land uses or designations of provincial interest in proximity to the site
2.3	not be consistent with municipal land use policies, plans and zoning bylaws (include municipal setbacks)?		x	existing site, including expansion area zoned to address existing and expanded landfill
2.4	use lands not zoned as industrial, heavy industrial or waste disposal?		x	existing site and adjacent lands zoned to allow existing and expanded landfill operations
2.5	use hazard lands or unstable lands subject to erosion?		x	no hazard lands or unstable soils in area of existing or expanded landfill area. Expanded footprint area within existing agricultural field
2.6	cause negative effects related to the remediation of contaminated land?		x	existing landfill represents a contaminated site with no remediation activity, contaminants naturally attenuate and are treated through an existing and expanded LTS at the Site

Table 1 : South Easthope Landfill Expansion - Screening Criteria Checklist

Criterion		Yes	No	Additional Information
3. Air and Noise				
3.1	cause negative effects on air quality due to emissions (for parameters such as temperature, thermal treatment exhaust flue gas volume, nitrogen dioxide, sulphur dioxide, residual oxygen opacity, hydrogen chloride, suspended particulates, or other contaminants)?		x	no negative impact on air quality from air emissions predicted, emissions limited to methane from organic decomposition within the waste; however volumes limited due to small scale of operations.
3.2	cause negative effects from the emission of dust and odour?	x		potential for nuisance odours from waste. Occasional complaints received regarding odour, but typically short term duration and easily mitigated through routine site operations. Because the waste generation rate will remain consistent, there will not be a significant change in waste loading, and therefore the potential for impact remains consistent with existing conditions.
3.3	cause negative effects from the emission of noise?		x	noise and emissions are limited to operating hours and are limited to vehicle traffic and site equipment. Noise and emission levels would be comparable to those of the surrounding agricultural properties such that there is no perceived impact and are not expected to change as a result of the expanded landfill footprint.
3.4	cause negative effects from the emission of greenhouse gases (e.g., carbon dioxide, carbon monoxide, methane)?	x		no negative impact on air quality from greenhouse gases, emissions generally limited to methane that vents passively up through waste from organic decomposition within the waste and site equipment.
3.5	cause light pollution from trucks or other operational activities at the site?		x	no negative impact from light pollution from vehicles, site not operational at night.

Table 1 : South Easthope Landfill Expansion - Screening Criteria Checklist

Criterion		Yes	No	Additional Information
4. Natural Environment				
4.1	cause negative effects on rare (vulnerable), threatened or endangered species of flora or fauna or their habitat?		x	no species at risk present or habitat suitable for species at risk.
4.2	cause negative effects on protected natural areas such as ANSIs, ESAs or other significant natural areas?		x	no ANSI's or designated environmentally sensitive areas in proximity to the Site.
4.3	cause negative effects on designated wetlands?		X	No designated wetland areas in proximity to the Site.
4.4	cause negative effects on wildlife habitat, populations, corridors or movement?		x	no negative impact on wildlife habitat, populations or movement, majority of municipality forested habitat.
4.5	cause negative effects on fish or their habitat, spawning, movement or environmental conditions (e.g., water, temperature, turbidity, etc.)?		x	Historical environmental monitoring has never shown any observable leachate influence in the dowgradient surface water feature Wilhelm Drain.
4.6	cause negative effects on locally important or valued ecosystems or vegetation?		x	no locally valued ecosystems impacted, habitat types in proximity to landfill expansion area.
4.7	increase bird hazards within the area that could impact surrounding land uses (e.g., airports)?		x	no airports in proximity to landfill site.
5. Resources				
5.1	result in practices inconsistent with waste studies and/or waste diversion targets (e.g., result in final disposal of materials subject to diversion programs)?		x	municipality operates waste diversion program at landfill to divert recyclables.
5.2	result in generation of energy that cannot be captured and utilized?		x	landfill is too small to generate sufficient volumes of methane to economically generate electricity.
5.3	be located a distance from required infrastructure (such as availability to customers, markets and other factors)?		x	rural municipality with limited infrastructure, energy generation not feasible.
5.4	cause negative effects on the use of Canada Land Inventory Class 1-3, specialty crop or locally significant agricultural lands?		x	Site located in Class 1,3 soil area. However, the expanded area is proposed to be within existing landfill designated property and landfill will not result in negative impacts to the surrounding agricultural lands.
5.5	cause negative effects on existing agricultural production?		x	no agricultural production in proximity to landfill.

Table 1 : South Easthope Landfill Expansion - Screening Criteria Checklist

Criterion		Yes	No	Additional Information
6. Socio-economic				
6.1	cause negative effects on neighbourhood or community character?		x	Site has operated as a landfill since the 1989, expansion will not alter neighbourhood or community character.
6.2	result in aesthetics impacts (e.g., visual and litter impacts)?		x	Site not visible due to forest / tree cover, litter will continued to be controlled by municipality.
6.3	cause negative effects on local businesses, institutions or public facilities?		x	no local businesses/institutions/public facilities in proximity to the Site that will be impacted.
6.4	cause negative effects on recreation, cottaging or tourism?		x	Property surrounded by agricultural land uses such that there will be no negative impact to recreation, cottaging or tourism.
6.5	cause negative effects related to increases in the demand on community services and infrastructure?		x	landfill will continue to operate as has been historically and be restricted to residents of the municipality. As such, no change to community services.
6.6	cause negative effects on the economic base of a municipality or community?		x	cost of expansion limited to approvals process, construction, monitoring and limited grading, no predicted to represent a significant economic impact over the 20 year life of the landfill. Site expansion represents a far more cost effective solution to waste disposal than development of a new landfill site.
6.7	cause negative effects on the local employment and labour supply?		x	staffing of the landfill will remain the same, potential employment for local contractors during site redevelopment.
6.8	cause negative effects related to traffic?		x	number of landfill users will not change.
6.9	be located within 8 km of an aerodrome/airport reference point?		x	no aerodrome/airport within 8 km. Closest airport is Strafford Municipal Airport which is 10 km.
6.10	interfere with flight paths due to the construction of facilities with height (i.e., stacks)?		x	no large buildings or structures required.
6.11	cause negative effects on public health and safety?		x	no negative effect on public health and safety predicted, contaminants remediated on Site or within contaminant attenuation zone and through the LTS.
7. Heritage and Culture				
7.1	cause negative effects on heritage buildings, structures or sites, archaeological sites or areas of archaeological importance, or cultural heritage landscapes?		x	no heritage features on-site, low archaeological potential, no known archaeological sites, no cultural heritage landscapes .
7.2	cause negative effects on scenic or aesthetically pleasing landscapes or views?		x	landfill surrounded by forest / trees, waste mound not visible from surrounding properties.
8. Aboriginal				
8.1	cause negative effects on land, resources, traditional activities or other interests of Aboriginal communities?		x	consultation with First Nations in the area has not yielded any response which would indicate potential for negative effects are limited.
9. Other				
9.1	result in the creation of hazardous waste materials requiring disposal?		x	no change is waste composition accepted at landfill, no hazardous materials accepted.
9.2	result in the creation of non-hazardous waste materials requiring disposal?		x	no change is waste composition accepted at landfill, municipal solid non-hazardous waste accepted.
9.3	cause any other negative environmental effects not covered by the criteria outline above?		x	no additional environmental impacts in addition to that listed above.

Company	First Name	Last Name
County of Perth	Sally	McMullen
Upper Thames River Conservation Authority	Ben	Dafoe
Ontario Ministry of Environment, Conservation, and Parks	Mark	Baladi
Ontario Ministry of Heritage, Sport, Tourism and Culture Industries	Joseph	Harvey
Caldwell First Nation	Darren	Unger
Oxford County	Matthew	Jauernig
Ontario Ministry of Agriculture, Food and Rural Affairs	Michele	Ireland
Ontario Ministry of Municipal Affairs and Housing	Sherry	Porteous
Ontario Ministry of Transportation	Mushir	Shaikh
Asmjiwnaang First Nation	Chris	Plain
Bkejwanong (Walpole Island)	Charles	Sampson
Caldwell First Nation	Allen	Deleary
Chippewas of Kettle and Stony Point	Jason Michael	Henry
Chippewas of the Thames First Nation	Jacqueline	French
Oneida Nation of the Thames	Adrian	Chrisjohn
Six Nations of the Grand River	Mark	Hill
Six Nations of the Grand River	Robbin	Vanstone
Haudenosaunee Development Institute	Leroy	Hill
<i>Ontario Ministry of Indigenous Affairs</i>	Candice	Telfer

Personal Title	Title
Ms.	Planning Manager
Mr.	Land Use Regulations Officer
Mr.	Environmental Assessment Branch (SW Region)
Mr.	Heritage Planner
Ms.	Mangement Biologist
Mr.	Risk Management Official / Inspector
Ms.	Director, Legal Services Branch
Ms.	Issues Coordinator
Mr.	Head - Corridor Management
Chief	
Mr.	
Mr.	Chief Administrative Officer
Chief	
Chief	
Chief	
Chief	
	Consulting Coordinator
Ms.	Director, Legal Services Branch



APPENDIX D

Screening Checklist

Table 1 : South Easthope Landfill Expansion - Screening Criteria Checklist

Criterion		Yes	No	Additional Information
1. Surface and Ground Water				
1.1	cause negative effects on surface water quality, quantities or flow?		x	detailed surface water monitoring and assessment has been conducted at the Site for the past 25 years and will continue for duration of landfill operations. To date, these have not resulted in any measurable influence in the off-site surface water within the Wilhelm Drain which recieves all surface water derived from the Site. Because the waste generation rate will remain consistent, there will not be a significant change in waste loading, and therefore the potential for impact remains consistent with existing conditions.
1.2	cause negative effects on ground water quality, quantities or movement?		x	detailed ground water monitoring and assessment has been conducted at the Site for the past 25 years and will continue for duration of landfill operations. To date, these have not resulted in any measurable influence in downgradient monitoring wells at the Site such that all leachate influence is contained within the property boundaries. Because the waste generation rate will remain consistent, there will not be a significant change in waste loading, and therefore the potential for impact remains consistent with existing conditions.
1.2	cause significant sedimentation or soil erosion or shoreline or riverbank erosion on or off site?		x	The proposed landfill expansion will not cause significant sedimentation or soil erosion. stormwater pond is currently in place at the Site which will collect surface runoff from the current landfill area in both the current and expanded footprint configuration. Expanded waste footprint is >50m from closest drainage feature and >200m from closest permanent surface water feature. The current design will attempt to connect to the current stormwater pond; however, could require an additional stormwater pond to accomodate the expansion area depending on the refined waste footprint and periphery drainage patterns.
1.4	cause negative effects on surface or ground water from accidental spills or releases (e.g., leachate) to the environment?		x	detailed ground and surface water monitoring and assessment historically been completed and will continue for duration of landfill operations. To date no negative impacts have resulted from accidental spills at the Site and there is no expectation that this will continue with the expanded landfill given the overall operations, waste type and annual volumes are not proposed to be changed.
2. Land				
2.1	cause negative effects on residential, commercial, institutional or other sensitive land uses within 500 metres from the site boundary?		x	existing landfill monitoring reports confirm leachate influences is restricted to landfill property. Closest residences 450 m away from the expansion area.
2.2	not be consistent with the Provincial Policy Statement, provincial land use or resource management plans?		x	no land uses or designations of provincial interest in proximity to the site
2.3	not be consistent with municipal land use policies, plans and zoning bylaws (include municipal setbacks)?		x	existing site, including expansion area zoned to address existing and expanded landfill
2.4	use lands not zoned as industrial, heavy industrial or waste disposal?		x	existing site and adjacent lands zoned to allow existing and expanded landfill operations
2.5	use hazard lands or unstable lands subject to erosion?		x	no hazard lands or unstable soils in area of existing or expanded landfill area. Expanded footprint area within existing agricultural field
2.6	cause negative effects related to the remediation of contaminated land?		x	existing landfill represents a contaminated site with no remediation activity, contaminants naturally attenuate and are treated through an existign and expanded LTS at the Site

Table 1 : South Easthope Landfill Expansion - Screening Criteria Checklist

Criterion		Yes	No	Additional Information
3. Air and Noise				
3.1	cause negative effects on air quality due to emissions (for parameters such as temperature, thermal treatment exhaust flue gas volume, nitrogen dioxide, sulphur dioxide, residual oxygen opacity, hydrogen chloride, suspended particulates, or other contaminants)?		x	no negative impact on air quality from air emissions predicted, emissions limited to methane from organic decomposition within the waste; however volumes limited due to small scale of operations.
3.2	cause negative effects from the emission of dust and odour?	x		potential for nuisance odours from waste. Occasional complaints received regarding odour, but typically short term duration and easily mitigated through routine site operations. Because the waste generation rate will remain consistent, there will not be a significant change in waste loading, and therefore the potential for impact remains consistent with existing conditions.
3.3	cause negative effects from the emission of noise?		x	noise and emissions are limited to operating hours and are limited to vehicle traffic and site equipment. Noise and emission levels would be comparable to those of the surrounding agricultural properties such that there is no perceived impact and are not expected to change as a result of the expanded landfill footprint.
3.4	cause negative effects from the emission of greenhouse gases (e.g., carbon dioxide, carbon monoxide, methane)?	x		no negative impact on air quality from greenhouse gases, emissions generally limited to methane that vents passively up through waste from organic decomposition within the waste and site equipment.
3.5	cause light pollution from trucks or other operational activities at the site?		x	no negative impact from light pollution from vehicles, site not operational at night.

Table 1 : South Easthope Landfill Expansion - Screening Criteria Checklist

Criterion		Yes	No	Additional Information
4. Natural Environment				
4.1	cause negative effects on rare (vulnerable), threatened or endangered species of flora or fauna or their habitat?		x	no species at risk present or habitat suitable for species at risk.
4.2	cause negative effects on protected natural areas such as ANSIs, ESAs or other significant natural areas?		x	no ANSI's or designated environmentally sensitive areas in proximity to the Site.
4.3	cause negative effects on designated wetlands?		X	No designated wetland areas in proximity to the Site.
4.4	cause negative effects on wildlife habitat, populations, corridors or movement?		x	no negative impact on wildlife habitat, populations or movement, majority of municipality forested habitat.
4.5	cause negative effects on fish or their habitat, spawning, movement or environmental conditions (e.g., water, temperature, turbidity, etc.)?		x	Historical environmental monitoring has never shown any observable leachate influence in the dowgradient surface water feature Wilhelm Drain.
4.6	cause negative effects on locally important or valued ecosystems or vegetation?		x	no locally valued ecosystems impacted, habitat types in proximity to landfill expansion area.
4.7	increase bird hazards within the area that could impact surrounding land uses (e.g., airports)?		x	no airports in proximity to landfill site.
5. Resources				
5.1	result in practices inconsistent with waste studies and/or waste diversion targets (e.g., result in final disposal of materials subject to diversion programs)?		x	municipality operates waste diversion program at landfill to divert recyclables.
5.2	result in generation of energy that cannot be captured and utilized?		x	landfill is too small to generate sufficient volumes of methane to economically generate electricity.
5.3	be located a distance from required infrastructure (such as availability to customers, markets and other factors)?		x	rural municipality with limited infrastructure, energy generation not feasible.
5.4	cause negative effects on the use of Canada Land Inventory Class 1-3, specialty crop or locally significant agricultural lands?		x	Site located in Class 1,3 soil area. However, the expanded area is proposed to be within existing landfill designated property and landfill will not result in negative impacts to the surrounding agricultural lands.
5.5	cause negative effects on existing agricultural production?		x	no agricultural production in proximity to landfill.

Table 1 : South Easthope Landfill Expansion - Screening Criteria Checklist

Criterion		Yes	No	Additional Information
6. Socio-economic				
6.1	cause negative effects on neighbourhood or community character?		x	Site has operated as a landfill since the 1989, expansion will not alter neighbourhood or community character.
6.2	result in aesthetics impacts (e.g., visual and litter impacts)?		x	Site not visible due to forest / tree cover, litter will continued to be controlled by municipality.
6.3	cause negative effects on local businesses, institutions or public facilities?		x	no local businesses/institutions/public facilities in proximity to the Site that will be impacted.
6.4	cause negative effects on recreation, cottaging or tourism?		x	Property surrounded by agricultural land uses such that there will be no negative impact to recreation, cottaging or tourism.
6.5	cause negative effects related to increases in the demand on community services and infrastructure?		x	landfill will continue to operate as has been historically and be restricted to residents of the municipality. As such, no change to community services.
6.6	cause negative effects on the economic base of a municipality or community?		x	cost of expansion limited to approvals process, construction, monitoring and limited grading, no predicted to represent a significant economic impact over the 20 year life of the landfill. Site expansion represents a far more cost effective solution to waste disposal than development of a new landfill site.
6.7	cause negative effects on the local employment and labour supply?		x	staffing of the landfill will remain the same, potential employment for local contractors during site redevelopment.
6.8	cause negative effects related to traffic?		x	number of landfill users will not change.
6.9	be located within 8 km of an aerodrome/airport reference point?		x	no aerodrome/airport within 8 km. Closest airport is Strafford Municipal Airport which is 10 km.
6.10	interfere with flight paths due to the construction of facilities with height (i.e., stacks)?		x	no large buildings or structures required.
6.11	cause negative effects on public health and safety?		x	no negative effect on public health and safety predicted, contaminants remediated on Site or within contaminant attenuation zone and through the LTS.
7. Heritage and Culture				
7.1	cause negative effects on heritage buildings, structures or sites, archaeological sites or areas of archaeological importance, or cultural heritage landscapes?		x	no heritage features on-site, low archaeological potential, no known archaeological sites, no cultural heritage landscapes .
7.2	cause negative effects on scenic or aesthetically pleasing landscapes or views?		x	landfill surrounded by forest / trees, waste mound not visible from surrounding properties.
8. Aboriginal				
8.1	cause negative effects on land, resources, traditional activities or other interests of Aboriginal communities?		x	consultation with First Nations in the area has not yielded any response which would indicate potential for negative effects are limited.
9. Other				
9.1	result in the creation of hazardous waste materials requiring disposal?		x	no change is waste composition accepted at landfill, no hazardous materials accepted.
9.2	result in the creation of non-hazardous waste materials requiring disposal?		x	no change is waste composition accepted at landfill, municipal solid non-hazardous waste accepted.
9.3	cause any other negative environmental effects not covered by the criteria outline above?		x	no additional environmental impacts in addition to that listed above.



APPENDIX E

Public Consultation Responses

"Inspiring a Healthy Environment"

November 22, 2022

Azimuth Environmental Consulting Inc.
642 Welham Rd Unit 101
Barrie, ON L4N 9A1

Attention: Colin Ross - via e-mail – (colin@azimuthenvironmental.com)

Dear Mr. Ross

**Re: Notice of Project Commencement and Notice of Public Meeting
South Easthope Landfill Expansion Project
Township of Perth East**

We are in receipt of the "Notice of Project Commencement" as well as "Notice of Public Meeting" regarding review of the Environmental Screening Process for the South Easthope Landfill Expansion Project in the Township of Perth East. We offer the following comments:

(Please note that our scope of review is based on the policies set out in the *Upper Thames River Conservation Authority Planning Policy Manual (June 28, 2006)*. Environmental Screening review for the proposed landfill expansion project would generally be guided by, but not limited to, natural heritage, natural hazard, and pollution prevention areas of concern for lands regulated within our jurisdiction.

The *Upper Thames River Source Protection Area Assessment Report* has also been reviewed in order to confirm whether these lands are located in a vulnerable area.)

General Comments

- 1) We appreciate being contacted early in the process and have reviewed the information in the screening criteria checklist. For the majority of the screening checklist responses we will defer to the expertise of the Ministry of the Environment, Conservation and Parks. In the absence of details on the size and configuration of the proposed expansion it is difficult for us to provide detailed comments at this time. Instead we are providing general comments regarding the landfill expansion and/or EA study in general.
- 2) Please note that we have no objection to an appropriately sized/designed landfill expansion at this location provided environmental protections are in place which would include items such as proper buffers being maintained from the protected natural hazard and natural heritage features, appropriate stormwater management upgrades are implemented if required and protection of surface and groundwater quality (including drinking water) is addressed in the landfill design.
- 3) Related to Item #2 hopefully the technical studies will address appropriate buffers from the natural hazard and heritage features for the proposed landfill expansion?

- 4) We would appreciate the opportunity for our technical staff to review and provide comments on any upcoming documents and technical reports regarding the proposed landfill expansion including the environmental screening report, environmental study report and any hydrogeology and stormwater management reports/plans.

UTRCA Regulated Areas

- 5) The existing landfill property is affected by natural hazard and natural heritage features regulated by the UTRCA. Flood and erosion hazard lands associated with a watercourse known as the Wilhelm Municipal Drain and associated tributaries exist within the study area. The woodland on the property is protected and has been identified as being Significant in the Perth County Official Plan. Mapping which outlines these features is attached.
- 6) Our staff can provide digital mapping which outlines the boundaries of the natural heritage and natural hazard features as well as Drinking Water Source Protection Areas present within the study area. Our digital mapping may be obtained by contacting our GIS department (contact: Phil Simm, 519-451-2800 x 247). Generally there is a fee involved with obtaining digital mapping of our natural heritage and natural hazard features but this fee will be waived as the mapping is intended for use by one of our member municipalities for the purposed of an Environmental Assessment.

Hydrology/Hydraulic Considerations

- 7) Any proposed work or activity in the vicinity of these natural hazards should be designed: a) with regard for the potential for flooding and erosion; and b) to avoid exacerbating flood and erosion concerns on upstream and/or downstream properties. Opportunities to reduce existing natural hazards such as existing flooding and erosion issues should be considered (where possible) through this EA study.

Please note:

In the case of riverine flood hazards, the Province has established the minimum Regulatory Flood Standard to be the 1:100 Year Flood. Although the 100 Year (1% risk of occurrence in any given year) is established as the minimum, the Regulatory Flood Standard for the UTRCA is the 1937 Observed Flood (1:250 Year Flood or 0.4 % risk of occurrence in any given year) as approved by the Minister of Natural Resources in 1989.

Stormwater Management

- 8) If it becomes necessary to enlarge the existing Stormwater Management (SWM) pond or construct a secondary one we note that a SWM Report and plans will be required that confirm how post-development flows will be controlled to pre-development flows for all storm events up to and including the Regulatory (1: 250) Year Storm;
- 9) Please note Enhanced Quality Control will be required at this location;
- 10) With regards to any SWM facility upgrades please note that the UTRCA takes the 1: 250 Year storm as our regulatory storm event standard. Please ensure any reports and

modeling provide controls for all events up to and including the 250-year storm under the post-development landfill conditions;

- 11) The watercourses downstream of the existing landfill have been identified as cold/cool water systems. Stormwater is generally considered to be a contributing factor in the thermal enrichment of watercourses rather than a cooling factor. Please ensure the studies provide recommendations and mitigation measures in the design of the landfill expansion to address this and to protect the watercourses from thermal (warming) impacts;

Drinking Water Source Protection

- 12) The existing landfill site falls within the Wellhead Protection Area of the Tavistock Municipal Water Supply system;
- 13) In terms of Drinking Water Source Protection, we suggest the Environmental Assessment process is the best time to consider regulatory requirements of the Clean Water Act (CWA) and Source Protection Plan as well as designated vulnerable areas;
- 14) In the assessment of alternatives it will be important to consider the impacts on vulnerable areas. The comparison of alternatives should also consider whether there are any activities associated with the alternatives that would be threats to the drinking water sources. You may wish to engage the municipal Risk Management Official to identify whether landfill expansion may affect the wells, including the Tavistock Municipal Water Supply and those of any private landowners who may be affected by the project;
- 15) The municipality is required by s. 27(3) of O. Reg. 287/07 to notify the CA of the creation of, or modification of any transport pathways;
- 16) The CWA has very specific requirements for notification related to those who are engaged in significant drinking water threats as a result of revisions to the Assessment Report and Source Protection Plan. It is important that this be considered to ensure that those affected by the proposal are engaged through the proposed Landfill Expansion EA process while alternatives are being considered;
- 17) If the proponents have questions on how source protection and the local plan may affect the proposed alternatives they may contact UTRCA Drinking Water Source Protection (DWSP) staff or their municipal Risk Management Official (RMO).

Summary

Please be advised that we have not yet received enough information to provide detailed comments regarding the project. However, we appreciate being contacted early in the process and are always open to meeting with you to discuss and work through any concerns or complications along the way.

UTRCA Comments

Notice of Study Commencement – HW 401 Class EA

Our office would like to be included in future circulations regarding this project. We would appreciate receiving information and reports as they become available in order to ensure that we can meet the project deadlines with our comments.

While it is anticipated that some of these comments can be dealt with at the detail design stage, we are providing them in advance in order to facilitate early consultation if necessary.

If you have any questions regarding the above information, please contact the undersigned.

Yours truly,
UPPER THAMES RIVER CONSERVATION AUTHORITY

A handwritten signature in black ink, appearing to read 'BDL', with a horizontal line extending from the bottom of the 'L'.

Ben Dafoe
Land Use Regulations Officer

Ministry of Tourism, Culture and Sport

Programs and Services Branch
400 University Ave, 5th Flr
Toronto, ON M7A 2R9
Tel: 613.242.3743

Ministère du Tourisme, Culture et Sport

Direction des programmes et des services
400, av. University, 5e étage
Toronto, ON M7A 2R9
Tél: 613.242.3743



September 28, 2022

EMAIL ONLY

Colin Ross, P.Geo.
Hydrogeologist
Azimuth Environmental Consulting, Inc.
642 Welham Road
Barrie, ON, L4N 9A1
colin@azimuthenvironmental.com

MTCS File : **0017502**
Proponent : **Township of Perth East**
Subject : **Project Notice – Small landfill Sites EA**
Project : **South Easthope Landfill Expansion Project**
Location : **Township of Perth East**

Dear Colin Ross:

Thank you for providing the Ministry of Tourism and Culture and Sport (MTCS) with the Notice for the above-referenced project. MTCS's interest in this Environmental Assessment (EA) project relates to its mandate of conserving Ontario's cultural heritage, which includes:

- archaeological resources, including land and marine;
- built heritage resources, including bridges and monuments; and
- cultural heritage landscapes.

Under the EA process, the proponent is required to determine a project's potential impact on known (previously recognized) and potential cultural heritage resources.

Project Summary

In order to service the continued need for a waste disposal facility in the Township of Perth East (Township), the Township is undertaking to expand the capacity of the existing South Easthope Landfill Site. Azimuth Environmental Consulting (Azimuth) has been retained by the Township to undertake an Environmental Screening Process (ESP), as part of the Environmental Assessment Act requirements for small landfill sites.

Identifying Cultural Heritage Resources

While some cultural heritage resources may have already been formally identified, others may be identified through screening and evaluation.

Archaeological Resources

This project may impact archaeological resources and should be screened using the MTCS [Criteria for Evaluating Archaeological Potential](#) and [Criteria for Evaluating Marine Archaeological Potential](#) to determine if an archaeological assessment is needed. MTCS archaeological sites data are available at archaeology@ontario.ca.

If the project area exhibits archaeological potential, then an archaeological assessment (AA) shall be undertaken by an archaeologist licenced under the *Ontario Heritage Act (OHA)*, who is responsible for submitting the report directly to MTCS for review.

Built Heritage Resources and Cultural Heritage Landscapes

The MTCS [Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes](#) should be completed to help determine whether this project may impact built heritage resources and/or cultural heritage landscapes.

If there is potential for built heritage resources and/or cultural heritage landscapes on the property or within the project area, a Cultural Heritage Evaluation Report (CHER) should be undertaken by a qualified person to determine the cultural heritage value or interest of the property (or project area). If the property (or project area) is determined to be of cultural heritage value or interest and alterations or development is proposed, MTCS recommends that a Heritage Impact Assessment (HIA), prepared by a qualified consultant, be completed to assess potential project impacts. Please send the HIA to MTCS and the Township of Perth East for review and comment and make it available to local organizations or individuals who have expressed interest in review.

Community input should be sought to identify locally recognized and potential cultural heritage resources. Sources include, but are not limited to, municipal heritage committees, historical societies and other local heritage organizations.

Cultural heritage resources are often of critical importance to Indigenous communities. Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to them.

Environmental Assessment Reporting

All technical cultural heritage studies and their recommendations are to be addressed and incorporated into EA projects. Please advise MTCS whether any technical cultural heritage studies will be completed for this project, and provide them to MTCS before commencing any work on the site. If screening has identified no known or potential cultural heritage resources, or no impacts to these resources, please include the completed checklists and supporting documentation in the EA report or file.

Thank you for consulting MTCS on this project and please continue to do so throughout the EA process. If you have any questions or require clarification, please do not hesitate to contact me.

Sincerely,

Joseph Harvey
Heritage Planner
Joseph.harvey@Ontario.ca

It is the sole responsibility of proponents to ensure that any information and documentation submitted as part of their EA report or file is accurate. MTCS makes no representation or warranty as to the completeness, accuracy or quality of the any checklists, reports or supporting documentation submitted as part of the EA process, and in no way shall MTCS be liable for any harm, damages, costs, expenses, losses, claims or actions that may result if any checklists, reports or supporting documents are discovered to be inaccurate, incomplete, misleading or fraudulent.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out an archaeological assessment, in compliance with Section 48(1) of the *Ontario Heritage Act*.

The Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 requires that any person discovering human remains must cease all activities immediately and notify the police or coroner. If the coroner does not suspect foul play in the disposition of the remains, in accordance with Ontario Regulation 30/11 the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery, which administers provisions of that Act related to burial sites. In situations where human remains are associated with archaeological resources, the Ministry of Tourism, Culture and Sport should also be notified (at archaeology@ontario.ca) to ensure that the archaeological site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*.

Colin Ross

From: Harvey, Joseph (MTCS) [Joseph.Harvey@ontario.ca]
Sent: September 28, 2022 10:18 AM
To: Colin Ross
Subject: FW: File 0017502: South Eastope Landfill Expansion Notification
Attachments: South Easthope Landfill Expansion Notification Letter - Heritage.pdf; 2022-09-28_SouthEastHopeLandfill-MTCS-Ltr.pdf

Colin Ross,

Please find attached MTCS's initial advice on the above referenced project. Please do not hesitate to contact me with any questions or concerns.

Regards,

Joseph Harvey | Heritage Planner

Heritage, Tourism and Culture Division | Programs and Services Branch | Heritage Planning Unit

Ministry of Tourism, Culture, and Sport

613.242.3743

Joseph.Harvey@ontario.ca

From: Colin Ross <colin@azimuthenvironmental.com>
Sent: August 31, 2022 10:20 AM
To: Harvey, Joseph (MTCS) <Joseph.Harvey@ontario.ca>
Subject: South Eastope Landfill Expansion Notification

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hello,

Please see attached the attached notification letter regarding the proposed expansion of the South Easthope Landfill Site in the Township of Perth East. This notification follows the public and agency consultation process outlined in the Ministry of Environment, Conservation & Parks Environmental Screening Process as part of the Environmental Assessment Act requirements for small landfill sites.

If you have any questions or concerns with the appended notification or associated proposed landfill expansion, please do not hesitate to contact me.

Regards,

Colin Ross, B.Sc., P.Geo.
Hydrogeologist

Azimuth Environmental Consulting, Inc.
642 Welham Road
Barrie, ON, L4N 9A1
Office: (705) 721-8451 X205
Fax: (705) 721-8926
Cell: (705) 795-7107
colin@azimuthenvironmental.com
www.azimuthenvironmental.com

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Colin Ross

From: Denyes, David (MNRF) [David.Denyas@ontario.ca]
Sent: September 16, 2022 4:36 PM
To: Colin Ross
Cc: Ungar, Darren (MNRF)
Subject: RE: South Eastope Landfill Expansion Notification
Attachments: NHGuide_MNRF_2019-04-01.pdf

Hello Colin,

Thank you for your request for information on natural heritage features. In order to provide the most efficient service possible, the attached Natural Heritage Information Request Guide has been developed to assist you with accessing natural heritage data and values from convenient online sources.

It remains the proponent's responsibility to complete a preliminary screening for each project, to obtain available information from multiple sources, to conduct any necessary field studies, and to consider any potential environmental impacts that may result from an activity. We wish to emphasize the need for the proponents of development activities to complete screenings prior to contacting the Ministry or other agencies for more detailed technical information and advice.

The Ministry continues to work on updating data housed by Lands Information Ontario and the Natural Heritage Information Centre, and ensuring this information is accessible through online resources. Species at risk data is regularly being updated. To ensure access to reliable and up to date information, please contact SAROntario@ontario.ca.

This information will assist in scoping the necessary field assessments for an area if development or site alteration is proposed. This information is not meant to replace the responsibility of the proponent to undertake species and / or habitat surveys. Surveys or additional site level assessment are often required to confirm presence or absence of natural heritage features and values. Environmental consulting firms have the professional and technical expertise to assess sites for natural heritage features and can gauge the potential for such features to exist.

Absence or lack of information for a given geographic area does not necessarily mean the absence of natural heritage features. Many areas in Ontario have never been surveyed and new plant and animal species records are still being discovered for many localities. In addition, new species may be listed and new natural heritage features may be defined over time. For these reasons, the Ministry cannot provide a definitive statement on the presence, absence or condition of natural heritage features in all parts of Ontario.

I have checked our records and note that the Ministry does have a Northern Pike Spawning Area identified within the Wilhelm Drain, in the vicinity of the South Eastope Landfill Site. It will be important to ensure that this watercourse isn't impacted by the proposed expansion, especially during the spring spawning season for Northern Pike.

Thank you for your inquiry.

David

David Denyes
Management Biologist
Ministry of Natural Resources and Forestry
Vineland Field Office
4890 Victoria Avenue North
Vineland Station ON, L0R 2E0
Tel: (289) 241-6872
david.denyas@ontario.ca

From: Colin Ross <colin@azimuthenvironmental.com>
Sent: August 31, 2022 10:20 AM
To: Ungar, Darren (MNRF) <Darren.Ungar@ontario.ca>
Subject: South Eastope Landfill Expansion Notification

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hello,

Please see attached the attached notification letter regarding the proposed expansion of the South Easthope Landfill Site in the Township of Perth East. This notification follows the public and agency consultation process outlined in the Ministry of Environment, Conservation & Parks Environmental Screening Process as part of the Environmental Assessment Act requirements for small landfill sites.

If you have any questions or concerns with the appended notification or associated proposed landfill expansion, please do not hesitate to contact me.

Regards,

Colin Ross, B.Sc., P.Geo.
Hydrogeologist

Azimuth Environmental Consulting, Inc.
642 Welham Road
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colin@azimuthenvironmental.com
www.azimuthenvironmental.com

Providing services in hydrogeology, terrestrial and aquatic ecology & environmental engineering
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Colin Ross

From: Sally McMullen [smcmullen@perthcounty.ca]
Sent: November 4, 2022 12:47 PM
To: Colin Ross
Cc: Michelle Evans
Subject: RE: South Eastope Landfill Expansion Notification

Thank you Colin,

I have not had a chance to review the proposed landfill expansion and will have a look to see if there are any official plan or zoning considerations that we should talk further about.

Michelle, could you please put this on the inquiry list for the PE planners and have one of them look into this – they could reply directly to Colin and cc me.

Thanks,

Sally

Sally McMullen

Manager of Planning

Corporation of the County of Perth | 1 Huron St., Stratford, ON, N5A 5S4

T. 519-271-0531 x412 | C. 519-301-3576 | F. 519-273-5967 | Web: www.perthcounty.ca

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From: Colin Ross <colin@azimuthenvironmental.com>
Sent: November 4, 2022 11:01 AM
To: Sally McMullen <smcmullen@perthcounty.ca>
Subject: RE: South Eastope Landfill Expansion Notification

Caution! This message was sent from outside your organization.

Hello,

Further to the earlier commencement notice we had sent regarding the proposed landfill expansion at the South Eastope Landfill in the Township of Perth East, we have attached a notification regarding the public meeting which is scheduled to be held regarding the expansion. This notification follows the public and agency consultation process outlined in the Ministry of Environment, Conservation & Parks Environmental Screening Process as part of the Environmental Assessment Act requirements for small landfill sites.

Regards,

Colin Ross, B.Sc., P.Geo.
Hydrogeologist

Azimuth Environmental Consulting, Inc.
642 Welham Road
Barrie, ON, L4N 9A1
Office: (705) 721-8451 X205
Fax: (705) 721-8926
Cell: (705) 795-7107
colin@azimuthenvironmental.com

From: Colin Ross
Sent: August 31, 2022 10:19 AM
To: 'smcmullen@perthcounty.ca'
Subject: South Eastope Landfill Expansion Notification

Hello,

Please see attached the attached notification letter regarding the proposed expansion of the South Easthope Landfill Site in the Township of Perth East. This notification follows the public and agency consultation process outlined in the Ministry of Environment, Conservation & Parks Environmental Screening Process as part of the Environmental Assessment Act requirements for small landfill sites.

If you have any questions or concerns with the appended notification or associated proposed landfill expansion, please do not hesitate to contact me.

Regards,

Colin Ross, B.Sc., P.Geo.
Hydrogeologist

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www.azimuthenvironmental.com



APPENDIX F

Notice of Completion



TOWNSHIP OF PERTH EAST

NOTICE OF COMPLETION OF ENVIRONMENTAL SCREENING REPORT – EXISTING SOUTH EASTHOPE LANDFILL EXPANSION

In order to extend the service life of the South Easthope Landfill site for the Township of Perth East (Township), the Township has undertaken an assessment to expand the capacity of the existing waste disposal site to meet the demand for an additional 15 year period.

Azimuth Environmental Consulting (Azimuth) was been retained by the Township to undertake an Environmental Screening Process (ESP) as part of the Environmental Assessment Act requirements for small landfill sites (i.e., total capacity less than 100,000 m³ of waste). Under its current approval, the landfill has capacity for approximately 7 to 12 years. If approved by the Ministry of the Environment, Conservation & Parks (MECP) expansion will likely commence within the next five years. The expansion of the capacity does not represent an expansion of the current property boundaries, but rather an approval to increase the amount of waste permitted (waste footprint) within the current property limits and existing surrounding forest / treelines such that the development does not represent a significant alteration to the property.

A detailed ground and surface water and ecological assessment of the proposed expansion have identified no significant impacts that cannot be easily mitigated. A public open house was held on November 29, 2022 and responses from the public associated with the open house did not identify public opposition to the proposed expansion. We have integrated all the public comment/concerns in our recommendations for the continued site operation and have finalized our report for submission to the MECP for their review and approval as part of the landfill expansion process.

As part of the ESP, all associated government agencies, First Nations groups and the general public are given the opportunity to review this documentation and respond with any issues they feel have not been adequately addressed. The ESP and associated reports will be made available The ESP and associated reports will be made available on the Township website (www.pertheast.ca/Modules/News) and Azimuth's (www.azimuthenvironmental.com) website.

If upon review of this information, you feel there are unresolved issues pertaining to the work completed, there is a 60-day review period in effect starting May 1st, 2023. As such, it is recommended that any issues be submitted in writing by July 1st, 2023 to the following.

Colin Ross - Senior Hydrogeologist
Azimuth Environmental Consulting, Inc.
642 Welham Road, Barrie, ON L4N 9A1
705-721-8451 ext, 205 or
colin@azimuthenvironmental.com

Any issues submitted will be reviewed and an attempt will be made to resolve the issue(s) in order to move forward with the submission to the MECP. It should be noted that any information submitted as part of an issues submission

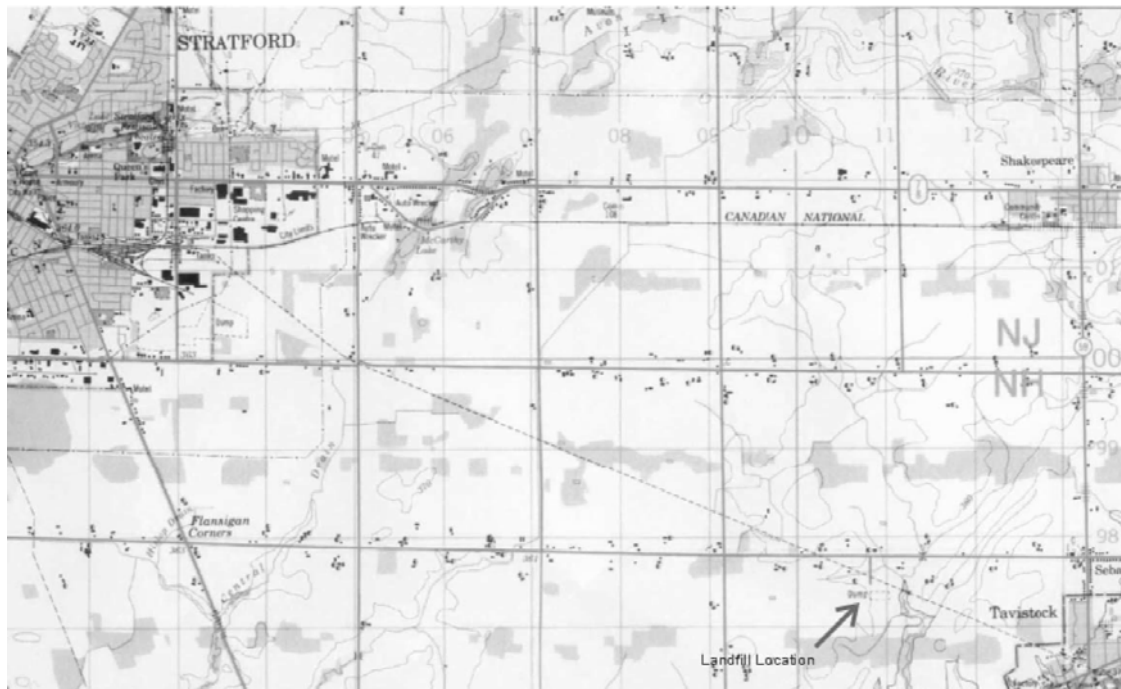
will be maintained on record and will be available to the public as part of the ESP.

If the issue presented cannot be resolved, the concerned person / group can make a written request to the Director of the Environmental Assessment and Permissions Branch (MECP) for the project to potentially become elevated to an individual Environmental Assessment.

Director of Environmental Assessment and Permissions Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West
Toronto, ON; M4V 1P5

Any direct request to the MECP must include the following:

- The name of project and proponent
- The basis of the request
- That the project be elevated to an individual Environmental Assessment
- The nature of the specific environmental concerns that remain unresolved
- The benefits of requiring the proponent to undergo an individual Environmental Assessment
- Information about any efforts to resolved the issues with the proponent
- Details about any correspondence with the proponent regarding the issues
- Any matters considered relevant to the concerned person / group





APPENDIX G

Natural Heritage Evaluation



Species at Risk Screening and Environmental Impact Assessment
South Easthope Landfill
Township of Perth East

Prepared for:
Township of Perth East

Prepared by:
Azimuth Environmental
Consulting, Inc.

April 2023

AEC 22-003



Environmental Assessments & Approvals

April 21, 2023

AEC 22-003

Township of Perth East
P.O. Box 455
25 Mill Street East
Milverton, ON N0K 1M0

Attention: Mr. Wes Keupfer, Public Works Manager


Re: **Species at Risk Screening and Environmental Impact Assessment for the South Easthope Landfill Expansion on 2439 Line 29, Township of Perth East, County of Perth**

Dear Mr. Keupfer:

Azimuth Environmental Consulting, Inc. was retained to provide a Species at Risk Screening and Environmental Impact Assessment for proposed works at the location described above. The purpose of this report is to provide the Township of Perth East, Upper Thames River Conservation Authority and Ministry of Environment, Conservation and Parks with an understanding of natural environmental conditions, potential Species at Risk and associated habitat and potential for impacts related to the proposed works on identified significant natural heritage features and functions of the property and adjacent lands.

Should you have any questions or require additional information please do not hesitate to contact the undersigned.

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.



Adam McClelland, B.Sc.
Terrestrial Ecologist



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1.0 INTRODUCTION

Azimuth Environmental Consulting, Inc. (Azimuth) was retained by the Township of Perth East (the “Township”) to prepare a Species at Risk (SAR) Screening and Environmental Impact Assessment (EIA) for the proposed expansion of the South Easthope Landfill at 2439 Line 29 in the Township of Perth East, County of Perth (Figure 1). It is our understanding that the Township and Ministry of the Environmental, Conservation and Parks (MECP) have requested a SAR Screening. In addition to a SAR Screening, the MECP has requested that an impact assessment of the identified natural heritage and hydrologic features. This report will form a component of the Environmental Screening Report (Azimuth, 2023). Available background mapping indicates that the study area (in part) mapped woodlands and watercourses. A portion of the study area is mapped within the jurisdiction of the Upper Thames River Conservation Authority (UTRCA), and therefore UTRCA project review and permitting may be required.

The purpose of this SAR Screening and EIA is to identify the candidate Key Natural Heritage Features (KNHFs) and Key Hydrology Features (KHF) present within the study area and address potential impacts to candidate KNHFs/KHF. A review of background information in combination with a single site visit was undertaken in September 2022 to identify natural heritage features and functions as candidates for consideration as significant KNHFs/KHF associated with the study area. This report also examines potential for SAR protected under the *Endangered Species Act, 2007* (ESA) within the study area. The potential for negative impacts to natural heritage features resulting from the proposed landfill expansion is considered and recommendations for avoidance and mitigation are provided.

For the purposes of this SAR Screening and EIA the study area comprises the entire landfill area (existing active and proposed) as shown on Figures 2-3 and adjacent lands (within approximately 120 metres (m)) of the landfill limits). Natural features in the overall planning area beyond the defined study area limits are discussed where applicable throughout this report.

2.0 PLANNING CONTEXT

2.1 Provincial Planning Policy (2020)

The Provincial Policy Statement (PPS) (MMAH, 2020) outlines policies related to natural heritage features (Section 2.1) and water resources (Section 2.2). Ontario's *Planning Act*, (1990) requires that planning decisions shall be consistent with the PPS. The study area



for this assessment is located entirely within **Ecoregion 6E**. According to the PPS development and site alteration shall not be permitted in:

- *Significant wetlands* in Ecoregions 5E, 6E and 7E; and,
- *Significant coastal wetlands*.

Similarly, Section 2.1.5 of the PPS states that, unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions, development and site alteration shall not be permitted within:

- a) *significant wetlands* in the Canadian Shield north of Ecoregions 5E, 6E; and 7E;
- b) *significant woodlands* in Ecoregions 6E; and 7E;
- c) *significant valleylands* in Ecoregions 6E; and 7E;
- d) *significant wildlife habitat*;
- e) *significant areas of natural and scientific interest*; and,
- f) *coastal wetlands* in Ecoregions 5E, 6E; and 7E that are not subject to policy 2.1.4(b)

It is ultimately the responsibility of the Province and/or the Municipality to designate areas identified within Section 2.1.4 and 2.1.5 of the PPS as “significant”.

Section 2.1.6 of the PPS states that development and site alteration is not permitted in fish habitat except in accordance with federal and provincial requirements.

Section 2.1.7 of the PPS states that development and site alteration shall not be permitted in the habitat of Endangered and Threatened species, except in accordance with provincial and federal requirements.

Furthermore, under Section 2.1.8 of the PPS, no development or site alteration will be permitted on lands adjacent to natural heritage features and areas identified in policies 2.1.4, 2.1.5 and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated there will be no negative impacts on the natural features and their ecological functions.

2.2 Endangered Species Act, 2007

Ontario’s ESA provides regulatory protection to Endangered and Threatened species prohibiting harassment, harm and/or killing of individuals and destruction of their habitats. Habitat is broadly characterized within the ESA as the area prescribed by a regulation as the habitat of the species or an area on which the species depends, directly



or indirectly, to carry on its life processes including reproduction, rearing of young, hibernation, migration or feeding.

The various schedules of the ESA included under O. Reg. 230/08 identify SAR in Ontario. These include species listed as Extirpated, Endangered, Threatened and Special Concern. As noted above, only species listed as Endangered and Threatened receive protection from harm and destruction to habitat on which they depend.

2.3 County of Perth

According to Schedule A: Land Use Plan, the property is designated as Agriculture with an Active Landfill site. Watercourses have been identified on the property. As per Section 17.5 of the Official Plan, expansion of the existing landfill sites and establishment of new landfill sites will not require an amendment to this Official Plan provided all necessary environmental approvals are obtained.

Schedule C of the County of Perth Official Plan identifies Flood and Fill Constraints along the watercourse within the study area. This designation reflects lands on property within the Regulation Limits of the UTRCA (County of Perth, 2020).

2.4 Township of Perth East

The Township of Perth East in the vicinity of the study area is governed by the County of Perth Official Plan (Township of Perth East, 2017).

2.5 Upper Thames River Conservation Authority

The study area is located within the jurisdiction of the UTRCA. The study area includes lands subject to O. Reg. 157/06 – “Regulation of Development Interference with Wetlands and Alterations to Shorelines and Watercourses” by the UTRCA. Under Regulation 157/06, the UTRCA requires that approvals be obtained for any proposed development or site alteration that occurs within areas regulated under a Conservation Authority’s jurisdiction.

2.6 Federal Fisheries Act

The *Fisheries Act* includes protections for fish and fish habitat in the form of standards, codes of practice, and guidelines for projects near water. The *Fisheries Act* provides protection against the “death of fish, other than by fishing”, (Section 34.4(1)) and the “harmful alteration, disruption or destruction of fish habitat”, (Section 35(1)), otherwise known as HADD. In cases where impacts to fish and fish habitat cannot be avoided, and the project does not fall within waterbodies where Fisheries and Oceans Canada (DFO) review is not required, proponents are asked to submit a request for review to their Fish



and Fish Habitat Protection Program regional office to determine approval requirements. All projects are encouraged to avoid causing the death of fish and a HADD of fish habitat, using measures to protect fish and fish habitat that include standards and codes of practice for common works, undertakings and activities.

3.0 STUDY APPROACH

Azimuth attended the property on September 20, 2022 to carry out an assessment of the natural features within the study area. Prior to undertaking the field study an initial classification of habitats was undertaken using recent air photo imagery for an area encompassing the study area. Vegetation boundaries were then checked in the field and delineated as illustrated in Figure 2. Vegetation community types were classified using the Ecological Land Classification for Southern Ontario: First Approximation (ELC; Lee *et al.*, 1998, 2008).

A SAR screening was undertaken for the scope of this assignment that compares the habitat requirements of species with potential to occur in the overall planning area with habitat types that occur on the property. The screening was based on air photo interpretation combined with onsite evaluation of habitats within the study area.

- MNRF Natural Heritage Information Centre (NHIC; MNRF, 2022a);
- NHIC Make-A-Map: Natural Heritage Areas Application (MNRF, 2022b);
- Atlas of the Breeding Birds of Ontario (OBBA; Cadman *et al.*, 2007);
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2020);
- Ministry of the Environment, Conservation and Parks (MECP) Species at Risk in Ontario list (MECP, 2022);
- Atlas of the Mammals of Ontario (Dobbyn, 1994);
- Fisheries and Oceans Canada Aquatic Species at Risk Map (DFO, 2022);
- Air photos available for the Study Area (Google, VuMap); and,
- Government of Canada's Species at Risk Public Registry.

Correspondence from MECP was received on September 30, 2022 regarding the Notice of Commencement. MECP stated that natural heritage features within the study area should be identified, and that potential impacts to these features should be assessed and information related to a SAR screening was provided.

Correspondence from UTRCA was received on November 22, 2022 regarding the Notice of Commencement. UTRCA relayed that natural heritage and natural hazard features were present in the vicinity of the study area. A request for additional natural heritage



information was sent to the UTRCA on November 28, 2022. A response was received on December 13, 2022, which provided wetland and natural hazard map data.

A consultation record between Azimuth and the agencies is provided in Appendix A.

4.0 EXISTING CONDITIONS

4.1 Land Use

The subject property is located south of Perth Line 29 within the Township of Perth East. The study area consists of an active landfill, two leachate ponds, a stormwater management pond and an agricultural field (which contained a corn crop at the time the site was visited) and the lands within 120m.

Woodland abuts the landfill to the north and east with agricultural fields to the south and west. Beyond these areas are primarily agricultural lands with large contiguous woodland within the southernmost limit of the property (contiguous with the woodland to the east of the study area).

4.2 Vegetation

A field survey was undertaken to evaluate vegetation community types including representative plant species compositions on September 20, 2022. A list of vascular plant species identified within the study area is presented in Table 1. The site investigation was undertaken by a qualified Terrestrial Ecologist with knowledge of rare, Threatened, and Endangered plant species with potential to occur in the area.

There are no elements of occurrence (EO_ID) within the property or adjacent lands for provincially Endangered or Threatened, or provincially rare vegetation species according to the MNRF NHIC database. The study area was searched for Butternut (*Juglans cinerea*; Endangered) and Black Ash (*Fraxinus nigra*; Endangered) trees, however none were observed.

No plant species considered Endangered or Threatened were identified during the site investigation. Further, no provincially rare species were observed during the site visit. None of the vegetation communities or species documented are of federal or provincial conservation concern (MNRF, 2022a).

Vegetation communities within the study area were determined in accordance with the ELC system, and are summarized as observed in Table 2 and illustrated on Figure 2; a photographic record is provided in Appendix B. Vegetation communities identified within the study area are listed as follows:



- CVI2 (Disposal and Recycle; Photograph 1)
- TAGM5 (Fencerow; Photograph 2)
- FOCM6-1 (Dry-Fresh White Pine Naturalized Coniferous Plantation; Photograph 3)
- THDM5 (Fresh-Moist Deciduous Thicket; Photographs 4-5)

4.3 Wildlife

Direct and indirect observations of wildlife (*e.g.* tracks, scat, fur) were collected as a matter of course during the September 20, 2022 site investigation, acknowledging that the survey occurred outside of the active period and/or was not seasonally appropriate to survey for presence/absence of some taxa such as bat species and migratory birds. The following species and signs thereof were observed within the study area limits during the site investigation:

- Birds: Gull species, Red-tailed Hawk, Turkey Vulture;
- Amphibians: frogs observed in the ponds (could not be identified); and,
- Mammals: Raccoon (tracks).

The Atlas of the Breeding Birds of Ontario 2001-2005 (Cadman *et al.*, 2007) and the Ontario Reptile and Amphibian Atlas (Ontario Nature, 2020) identify 100 bird species and seven herpetofaunal species that have been observed within the 10 kilometre (km) x 10 km data square that includes the study area. Species that are Threatened, Endangered, Special Concern or provincially rare are listed in Table 3 and discussed below; all other species are common and widespread.

4.4 Species at Risk

A screening for SAR occurred within the study area based on potentially suitable habitat features identified during the site investigation (Table 3). The SAR assessment fully considers SAR with potential to occur within the Township of Perth East. Based on this assessment in combination with vegetation communities and other environmental features observed during the site investigation, the following species are considered below in this report:

- **Threatened and Endangered:** Little Brown Myotis, Northern Myotis, Tri-colored Bat
- **Special Concern:** Snapping Turtle



4.4.1 Bat and Bat Habitat

Ontario's bat SAR (Eastern Small-footed Bat, Little Brown Myotis, Northern Myotis and Tri-colored Bat) have ranges that extend across southern Ontario (Dobbyn, 1994). Several of these species utilize cavities in trees (typically large mature trees) and openings in anthropogenic structures (such as old barns and houses) for maternity roosting habitat, including Little Brown Myotis, Northern Myotis, and Tri-colored Bat..

The study area was searched for potential features that may provide roosting habitat for bat SAR. The naturalizing coniferous plantation consisted mostly of mid-age coniferous trees that retained most of their dead branches, creating a dense "canopy" of branches that would limit flight and aerial foraging. In Azimuth's experience, coniferous plantations are typically of minimal suitability for roosting SAR bats, as bat roosting tends to occur in cavities/cracks/splits in large deciduous trees with interior access, and deciduous leaf clusters. Trees within coniferous plantation were not observed to possess suitable habitat features. Other trees present were either not of suitable height or not mature enough to possess habitat features. As such, maternity roosting habitat for bat SAR was not identified onsite.

Regardless of no potential for bat maternity roosting habitat in the study area, there is still minor potential for individual bats to occur onsite and to use any tree within the property for day roosting.

4.5 Wetlands

No wetlands were identified within the study area, either through field studies or through review of UTRCA, municipal and provincial mapping resources (see Figure 2 and Appendix A).

4.6 Candidate Significant Woodland

Provincial mapping resources identify woodlands adjacent to the existing landfill site (MNR 2022b). The Perth Natural Heritage Systems Study identifies the woodlands as significant (Perth County, 2018). As such, the woodland within the study area will be treated as Significant Woodland for the purposes of this assessment.

4.7 Candidate Significant Valleyland

No portion of the study area was identified as Significant Valleyland, nor assigned a similar designation on municipal or provincial mapping resources, including the Perth Natural Heritage Systems Study (Perth County, 2018).



There are no valleyland features located within the study area according to standards presented in the NHRM. No portion of the study area fulfills the well-defined valley morphology and landform prominence required to be considered Candidate Significant Valleyland.

4.8 Candidate Significant Wildlife Habitat

An assessment of the potential for Significant Wildlife Habitat (SWH) within study area was conducted using the criteria outlined within the SWH Technical Guide (OMNR, 2000) and the accompanying the Ecoregion 6E Criteria Schedules (MNR, 2015). The following Candidate SWH types have potential to be present within the study area based on the results of the field program, organized by habitat type below:

- Habitat for Special Concern and Rare Wildlife Species
 - Snapping Turtle

4.9 Areas of Natural and Scientific Interest

There are no Areas of Natural and Scientific Interest located within the study area according to municipal or provincial mapping resources.

4.10 Fish and Fish Habitat

The study area contains a watercourse with potential to provide fish habitat; correspondence with UTRCA identified the watercourse and associated tributaries as the Wilhelm Municipal Drain (Photograph 6).

The watercourse traverses through the adjacent lands to the east of the landfill site, flowing from north to south. MNR mapping resources identify the watercourse as a tributary of the Thames River (MNR, 2022c). Within the vicinity of the landfill the watercourse passes through a thicket community dominated by Dogwood (*Cornus* spp.) and Raspberry (*Rubus idaeus*).

Another watercourse traverses the area to the southeast of the study area, flowing from southwest to northeast and outletting into the watercourse described above. Within the adjacent lands (*i.e.* within 120m of the study area), this feature passes through a thicket consisting of Red Osier Dogwood (*Cornus sericea*) and Willow (*Salix* spp.).

There are no records of aquatic SAR within the study area (DFO, 2022).



5.0 NATURAL HERITAGE FEATURES SUMMARY

The results of Azimuth's site investigation combined with review of background information indicate the potential for the following candidate KNHFs within the study area:

- Habitat for Endangered and Threatened Species
 - Little Brown Myotis, Northern Myotis, Tri-colored Bat
- Significant Woodlands
- Candidate SWH
 - Habitat for Special Concern and Rare Wildlife Species
 - Snapping Turtle
- Fish Habitat

6.0 PROPOSED LANDFILL EXPANSION

In order to extend the service life of the South Easthope Landfill Site, the Township is undertaking to expand the capacity of the existing waste disposal site to meet the Municipality's demand for an approximate additional 15 year period.

The Township is pursuing an Environmental Compliance Approval (ECA) amendment to increase the approved waste and leachate treatment volume for the Site. Despite the requested increase, this does not represent an increase in annual waste acceptance rate or service area, but rather to extend the existing operations with an increase in the waste footprint size within the field immediately south of the existing waste mound. There is no expectation that any tree or natural vegetation removal will be required as the anticipated expanded footprint will be located within an area that is currently cropped. The general configuration of the expanded area is known, but will be further refined as the expansion process continues. However the expectation is that the waste mound height will be maintained similar to the current waste mound such that there are not expected to be any visual impacts created by the expanded footprint to adjacent properties.

The general operations at the Site are not intended to be altered as a part of this process with continued operations of the waste diversion areas at the entrance to the Site. The types of wastes accepted at the landfill site will also continue to be similar to what had been accepted historically at the facility.

The requested increase in approved volume is for 100,000m³, which will take the site capacity from the currently approved volume of 235,000m³ (excluding final cover) to



335,000m³. As the Site is currently at 164,800m³, the proposed expansion is needed to extend the lifespan beyond the current estimates of 7 to 12 years based on an annual fill rate of 6,000 to 10,000m³ (Azimuth, 2023).

The proposed expanded waste footprint area is depicted on Figure 3 and can be found within Appendix C.

7.0 IMPACT ASSESSMENT

This impact assessment is prepared with regards to the proposed expanded waste footprint area, as described above and illustrated in Figure 3.

7.1 Habitat for Threatened and Endangered Species

Impacts with regards to the ESA and Habitat of Threatened or Endangered species are covered under Section 9 and 10 of the ESA. Section 9 deals directly with killing, harming, or harassing living members of a species while Section 10 covers destruction or damage to habitat of Threatened or Endangered species. The following Threatened or Endangered species have potential to occur within the limits of the study area:

- Little Brown Myotis, Northern Myotis, Tri-colored Bat (Endangered)

Maternity roosting habitat for bats was not identified within the study area, however any tree within the study area may be used by bat SAR for day roosting during the active season. Based on the proposed expansion footprint, there is no expectation that any trees will need to be removed therefore, there is no expectation that there will be any impacts to potential day roosting habitat for SAR bats (Figure 3). As a cautionary measure, a timing restriction for tree removal has been recommended for incidental tree removals, should these be required.

Providing that conformance is demonstrated for environmental considerations and mitigation (Section 8), including any tree removal that may be required, there is no expectation that the proposed landfill expansion will result in a negative impact to bat SAR.

7.2 Significant Woodlands

The proposed expansion will expand the landfill into the cornfield but will occur within the existing limits (fenced-in area) of the landfill. No vegetation removal within the Significant Woodland on adjacent lands is anticipated. The proposed expansion will be situated approximately 30m (at the closest point) to the Significant Woodland. This



setback is sufficient to protect the health of the trees located along the periphery of the woodland and therefore avoid indirect impacts to the feature. Overall, the form and function of the woodland, including connectivity, will be maintained post-expansion.

The proposed expansion would not be expected to negatively impact Significant Woodland providing conformance is demonstrated for environmental considerations and mitigation described in Section 8 below.

7.3 Candidate Significant Wildlife Habitat

According to the PPS development and site alteration are not permitted within SWH located in Ecoregion 6E, unless it can be demonstrated there will be no negative impacts upon the feature and its ecological functions. For the purposes of this assessment, Candidate SWH described below is treated as significant.

7.3.1 Habitat for Special Concern and Rare Wildlife Species

Species-specific surveys to target presence/absence of Special Concern species were not conducted as a part of this assessment as the site investigation was conducted outside of their active period. For the purposes of this assessment, presence of Special Concern species (for which suitable habitat may be present) is assumed in lieu of conducting appropriate screenings, as it is conceivable that the species below could be encountered within the property or adjacent lands during the appropriate season.

Snapping Turtle

The watercourse identified within the study area has the potential to contain standing water and provide habitat for Snapping Turtle. Snapping Turtles are known to occasionally occur in marginal wetland habitat in urban areas, including stormwater management ponds, roadside ditches and shallow creeks.

Vegetated areas outside the existing fenced-in landfill site, including the watercourse, are not anticipated to be disturbed as a result of the proposed expansion of the landfill (Figure 3). The limit (the fence) of the existing landfill site is approximately 50m from the watercourse; work associated with the expansion is not anticipated to occur within 50m of the watercourse. Providing that conformance is demonstrated for environmental considerations and mitigation (Section 8), there is no expectation that the proposed landfill expansion will result in a negative impact to Snapping Turtle.

7.4 Fish Habitat

The proposed expansion will not result in direct alteration of the identified watercourses within the study area, nor will any portion of the proposed landfill expansion footprint be



within 30m of the watercourses. The limit (the fence) of the existing landfill site is approximately 50m from the watercourse; work associated with the expansion is not anticipated to occur within 50m of the watercourse. Additionally, environmental monitoring has been completed at the landfill since 1989 and a leachate treatment system has been in place since 2004 to attenuate leachates generated by the landfill (Azimuth, 2023). Providing that conformance is demonstrated for environmental considerations and mitigation described in Section 8 below, there is no expectation that the proposed expansion will result in a negative impacts to fish or fish habitat under the Federal *Fisheries Act*.

8.0 RECOMMENDATIONS

8.1 Species at Risk

It should be noted that the absence of a protected species within the study area does not indicate that they will never occur within the area. Given the dynamic character of the natural environment, there is a constant variation in habitat use. Care should be taken in the interpretation of presence of species of concern including those listed under the ESA. Changes to policy, or the natural environment, could result in shifts, removal, or addition of new areas to the list of areas currently considered SAR habitat. This report is intended as a point in time assessment of the potential to impact SAR; not to provide long term “clearance” for SAR. While there is no expectation that the assessment should change significantly, it is the responsibility of the proponent to ensure that they are not in contravention of the ESA at the time that site works are undertaken. A review of the assessment provided in this report by a qualified person should be sufficient to provide appropriate advice at the time of the onset of future site works.

8.2 Migratory Breeding Birds and Bats

Activities involving the removal of vegetation should be restricted from occurring during the breeding season. Migratory birds, nests, and eggs are protected by the *Migratory Birds Convention Act*, 1994 (MBCA) and the *Fish and Wildlife Conservation Act*, 1997 (FWCA). Environment Canada outlines dates when activities in any region have potential to impact nests at the Environment Canada Website (<https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html>). In Zones C1 and C2 vegetation clearing (should it be required) should be avoided between **April 1 through August 31** of any given year. If work requires that vegetation clearing is required between these dates, screening by an ecologist with knowledge of bird species present in the area could be undertaken to ensure that the vegetation has been confirmed to be free of nests prior to clearing.



Although not anticipated, activities involving tree removal (if required), should be avoided between **April 1 through September 30** of any given year, during the active period for bat species that may utilize trees for maternity and day roosting purposes. It is anticipated that adherence to this timing restriction will avoid impacts to individual SAR bats, therefore remaining in compliance with Section 9 of the ESA affording individual protection to Endangered species.

8.3 Sediment and Erosion Controls

Diligent application of sediment and erosion controls is recommended for all future construction activities to minimize the extent of accidental or unavoidable impacts to adjacent vegetation communities and wildlife habitat. Prior to the commencement of site works, silt fencing should be applied along the length of directly around the work area of the proposed landfill expansion area, and routine inspection/maintenance of the silt fencing should occur throughout earthworks/construction. It is recommended that erosion and sediment controls be maintained until vegetation is re-established post-construction.

8.4 Operations

All material storage and maintenance activities required during future construction should be conducted at least 30m away from woodlands and watercourses to prevent accidental spillage of deleterious substances that may harm natural environments.

9.0 CONCLUSIONS

Based upon our analysis, it is concluded that the environmental conditions are not limiting to the proposed expansion of the South Easthope Landfill through incorporation of the environmental protection measures described in Section 8 of this report.

At this time, our findings are summarized as follows:

- The proposed site alteration is consistent with the policies of the PPS, County of Perth Official Plan, *Endangered Species Act*, 2007, and federal *Fisheries Act*.
- No portion of the proposed landfill expansion area contains lands that are regulated by the Upper Thames River Conservation Authority O. Reg. 157/06.
- Our impact assessment has given full consideration to the habitat requirements of all SAR assumed and documented to occur in the area and results indicate the



proposed expansion will not result in negative direct or indirect impacts to habitat of SAR providing conformance is demonstrated to mitigation measures described in Section 8.

- The proposed works are not expected to negatively impact the ecological functions of Significant Woodland or Candidate SWH outlined in Section 5 if the appropriate mitigation measures outlined in Section 8 are followed.
- No watercourses, fish or fish habitat are expected to be negatively impacted as a result of the proposed works if the appropriate mitigation measures described in Section 8 are followed during construction.



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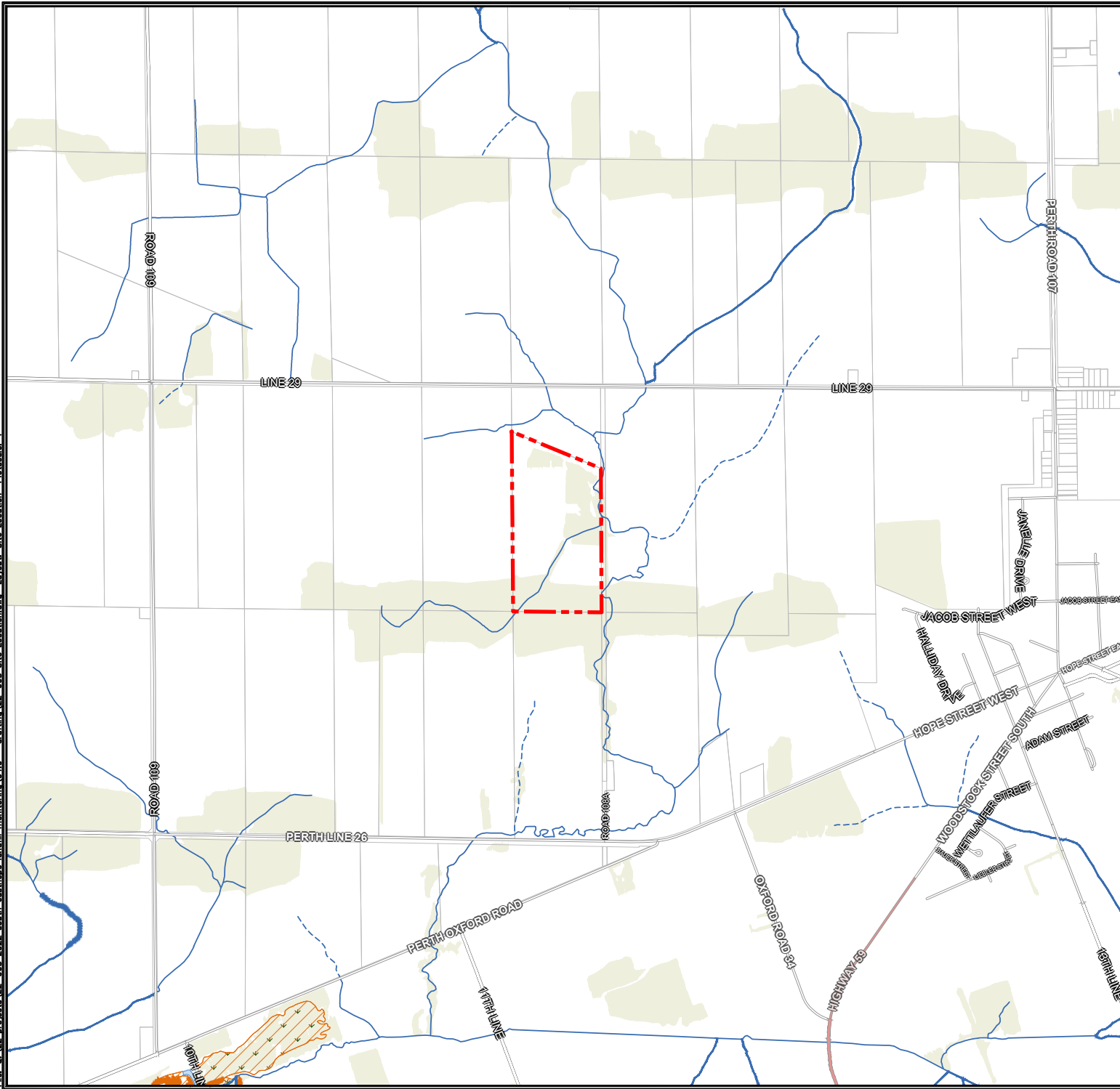
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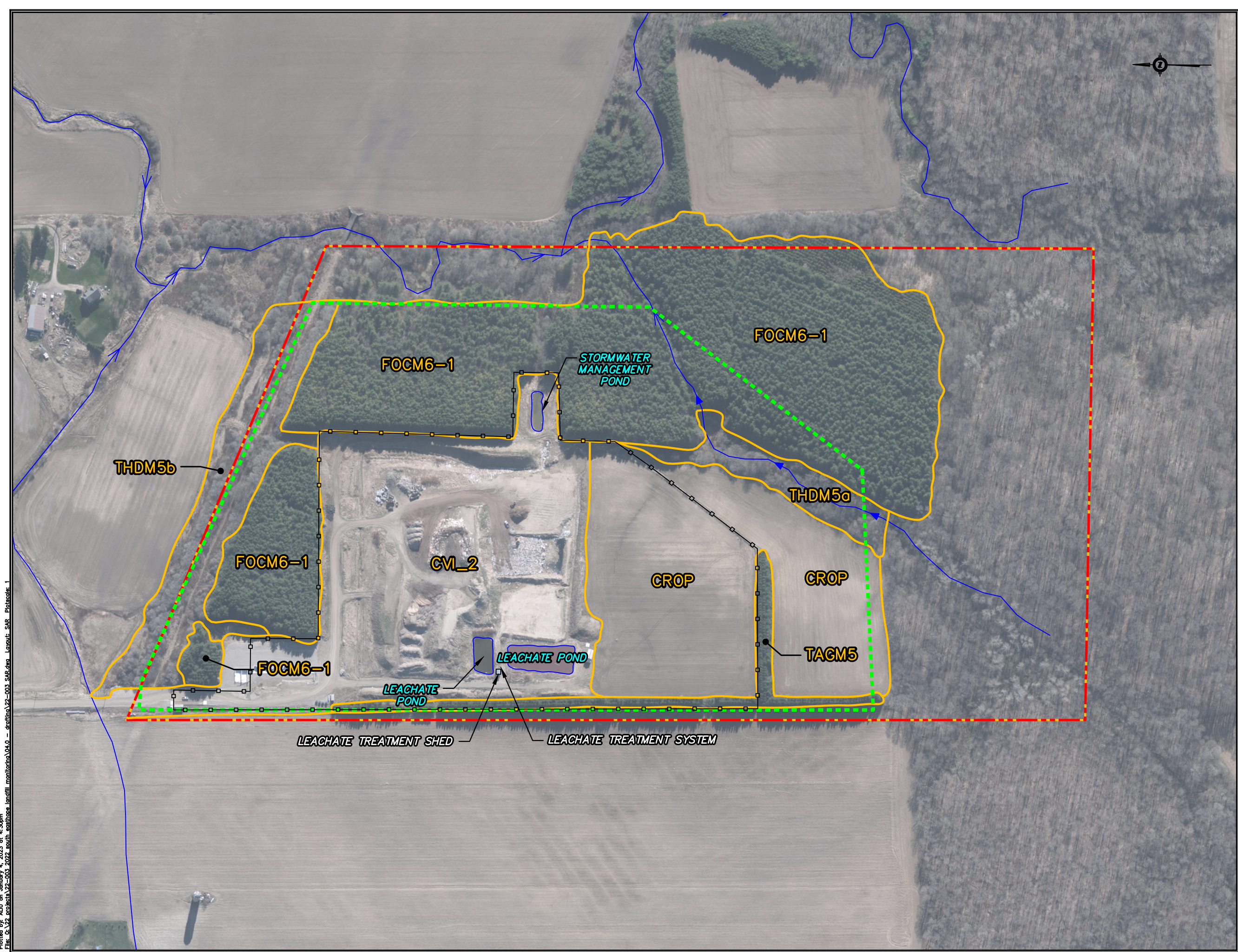
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HORIZONTAL SCALE 1:25000

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
ENVIRONMENTAL ASSESSMENTS & APPROVALS

SITE LOCATION

2439 LINE 29
PERTH EAST, ON

DATE ISSUED: DECEMBER 2022	Figure No.
CREATED BY: A.L.	
PROJECT NO.: 22-003	1
REFERENCE: PERTH COUNTY	



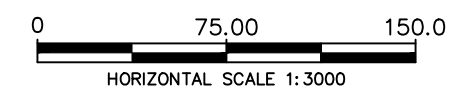
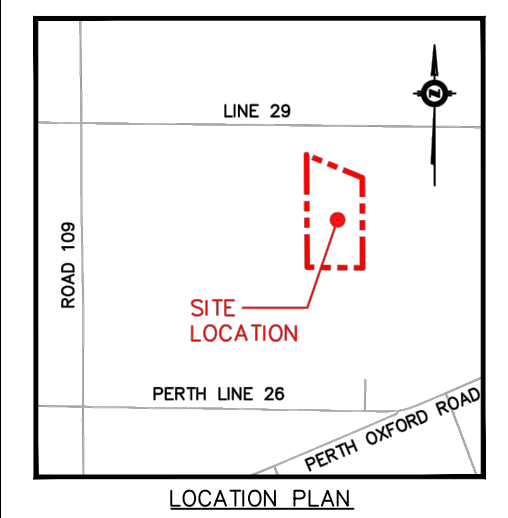
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- - - APPROX. PROPERTY BOUNDARY
- - - STUDY AREA BOUNDARY
- WATERCOURSE (MNR, 2021)

ELC UPLAND COMMUNITIES:

- CVI_2 DISPOSAL AND RECYCLE
- TAGM5 FENCEROW
- FOCM6-1 DRY-FRESH WHITE PINE NATURALIZED CONIFEROUS PLANTATION
- THDM5 FRESH-MOIST DECIDUOUS THICKET

- CHAIN LINK FENCE

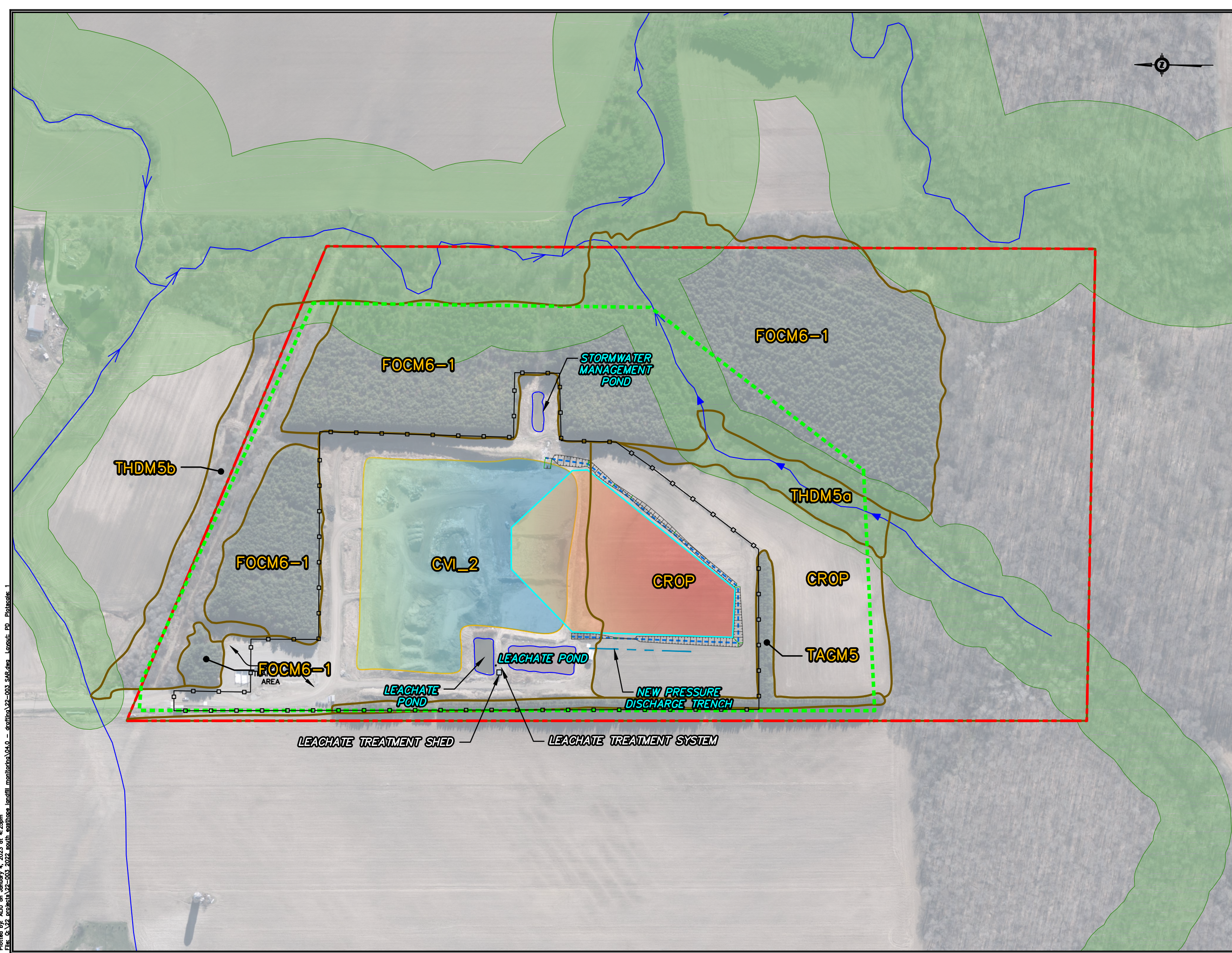


ENVIRONMENTAL FEATURES

2439 LINE 29
PERTH EAST, ON

DATE ISSUED: JANUARY 2023	Figure No.
CREATED BY: A.L.	2
PROJECT NO.: 22-003	
REFERENCE: PERTH COUNTY	

Plotted by: ALU on January 4, 2023 at 4:30pm
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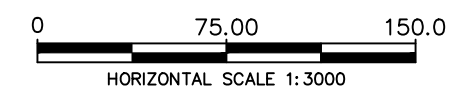
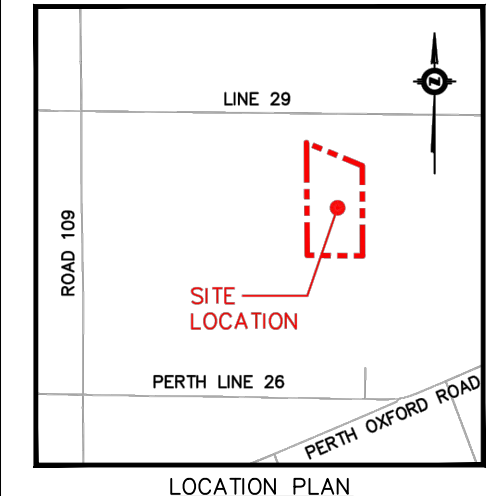
LEGEND:

- APPROX. PROPERTY BOUNDARY
- STUDY AREA BOUNDARY
- WATERCOURSE (MNR, 2021)

ELC UPLAND COMMUNITIES:

- CVL_2 DISPOSAL AND RECYCLE FENCEROW
- TAGM5 DRY-FRESH WHITE PINE NATURALIZED CONIFEROUS PLANTATION
- FOCM6-1 FRESH-MOIST DECIDUOUS THICKET
- THDM5

- APPROVED WASTE FOOTPRINT AREA
- PROPOSED EXPANDED WASTE FOOTPRINT AREA
- LTS TRENCH ALIGNMENT
- PROPOSED PERIMETER DRAIN CENTRELINE
- PERIMETER DRAIN SLOPE LINE
- UTRCA REGULATORY LIMIT (UTRCA, DEC. 2022)
- CHAIN LINK FENCE



PROPOSED EXPANSION

2439 LINE 29
PERTH EAST, ON

DATE ISSUED:	JANUARY 2023	Figure No.
CREATED BY:	A.L.	3
PROJECT NO.:	22-003	
REFERENCE:	PERTH COUNTY	

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Table 1: Vascular Plant List
South Easthope Landfill Scoped EIS

Surveyor: Adam McClelland

AEC22-003

FAMILY ¹	SCIENTIFIC NAME ¹	COMMON NAME ¹	Vegetation Communities ²					Conservation Rankings ³		
			CV12	TAGM5	FOCM6-1	THDM5a	THDM5b	GRANK	SRANK	TRACK
Aceraceae	<i>Acer negundo</i>	Manitoba Maple	X					G5	S5	N
Aceraceae	<i>Acer saccharum</i>	Sugar Maple					X	G5	S5	N
Amaranthaceae	<i>Amaranthus retroflexus</i>	Redroot Amaranth	X					G5	SE5	N
Anacardiaceae	<i>Rhus typhina</i>	Staghorn Sumac	X				X	G5	S5	N
Anacardiaceae	<i>Toxicodendron radicans</i> var. <i>radicans</i>	Eastern Poison Ivy			X			G5T5	S5	N
Apiaceae	<i>Daucus carota</i>	Wild Carrot	X					GNR	SE5	N
Apocynaceae	<i>Apocynum cannabinum</i>	Hemp Dogbane				X		GNR	S5	N
Apocynaceae	<i>Asclepias syriaca</i>	Common Milkweed	X					G5	S5	N
Asteraceae	<i>Ambrosia artemisiifolia</i>	Common Ragweed	X					G5	S5	N
Asteraceae	<i>Arctium minus</i>	Common Burdock	X	X	X			GNR	SE5	N
Asteraceae	<i>Bidens frondosa</i>	Devil's Beggarticks	X		X		X	G5	S5	N
Asteraceae	<i>Cichorium intybus</i>	Wild Chicory	X					GNR	SE5	N
Asteraceae	<i>Cirsium arvense</i>	Canada Thistle	X					G5	SE5	N
Asteraceae	<i>Erigeron canadensis</i>	Canada Horseweed	X					G5	S5	N
Asteraceae	<i>Erigeron philadelphicus</i>	Philadelphia Fleabane	X					G5	S5	P
Asteraceae	<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod	X					G5	S5	N
Asteraceae	<i>Solidago altissima</i> var. <i>altissima</i>	Eastern Tall Goldenrod	X	X	X	X	X	G5	S5	N
Asteraceae	<i>Sonchus arvensis</i> ssp. <i>arvensis</i>	Glandular Sow-thistle	X					GNR	TNR	SE5
Asteraceae	<i>Symphyotrichum lanceolatum</i> ssp. <i>lanceolatum</i>	Eastern Panicked Aster	X	X	X	X	X	G5T5	S5	P
Asteraceae	<i>Symphyotrichum novae-angliae</i>	New England Aster	X	X	X	X	X	G5	S5	N
Asteraceae	<i>Tussilago farfara</i>	Coltsfoot	X		X			GNR	SE5	N
Balsaminaceae	<i>Impatiens capensis</i>	Spotted Jewelweed			X	X		G5	S5	N
Brassicaceae	<i>Brassica nigra</i>	Black Mustard	X					GNR	SE5	N
Caprifoliaceae	<i>Sambucus</i> sp.	Elderberry species			X			-	-	N
Caprifoliaceae	<i>Viburnum lentago</i>	Nannyberry					X	G5	S5	N
Caprifoliaceae	<i>Viburnum opulus</i>	Cranberry Viburnum			X			G5	S5	N
Chenopodiaceae	<i>Chenopodium album</i>	Common Lamb's-quarters	X					G5	SE5	N
Convolvulaceae	<i>Convolvulus arvensis</i>	Field Bindweed	X					GNR	SE5	N
Cornaceae	<i>Cornus alternifolia</i>	Alternate-leaved Dogwood			X			G5	S5	N
Cornaceae	<i>Cornus racemosa</i>	Grey Dogwood	X		X		X	G5	S5	N
Cornaceae	<i>Cornus sericea</i>	Red-osier Dogwood	X		X	X	X	G5	S5	N
Cucurbitaceae	<i>Echinocystis lobata</i>	Wild Cucumber		X	X			G5	S5	N
Cyperaceae	<i>Cyperus esculentus</i>	Perennial Yellow Flatsedge	X					G5	S5	N
Dipsacaceae	<i>Dipsacus fullonum</i>	Common Teasel	X					GNR	SE5	N
Euphorbiaceae	<i>Euphorbia esula</i>	Leafy Spurge	X					GNR	TNR	SE
Fabaceae	<i>Lotus corniculatus</i>	Garden Bird's-foot Trefoil	X					GNR	SE5	N
Fabaceae	<i>Medicago lupulina</i>	Black Medick	X					GNR	SE5	N
Fabaceae	<i>Melilotus albus</i>	White Sweet-clover	X					G5	SE5	N
Fabaceae	<i>Trifolium pratense</i>	Red Clover	X					GNR	SE5	N
Fabaceae	<i>Trifolium repens</i>	White Clover	X					GNR	SE5	N
Fabaceae	<i>Vicia cracca</i>	Tufted Vetch	X					GNR	SE5	N
Geraniaceae	<i>Geranium robertianum</i>	Herb-Robert			X			G5	S5	N
Juglandaceae	<i>Carya cordiformis</i>	Bitternut Hickory					X	G5	S5	N
Juglandaceae	<i>Juglans nigra</i>	Black Walnut	X		X	X	X	G5	S4?	N
Lamiaceae	<i>Leonurus cardiaca</i>	Common Motherwort	X					GNR	SE5	N
Lamiaceae	<i>Prunella vulgaris</i> ssp. <i>vulgaris</i>	Common Self-heal	X		X		X	G5TU	SE3	N
Malvaceae	<i>Abutilon theophrasti</i>	Velvetleaf	X					GNR	SE5	N
Oleaceae	<i>Fraxinus americana</i>	White Ash	X		X	X	X	G4	S4	N
Onagraceae	<i>Epilobium parviflorum</i>	Small-flowered Hairy Willowherb	X					GNR	SE4	N
Onagraceae	<i>Oenothera biennis</i>	Common Evening-primrose	X					G5	S5	N
Pinaceae	<i>Picea abies</i>	Norway Spruce		X				G5	SE3	N
Pinaceae	<i>Pinus strobus</i>	Eastern White Pine			X			G5	S5	N
Plantaginaceae	<i>Plantago major</i>	Common Plantain	X					G5	SE5	N
Poaceae	<i>Bromus inermis</i>	Smooth Brome	X	X	X			G5T5	SE5	N
Poaceae	<i>Dactylis glomerata</i>	Orchard Grass	X					GNR	SE5	N
Poaceae	<i>Digitaria sanguinalis</i>	Hairy Crabgrass	X					G5	SE5	N
Poaceae	<i>Echinochloa crus-galli</i>	Large Barnyard Grass	X					GNR	SE5	N
Poaceae	<i>Lolium arundinaceum</i>	Tall Ryegrass	X					GNR	SE5	N
Poaceae	<i>Panicum capillare</i>	Common Panicgrass	X					G5	S5	N
Poaceae	<i>Phalaris arundinacea</i>	Reed Canarygrass	X	X				G5	S5	N
Poaceae	<i>Phleum pratense</i>	Common Timothy	X					GNR	SE5	N
Poaceae	<i>Phragmites australis</i> ssp. <i>australis</i>	European Reed	X					G5T5	SE5	N
Poaceae	<i>Setaria pumila</i>	Yellow Foxtail	X					GNR	SE5	N
Poaceae	<i>Setaria viridis</i>	Green Foxtail	X					GNR	SE5	N
Polygonaceae	<i>Persicaria careyi</i>	Carey's Smartweed	X					G4	S4	N
Polygonaceae	<i>Rumex crispus</i>	Curled Dock	X				X	GNR	SE5	N
Rhamnaceae	<i>Rhamnus cathartica</i>	European Buckthorn	X	X			X	GNR	SE5	N
Rosaceae	<i>Crataegus monogyna</i>	English Hawthorn	X					G5	SE4	N
Rosaceae	<i>Crataegus</i> sp.	Hawthorn species	X		X	X	X	-	-	-
Rosaceae	<i>Fragaria virginiana</i>	Wild Strawberry	X		X	X	X	G5	S5	N
Rosaceae	<i>Geum aleppicum</i>	Yellow Avens			X	X	X	G5	S5	N
Rosaceae	<i>Geum canadense</i>	Canada Avens			X			G5	S5	N
Rosaceae	<i>Malus pumila</i>	Common Apple	X					G5	SE4	N
Rosaceae	<i>Prunus serotina</i>	Black Cherry		X	X			G5	S5	N
Rosaceae	<i>Rubus idaeus</i> ssp. <i>idaeus</i>	European Red Raspberry		X				G5T5	SE1	N
Rosaceae	<i>Rubus occidentalis</i>	Black Raspberry	X		X	X	X	G5	S5	N
Salicaceae	<i>Populus deltoides</i> ssp. <i>deltoides</i>	Eastern Cottonwood	X				X	G5T5	S5	N
Salicaceae	<i>Salix bebbiana</i>	Bebb's Willow	X					G5	S5	N
Salicaceae	<i>Salix eriocephala</i>	Cottony Willow	X				X	G5	S5	N
Salicaceae	<i>Salix interior</i>	Sandbar Willow	X					G5	S5	N
Salicaceae	<i>Salix lucida</i>	Shining Willow	X					G5T5	S5	N
Salicaceae	<i>Salix x fragilis</i>	(<i>Salix alba</i> X <i>Salix euxina</i>)	X				X	GNA	SNA	N
Salicaceae	<i>Salix</i> sp.	Willow species				X		-	-	-
Scrophulariaceae	<i>Verbascum thapsus</i>	Common Mullein	X					GNR	SE5	N
Solanaceae	<i>Solanum dulcamara</i>	Bittersweet Nightshade	X		X	X		GNR	SE5	N
Typhaceae	<i>Typha angustifolia</i>	Narrow-leaved Cattail	X					G5	SE5	N

Table 1: Vascular Plant List
South Easthope Landfill Scoped EIS

Surveyor: Adam McClelland

AEC22-003

FAMILY ¹	SCIENTIFIC NAME ¹	COMMON NAME ¹	Vegetation Communities ²					Conservation Rankings ³		
			CV12	TAGM5	FOCM6-1	THDM5a	THDM5b	GRANK	SRANK	TRANK
Ulmaceae	<i>Celtis occidentalis</i>	Common Hackberry			X			G5	S4	N
Ulmaceae	<i>Ulmus americana</i>	White Elm	X			X	X	G4	S5	N
Ulmaceae	<i>Ulmus pumila</i>	Siberian Elm	X					GNR	SE3	N
Verbenaceae	<i>Verbena urticifolia</i>	White Vervain			X	X	X	G5	S5	N
Vitaceae	<i>Parthenocissus vitacea</i>	Thicket Creeper	X	X	X		X	G5	S5	N
Vitaceae	<i>Vitis riparia</i>	Riverbank Grape	X	X	X		X	G5	S5	N

¹ Nomenclature based on Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC, 2022)

² ELC Codes based on Ecological Land Classification for Southern Ontario manual (Lee *et al.* , 1998, 2008)

³ Conservation Rankings: From Ontario Ministry of Natural Resources and Forestry, Natural Heritage Information Centre (<https://www.ontario.ca/page/natural-heritage-information-centre>)

Table 2: Vegetation Community Summary, South Easthope Landfill Scoped EIS

Ecological Land Classification					
System	Community Class	Community Series	Ecosite/Vegetation Type	Canopy/Shrub Layer	Ground Cover
Terrestrial	Constructed	CVI, Transportation and Utilities	CVI2, Disposal and Recycle	Tree and shrub cover was sparse across the landfill. Trees observed consisted primarily of young specimens, and included Eastern Cottonwood (<i>Populus deltoides</i>), White Ash (<i>Fraxinus americana</i>), Black Walnut (<i>Juglans nigra</i>) and Manitoba Maple (<i>Acer negundo</i>). Shrub cover included Red Osier Dogwood (<i>Cornus sericea</i>), Common Buckthorn (<i>Rhamnus cathartica</i>), Raspberry (<i>Rubus spp.</i>) and Willow (<i>Salix spp.</i>)	The ground cover consisted of a variety of forbs and grasses. Common species included Goldenrods (<i>Solidago sp.</i>), Asters (<i>Symphyotrichum spp.</i>), Reed Canary Grass (<i>Phalaris arundinacea</i>) and Wild Teasel (<i>Dipsacus fullonum</i>).
Terrestrial	Agriculture	TAG, Treed Agriculture	TAGM5, Fencerow	Trees along the fencerow consisted almost entirely of Norway Spruce (<i>Picea abies</i>); Black Cherry (<i>Prunus serotina</i>) was also observed. Sparse shrub cover included Common Buckthorn, Riverbank Grape (<i>Vitis riparia</i>), Thicket Creeper (<i>Parthenocissus vitacea</i>) and Red Raspberry (<i>Rubus idaeus</i>).	The ground cover was sparse and included Asters, Tall Goldenrod (<i>Solidago altissima</i>), Smooth Brome (<i>Bromus inermis</i>) and Reed Canary Grass.
Terrestrial	Forest	FOC, Coniferous Forest	FOCM6-1, Dry-Fresh White Pine Naturalized Coniferous Plantation	This plantation was dominated by White Pine (<i>Pinus strobus</i>). Sparse sub-canopy cover included White Ash and Black Walnut. Patches of shrub cover were dominated by Elderberry (<i>Sambucus sp.</i>), Raspberry, Riverbank Grape and Grey Dogwood (<i>Cornus racemosa</i>). A Hawthorn (<i>Crataegus sp.</i>) thicket inclusion was observed at the east end of the landfill.	Ground cover was sparse across most of the community and consisted of forb and shrub species. Patches of groundcover vegetation were dominated by Herb-robert (<i>Geranium robertianum</i>) and Thicket Creeper.
Terrestrial	Thicket	THD, Deciduous Thicket	THDM5a, Fresh-Moist Deciduous Thicket	Shrub cover was very dense and dominated by Willow, Red Osier Dogwood and Black Raspberry (<i>Rubus occidentalis</i>). Tree cover was somewhat sparse and included Black Walnut, White Elm (<i>Ulmus americanus</i>) and Hawthorn. The Willow and Dogwood occurred primarily in the riparian area along the watercourse.	The ground cover was dense in some areas and consisted of forbs, including Tall Goldenrod, Panicked Aster (<i>Symphyotrichum lanceolatum</i>), New England Aster (<i>Symphyotrichum novae-angliae</i>) and Spotted Jewelweed (<i>Impatiens capensis</i>).

Table 2: Vegetation Community Summary, South Easthope Landfill Scoped EIS

Ecological Land Classification				Canopy/Shrub Layer	Ground Cover
System	Community Class	Community Series	Ecosite/Vegetation Type		
Terrestrial	Thicket	THD, Deciduous Thicket	THDM5b, Fresh-Moist Deciduous Thicket	Shrub cover was very dense and dominated by Willow, Red Osier Dogwood, Black Raspberry, Common Buckthorn, Riverbank Grape and Thicket Creeper. Tree cover was somewhat sparse and included Black Walnut, White Ash, Eastern Cottonwood, Silver Maple (<i>Acer saccharinum</i>), White Elm, Crack Willow (<i>Salix x fragilis</i>) and Bitternut Hickory (<i>Carya cordiformis</i>). A small stand of Hawthorn was observed.	The ground cover was dense in some areas and consisted of forb species. Common species observed included Tall Goldenrod, Panicked Aster, New England Aster, Yellow Avens (<i>Geum aleppicum</i>) and Devil's Beggarticks (<i>Bidens frondosa</i>).

Table 3. Species at Risk Habitat Summary and Assessment, South Easthope Landfill Scoped EIS

Taxa	Common Name ¹	ESA Status ^{2,3}	Habitat Requirements	Habitat on or Adjacent to Lands?	Observed?	Issue Related to Proposed Development?
Bird	Bank Swallow	THR	Nest in burrows it constructs in sand banks associated with valleylands and in fill piles/gravel pits having near vertical faces.	No - no suitable nesting sites identified	No	No
Bird	Barn Swallow	THR	Build nests in manmade structures like sheds, barns, etc. and under bridges/in culverts, <i>etc.</i>	No - no suitable nesting sites identified	No	No
Bird	Bobolink	THR	Large grasslands	No - no grasslands identified	No	No
Bird	Chimney Swift	THR	Build nests in chimneys and/or on walls of built structures (barns, houses, churches, <i>etc.</i>)	No - no suitable nesting sites identified	No	No
Bird	Eastern Meadowlark	THR	Large grasslands	No - no grasslands identified	No	No
Bird	Red-headed Woodpecker	END	Open woodlands, forests	No - structure of forest habitat unsuitable	No	No
Mammal	Eastern Small-footed Bat	END	Cliffs, caves, mines, talus slopes	No - suitable habitat not identified	No - study area within known range of the species	No
Mammal	Little Brown Myotis	END	Mature woodlands (snag/cavity trees) and buildings (churches, older homes with attics, <i>etc.</i>)	Potential - forest habitat identified	No - study area within known range of the species	No - pine plantation unlikely to provide suitable habitat
Mammal	Northern Myotis	END	Mature woodlands (snag/cavity trees)	Potential - forest habitat identified	No - study area within known range of the species	No - pine plantation unlikely to provide suitable habitat
Mammal	Tri-coloured Bat	END	Mature woodlands (snag/cavity trees) and occasionally in barns or other buildings	Potential - forest habitat identified	No - study area within known range of the species	No - pine plantation unlikely to provide suitable habitat
Plant	Black Ash ⁴	END	Swamps and floodplains	No - no wetlands identified	No	No - not observed during botanical inventory
Plant	Butternut ⁴	END	Forests, woodlands, fencerows, open lands	Potential - forest habitat identified	No	No - not observed during botanical inventory
Plant	Willow-leaved Aster ⁵	THR	Oak savannahs, railways, roadsides and abandoned farm fields	Potential - farm fields present	No	No - not observed during botanical inventory
Bird	Common Nighthawk	SC	Open woodlands	No - structure of forest habitat unsuitable	No	No
Bird	Eastern Wood-Pewee	SC	Deciduous and mixed forests	No - no suitable deciduous or mixed forest identified	No	No
Bird	Grasshopper Sparrow	SC	Large grasslands	No - no grasslands identified	No	No
Bird	Wood Thrush	SC	Mature forests	No - structure of forest habitat unsuitable	No	No
Insect	Monarch	SC	Open lands with abundant milkweed	No - milkweed observed but not abundant	No	No
Reptile	Snapping Turtle	SC	Wetlands with permanent standing water/lakes/slow moving rivers	Potential - watercourses identified onsite	No	No - no impacts to watercourses anticipated

¹List compiled based on Natural Heritage Information Centre, Ontario Reptile and Amphibian Atlas, and Atlas of the Breeding Birds of Ontario databases.

² Protection status under Ontario's *Endangered Species Act*, 2007 (ESA). Endangered (END), Threatened (THR), Special Concern (SC)

³Ontario's *Endangered Species Act*, 2007 does not afford individual or habitat protection to species listed as Special Concern

⁴Species known to occur across southern Ontario.

⁵Leslie, James. 2018. *Vascular Plants at Risk in Ontario*. May 2018.



APPENDICES

Appendix A: Agency Correspondence

Appendix B: Photographic Record

Appendix C: Proposed Site Plan



APPENDIX A

Agency Correspondence

**Ministry of the Environment,
Conservation and Parks**

**Ministère de l'Environnement,
de la Protection de la nature
et des Parcs**

Environmental Assessment
Branch

Direction des évaluations
environnementales

1st Floor
135 St. Clair Avenue W
Toronto ON M4V 1P5
Tel.: 416 314-8001
Fax.: 416 314-8452

Rez-de-chaussée
135, avenue St. Clair Ouest
Toronto ON M4V 1P5
Tél. : 416 314-8001
Télééc. : 416 314-8452

September 30, 2022

Wes Kuepfer
Public Works Manager
Township of Perth East
wkuepfer@pertheast.com

Colin Ross
Senior Hydrogeologist
Township of Perth East
colin@azimuthenvironmental.com

BY EMAIL ONLY

Re: **South Easthope Landfill
Township of Perth East
Waste Management Projects Regulation, O. Reg. 101/07
Response to Notice of Study Commencement**

Dear Wes Kuepfer and Colin Ross,

This letter is in response to the Notice of Commencement for the above noted project. The Ministry of the Environment, Conservation and Parks (MECP) acknowledges that the Township of Perth East (proponent) has indicated that the study is following the Environmental Screening Process under Ontario Regulation 101/07 *Waste Management Projects*.

The **updated (August 2022)** attached "Areas of Interest" document provides guidance regarding the ministry's interests with respect to the Environmental Screening Process. Please address all areas of interest in the documentation at an appropriate level for the study.

Proponents who address all the applicable areas of interest can minimize potential delays to the project schedule. **Further information is provided at the end of the Areas of Interest document relating to recent changes to the Environmental Assessment Act through Bill 197, Covid-19 Economic Recovery Act 2020.**

The Crown has a legal duty to consult Aboriginal communities when it has knowledge, real or constructive, of the existence or potential existence of an Aboriginal or treaty right and contemplates conduct that may adversely impact that right. Before authorizing this project, the Crown must ensure that its duty to consult has been fulfilled, where such a duty is triggered. Although the duty to consult with Aboriginal peoples is a duty of the Crown, the Crown may delegate procedural aspects of this duty to project proponents while retaining oversight of the consultation process.

The proposed project may have the potential to affect Aboriginal or treaty rights protected under Section 35 of Canada's *Constitution Act* 1982. Where the Crown's duty to consult is triggered in relation to the proposed project, **the MECP is delegating the procedural aspects of rights-based consultation to the proponent through this letter.** The Crown intends to rely on the delegated consultation process in discharging its duty to consult and maintains the right to participate in the consultation process as it sees fit.

Based on information provided to date and the Crown's preliminary assessment the proponent is required to consult with the following communities who have been identified as potentially affected by the proposed project:

- Aamjiwnaang First Nation
- Bkejwanong (Walpole Island)
- Caldwell First Nation
- Chippewas of Kettle and Stony Point
- Chippewas of the Thames First Nation
- Oneida Nation of the Thames
- Six Nations of the Grand River including both the elected council and the Haudenosaunee Development Institute

Steps that the proponent may need to take in relation to Aboriginal consultation for the proposed project are outlined in the "[Code of Practice for Consultation in Ontario's Environmental Assessment Process](#)". Additional information related to Ontario's Environmental Assessment Act is available online at: www.ontario.ca/environmentalassessments.

Please also refer to the attached document "A Proponent's Introduction to the Delegation of Procedural Aspects of consultation with Aboriginal Communities" for further information, including the MECP's expectations for report documentation related to consultation with communities.

The proponent must contact the Director of Environmental Assessment Branch (EABDirector@ontario.ca) under the following circumstances after initial discussions with the communities identified by the MECP:

- Aboriginal or treaty rights impacts are identified to you by the communities;
- You have reason to believe that your proposed project may adversely affect an Aboriginal or treaty right;
- Consultation with Indigenous communities or other stakeholders has reached an impasse; or
- An elevation request is expected.

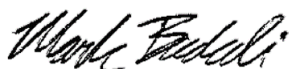
The MECP will then assess the extent of any Crown duty to consult for the circumstances and will consider whether additional steps should be taken, including what role you will be asked to play should additional steps and activities be required.

A draft copy of the report should be sent directly to me prior to the filing of the final report, allowing a minimum of 30 days for the ministry's technical reviewers to provide comments.

Please also ensure a copy of the final notice is sent to the ministry's Southwest Region EA notification email account (eanotification.swregion@ontario.ca) after the draft report is reviewed and finalized.

Should you or any members of your project team have any questions regarding the material above, please contact me at mark.badali1@ontario.ca.

Sincerely,



Mark Badali
Regional Environmental Planner – Southwest Region

Cc: Pierre Adrien, Manager, London District Office, MECP

Enclosed: Areas of Interest

Attached: Client's Guide to Preliminary Screening for Species at Risk

A Proponent's Introduction to the Delegation of Procedural Aspects of Consultation with Aboriginal Communities

AREAS OF INTEREST (v. August 2022)

It is suggested that you check off each section after you have considered / addressed it.

Planning and Policy

- Applicable plans and policies should be identified in the report, and the proponent should describe how the proposed project adheres to the relevant policies in these plans.
 - Projects located in MECP Central, Eastern or West Central Region may be subject to [A Place to Grow: Growth Plan for the Greater Golden Horseshoe \(2020\)](#).
 - Projects located in MECP Central or Eastern Region may be subject to the [Oak Ridges Moraine Conservation Plan \(2017\)](#) or the [Lake Simcoe Protection Plan \(2014\)](#).
 - Projects located in MECP Central, Southwest or West Central Region may be subject to the [Niagara Escarpment Plan \(2017\)](#).
 - Projects located in MECP Central, Eastern, Southwest or West Central Region may be subject to the [Greenbelt Plan \(2017\)](#).
 - Projects located in MECP Northern Region may be subject to the [Growth Plan for Northern Ontario \(2011\)](#).
- The [Provincial Policy Statement \(2020\)](#) contains policies that protect Ontario's natural heritage and water resources. Applicable policies should be referenced in the report, and the proponent should describe how the proposed project is consistent with these policies.
- In addition to the provincial planning and policy level, the report should also discuss the planning context at the municipal and federal levels, as appropriate.

Source Water Protection

The *Clean Water Act, 2006* (CWA) aims to protect existing and future sources of drinking water. To achieve this, several types of vulnerable areas have been delineated around surface water intakes and wellheads for every municipal residential drinking water system that is located in a source protection area. These vulnerable areas are known as a Wellhead Protection Areas (WHPAs) and surface water Intake Protection Zones (IPZs). Other vulnerable areas that have been delineated under the CWA include Highly Vulnerable Aquifers (HVAs), Significant Groundwater Recharge Areas (SGRAs), Event-based modelling areas (EBAs), and Issues Contributing Areas (ICAs). Source protection plans have been developed that include policies to address existing and future risks to sources of municipal drinking water within these vulnerable areas.

Projects that are subject to the Environmental Assessment Act that fall under a Class EA, or one of the Regulations, have the potential to impact sources of drinking water if they occur in designated vulnerable areas or in the vicinity of other at-risk drinking water systems (i.e.

systems that are not municipal residential systems). Projects may include activities that, if located in a vulnerable area, could be a threat to sources of drinking water (i.e. have the potential to adversely affect the quality or quantity of drinking water sources) and the activity could therefore be subject to policies in a source protection plan. Where an activity poses a risk to drinking water, policies in the local source protection plan may impact how or where that activity is undertaken. Policies may prohibit certain activities, or they may require risk management measures for these activities. Municipal Official Plans, planning decisions, Class EA projects (where the project includes an activity that is a threat to drinking water) and prescribed instruments must conform with policies that address significant risks to drinking water and must have regard for policies that address moderate or low risks.

- The proponent should identify the source protection area and should clearly document how the proximity of the project to sources of drinking water (municipal or other) and any delineated vulnerable areas was considered and assessed. Specifically, the report should discuss whether or not the project is located in a vulnerable area and provide applicable details about the area.
- If located in a vulnerable area, proponents should document whether any project activities are prescribed drinking water threats and thus pose a risk to drinking water (this should be consulted on with the appropriate Source Protection Authority). Where an activity poses a risk to drinking water, the proponent must document and discuss in the report how the project adheres to or has regard to applicable policies in the local source protection plan. This section should then be used to inform and be reflected in other sections of the report, such as the identification of net positive/negative effects of alternatives, mitigation measures, evaluation of alternatives etc.
- While most source protection plans focused on including policies for significant drinking water threats in the WHPAs and IPZs it should be noted that even though source protection plan policies may not apply in HVAs, these are areas where aquifers are sensitive and at risk to impacts and within these areas, activities may impact the quality of sources of drinking water for systems other than municipal residential systems.
- In order to determine if this project is occurring within a vulnerable area, proponents can use [Source Protection Information Atlas](#), which is an online mapping tool available to the public. Note that various layers (including WHPAs, WHPA-Q1 and WHPA-Q2, IPZs, HVAs, SGRAs, EBAs, ICAs) can be turned on through the “Map Legend” bar on the left. The mapping tool will also provide a link to the appropriate source protection plan in order to identify what policies may be applicable in the vulnerable area.
- For further information on the maps or source protection plan policies which may relate to their project, proponents must contact the appropriate source protection authority. **Please consult with the local source protection authority to discuss potential impacts on drinking water. Please document the results of that consultation within the report and include all communication documents/correspondence.**

More Information

For more information on the *Clean Water Act*, source protection areas and plans, including specific information on the vulnerable areas and drinking water threats, please refer to [Conservation Ontario's website](#) where you will also find links to the local source protection plan/assessment report.

A list of the prescribed drinking water threats can be found in [section 1.1 of Ontario Regulation 287/07](#) made under the *Clean Water Act*. In addition to prescribed drinking water threats, some source protection plans may include policies to address additional "local" threat activities, as approved by the MECP.

Climate Change

The document "[Considering Climate Change in the Environmental Assessment Process](#)" (Guide) is now a part of the Environmental Assessment program's Guides and Codes of Practice. The Guide sets out the MECP's expectation for considering climate change in the preparation, execution and documentation of environmental assessment studies and processes. The guide provides examples, approaches, resources, and references to assist proponents with consideration of climate change in their study. Proponents should review this Guide in detail.

• **The MECP expects proponents of Environmental Screening projects to:**

1. Consider during the assessment of alternative solutions and alternative designs, the following:
 - a. the project's expected production of greenhouse gas emissions and impacts on carbon sinks (climate change mitigation); and
 - b. resilience or vulnerability of the undertaking to changing climatic conditions (climate change adaptation).
2. Include a discrete section in the report detailing how climate change was considered in the Environmental Screening.

How climate change is considered can be qualitative or quantitative in nature and should be scaled to the project's level of environmental effect. In all instances, both a project's impacts on climate change (mitigation) and impacts of climate change on a project (adaptation) should be considered. **Please ensure climate change is considered in the report.**

- The MECP has also prepared another guide to support provincial land use planning direction related to the completion of energy and emission plans. The "[Community Emissions Reduction Planning: A Guide for Municipalities](#)" document is designed to educate stakeholders on the municipal opportunities to reduce energy and greenhouse gas emissions, and to provide guidance on methods and techniques to incorporate consideration of energy and greenhouse gas emissions into municipal activities of all types. We encourage you to review the Guide for information.

□ Air Quality, Dust and Noise

- If there are sensitive receptors in the surrounding area of this project, a quantitative air quality/odour impact assessment will be useful to evaluate alternatives, determine impacts and identify appropriate mitigation measures. The scope of the assessment can be determined based on the potential effects of the proposed alternatives, and typically includes source and receptor characterization and a quantification of local air quality impacts on the sensitive receptors and the environment in the study area. The assessment will compare to all applicable standards or guidelines for all contaminants of concern. **Please contact this office for further consultation on the level of Air Quality Impact Assessment required for this project if not already advised.**
- If a quantitative Air Quality Impact Assessment is not required for the project, the MECP expects that the report contain a qualitative assessment which includes:
 - A discussion of local air quality including existing activities/sources that significantly impact local air quality and how the project may impact existing conditions;
 - A discussion of the nearby sensitive receptors and the project's potential air quality impacts on present and future sensitive receptors;
 - A discussion of local air quality impacts that could arise from this project during both construction and operation; and
 - A discussion of potential mitigation measures.
- As a common practice, "air quality" should be used as an evaluation criterion for all road projects.
- Dust and noise control measures should be addressed and included in the construction plans to ensure that nearby residential and other sensitive land uses within the study area are not adversely affected during construction activities.
- The MECP recommends that non-chloride dust-suppressants be applied. For a comprehensive list of fugitive dust prevention and control measures that could be applied, refer to [Cheminfo Services Inc. Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities](#) report prepared for Environment Canada. March 2005.
- The report should consider the potential impacts of increased noise levels during the operation of the completed project. The proponent should explore all potential measures to mitigate significant noise impacts during the assessment of alternatives.

□ **Ecosystem Protection and Restoration**

- Any impacts to ecosystem form and function must be avoided where possible. The report should describe any proposed mitigation measures and how project planning will protect and enhance the local ecosystem.
- Natural heritage and hydrologic features should be identified and described in detail to assess potential impacts and to develop appropriate mitigation measures. The following sensitive environmental features may be located within or adjacent to the study area:
 - Key Natural Heritage Features: Habitat of endangered species and threatened species, fish habitat, wetlands, areas of natural and scientific interest (ANSIs), significant valleylands, significant woodlands; significant wildlife habitat (including habitat of special concern species); sand barrens, savannahs, and tallgrass prairies; and alvars.
 - Key Hydrologic Features: Permanent streams, intermittent streams, inland lakes and their littoral zones, seepage areas and springs, and wetlands.
 - Other natural heritage features and areas such as: vegetation communities, rare species of flora or fauna, Environmentally Sensitive Areas, Environmentally Sensitive Policy Areas, federal and provincial parks and conservation reserves, Greenland systems etc.

We recommend consulting with the Ministry of Natural Resources and Forestry (MNRF), Fisheries and Oceans Canada (DFO) and your local conservation authority to determine if special measures or additional studies will be necessary to preserve and protect these sensitive features. In addition, for projects located in Central Region you may consider the provisions of the Rouge Park Management Plan if applicable.

□ **Species at Risk**

- The Ministry of the Environment, Conservation and Parks has now assumed responsibility of Ontario's Species at Risk program. Information, standards, guidelines, reference materials and technical resources to assist you are found at <https://www.ontario.ca/page/species-risk>.
- The Client's Guide to Preliminary Screening for Species at Risk (Draft May 2019) has been attached to the covering email for your reference and use. Please review this document for next steps.
- For any questions related to subsequent permit requirements, please contact SAROntario@ontario.ca.

□ **Surface Water**

- The report must include enough information to demonstrate that there will be no negative impacts on the natural features or ecological functions of any watercourses within the study area. Measures should be included in the planning and design process to ensure that any impacts to watercourses from construction or operational activities (e.g. spills, erosion, pollution) are mitigated as part of the proposed undertaking.
- Additional stormwater runoff from new pavement can impact receiving watercourses and flood conditions. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing surfaces. The ministry's [Stormwater Management Planning and Design Manual \(2003\)](#) should be referenced in the report and utilized when designing stormwater control methods. **A Stormwater Management Plan should be prepared as part of the Environmental Screening Process** that includes:
 - Strategies to address potential water quantity and erosion impacts related to stormwater draining into streams or other sensitive environmental features, and to ensure that adequate (enhanced) water quality is maintained
 - Watershed information, drainage conditions, and other relevant background information
 - Future drainage conditions, stormwater management options, information on erosion and sediment control during construction, and other details of the proposed works
 - Information on maintenance and monitoring commitments.
- Any potential approval requirements for surface water taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, except for certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the [Water Taking User Guide for EASR](#) for more information. Additionally, an Environmental Compliance Approval under the OWRA is required for municipal stormwater management works.

□ **Groundwater**

- The status of, and potential impacts to any well water supplies should be addressed. If the project involves groundwater takings or changes to drainage patterns, the quantity and quality of groundwater may be affected due to drawdown effects or the redirection of existing contamination flows. In addition, project activities may infringe on existing wells

such that they must be reconstructed or sealed and abandoned. Appropriate information to define existing groundwater conditions should be included in the report.

- If the potential construction or decommissioning of water wells is identified as an issue, the report should refer to Ontario Regulation 903, Wells, under the OWRA.
- Potential impacts to groundwater-dependent natural features should be addressed. Any changes to groundwater flow or quality from groundwater taking may interfere with the ecological processes of streams, wetlands or other surficial features. In addition, discharging contaminated or high volumes of groundwater to these features may have direct impacts on their function. Any potential effects should be identified, and appropriate mitigation measures should be recommended. The level of detail required will be dependent on the significance of the potential impacts.
- Any potential approval requirements for groundwater taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, with the exception of certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the [Water Taking User Guide for EASR](#) for more information.
- Consultation with the railroad authorities is necessary wherever there is a plan to use construction dewatering in the vicinity of railroad lines or where the zone of influence of the construction dewatering potentially intercepts railroad lines.

Excess Materials Management

- In December 2019, MECP released a new regulation under the Environmental Protection Act, titled “On-Site and Excess Soil Management” (O. Reg. 406/19) to support improved management of excess construction soil. This regulation is a key step to support proper management of excess soils, ensuring valuable resources don’t go to waste and to provide clear rules on managing and reusing excess soil. New risk-based standards referenced by this regulation help to facilitate local beneficial reuse which in turn will reduce greenhouse gas emissions from soil transportation, while ensuring strong protection of human health and the environment. The new regulation is being phased in over time, with the first phase in effect on January 1, 2021. For more information, please visit <https://www.ontario.ca/page/handling-excess-soil>.
- The report should reference that activities involving the management of excess soil should be completed in accordance with O. Reg. 406/19 and the MECP’s current guidance

document titled "[Management of Excess Soil – A Guide for Best Management Practices](#)" (2014).

- All waste generated during construction must be disposed of in accordance with ministry requirements.

Contaminated Sites

- Any current or historical waste disposal sites should be identified in the report. The status of these sites should be determined to confirm whether approval pursuant to Section 46 of the EPA may be required for land uses on former disposal sites. We recommend referring to the [MECP's D-4 guideline](#) for land use considerations near landfills and dumps.
 - Resources available may include regional/local municipal official plans and data; provincial data on [large landfill sites](#) and [small landfill sites](#); Environmental Compliance Approval information for waste disposal sites on [Access Environment](#).
- Other known contaminated sites (local, provincial, federal) in the study area should also be identified in the report (Note – information on federal contaminated sites is found on the Government of Canada's [website](#)).
- The location of any underground storage tanks should be investigated in the report. Measures should be identified to ensure the integrity of these tanks and to ensure an appropriate response in the event of a spill. The ministry's Spills Action Centre must be contacted in such an event.
- Since the removal or movement of soils may be required, appropriate tests to determine contaminant levels from previous land uses or dumping should be undertaken. If the soils are contaminated, you must determine how and where they are to be disposed of, consistent with *Part XV.1 of the Environmental Protection Act* (EPA) and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up. Please contact the appropriate MECP District Office for further consultation if contaminated sites are present.

Servicing, Utilities and Facilities

- The report should identify any above or underground utilities in the study area such as transmission lines, telephone/internet, oil/gas etc. The owners should be consulted to discuss impacts to this infrastructure, including potential spills.
- The report should identify any servicing infrastructure in the study area such as wastewater, water, stormwater that may potentially be impacted by the project.

- Any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste must have an Environmental Compliance Approval (ECA) before it can operate lawfully. Please consult with MECP's Environmental Permissions Branch to determine whether a new or amended ECA will be required for any proposed infrastructure.
- We recommend referring to the ministry's [environmental land use planning guides](#) to ensure that any potential land use conflicts are considered when planning for any infrastructure or facilities related to wastewater, pipelines, landfills or industrial uses.

□ **Mitigation and Monitoring**

- Contractors must be made aware of all environmental considerations so that all environmental standards and commitments for both construction and operation are met. Mitigation measures should be clearly referenced in the report and regularly monitored during the construction stage of the project. In addition, we encourage proponents to conduct post-construction monitoring to ensure all mitigation measures have been effective and are functioning properly.
- Design and construction reports and plans should be based on a best management approach that centres on the prevention of impacts, protection of the existing environment, and opportunities for rehabilitation and enhancement of any impacted areas.

□ **Consultation**

- The report must demonstrate how the consultation provisions of the Environmental Screening Process have been fulfilled, including documentation of all stakeholder consultation efforts undertaken during the planning process. This includes a discussion in the report that identifies concerns that were raised and **describes how they have been addressed by the proponent** throughout the planning process. The report should also include copies of comments submitted on the project by interested stakeholders, and the proponent's responses to these comments (as directed by the Environmental Screening Process to include full documentation).
- Please include the full stakeholder distribution/consultation list in the documentation.

□ **Environmental Screening Process**

- The purpose of the Environmental Screening report is to document the process followed and the conclusions reached. It should provide clear and complete documentation of the planning process in order to allow for transparency in decision-making and to allow for its

timely review by government agencies, and interested persons, including Indigenous communities.

- The Environmental Screening Process requires the consideration of the effects of the project on all aspects of the environment (including planning, natural, social, cultural, economic, technical). The report should include a level of detail (e.g. hydrogeological investigations, terrestrial and aquatic assessments, cultural heritage assessments) such that all potential impacts can be identified, and appropriate mitigation measures can be developed. Any supporting studies conducted during the Environmental Screening Process should be referenced and included as part of the report.
- Please include in the report a list of all subsequent permits or approvals that may be required for the implementation of the project, including but not limited to, MECP's PTTW, EASR Registrations and ECAs, conservation authority permits, species at risk permits, MTO permits and approvals under the *Impact Assessment Act*, 2019.

Proponents are encouraged to circulate a draft of the Environmental Screening Report to the appropriate government agencies, interested persons and Indigenous communities for comment prior to the formal review periods.

- Ministry guidelines and other information related to the issues above are available at <http://www.ontario.ca/environment-and-energy/environment-and-energy>. We encourage you to review all the available guides and to reference any relevant information in the report.

Once the Environmental Screening Report is finalized, the proponent must issue a Notice of Completion providing a minimum 60-day period during which documentation may be reviewed and comment and input can be submitted to the proponent. The Notice of Completion must be sent to the appropriate MECP Regional Office email address.

The public can submit an elevation request, which requests a higher level of assessment on a project if they have outstanding environmental concerns. In addition, at any point in the Environmental Screening Process, including prior to any elevation request, if the Director determines that a project: is likely to have a significant negative environmental effect(s), and that the scope and scale of these effects are such that an environmental assessment under Part II of the *Environmental Assessment Act* is required, or for any other reason that the Director considers appropriate, the Director may give a notice to the proponent requiring that an environmental assessment be prepared.

The proponent cannot proceed with the project until at least 30 days after the end of the comment period provided for in the Notice of Completion. Further, the proponent may not proceed after this time if:

- an elevation request has been submitted by any interested person including Indigenous communities to the ministry regarding outstanding environmental concerns, or
- the Director has given notice to the proponent requiring that an environmental assessment be prepared.

Please ensure that the Notice of Completion advises that outstanding concerns are to be directed to the proponent for a response, and that in the event there are outstanding environmental concerns, elevation requests should be addressed in writing to:

Director, Environmental Assessment Branch
Ministry of Environment, Conservation and Parks
135 St. Clair Ave. W, 1st Floor
Toronto ON, M4V 1P5
EABDirector@ontario.ca

For more information on the Environmental Screening Process and environmental assessment requirements for waste management projects, please visit the following link: [Guide to environmental assessment requirements for waste management projects | ontario.ca](#).

"Inspiring a Healthy Environment"

November 22, 2022

Azimuth Environmental Consulting Inc.
642 Welham Rd Unit 101
Barrie, ON L4N 9A1

Attention: Colin Ross - via e-mail – (colin@azimuthenvironmental.com)

Dear Mr. Ross

**Re: Notice of Project Commencement and Notice of Public Meeting
South Easthope Landfill Expansion Project
Township of Perth East**

We are in receipt of the "Notice of Project Commencement" as well as "Notice of Public Meeting" regarding review of the Environmental Screening Process for the South Easthope Landfill Expansion Project in the Township of Perth East. We offer the following comments:

(Please note that our scope of review is based on the policies set out in the *Upper Thames River Conservation Authority Planning Policy Manual (June 28, 2006)*. Environmental Screening review for the proposed landfill expansion project would generally be guided by, but not limited to, natural heritage, natural hazard, and pollution prevention areas of concern for lands regulated within our jurisdiction.

The *Upper Thames River Source Protection Area Assessment Report* has also been reviewed in order to confirm whether these lands are located in a vulnerable area.)

General Comments

- 1) We appreciate being contacted early in the process and have reviewed the information in the screening criteria checklist. For the majority of the screening checklist responses we will defer to the expertise of the Ministry of the Environment, Conservation and Parks. In the absence of details on the size and configuration of the proposed expansion it is difficult for us to provide detailed comments at this time. Instead we are providing general comments regarding the landfill expansion and/or EA study in general.
- 2) Please note that we have no objection to an appropriately sized/designed landfill expansion at this location provided environmental protections are in place which would include items such as proper buffers being maintained from the protected natural hazard and natural heritage features, appropriate stormwater management upgrades are implemented if required and protection of surface and groundwater quality (including drinking water) is addressed in the landfill design.
- 3) Related to Item #2 hopefully the technical studies will address appropriate buffers from the natural hazard and heritage features for the proposed landfill expansion?

- 4) We would appreciate the opportunity for our technical staff to review and provide comments on any upcoming documents and technical reports regarding the proposed landfill expansion including the environmental screening report, environmental study report and any hydrogeology and stormwater management reports/plans.

UTRCA Regulated Areas

- 5) The existing landfill property is affected by natural hazard and natural heritage features regulated by the UTRCA. Flood and erosion hazard lands associated with a watercourse known as the Wilhelm Municipal Drain and associated tributaries exist within the study area. The woodland on the property is protected and has been identified as being Significant in the Perth County Official Plan. Mapping which outlines these features is attached.
- 6) Our staff can provide digital mapping which outlines the boundaries of the natural heritage and natural hazard features as well as Drinking Water Source Protection Areas present within the study area. Our digital mapping may be obtained by contacting our GIS department (contact: Phil Simm, 519-451-2800 x 247). Generally there is a fee involved with obtaining digital mapping of our natural heritage and natural hazard features but this fee will be waived as the mapping is intended for use by one of our member municipalities for the purposed of an Environmental Assessment.

Hydrology/Hydraulic Considerations

- 7) Any proposed work or activity in the vicinity of these natural hazards should be designed: a) with regard for the potential for flooding and erosion; and b) to avoid exacerbating flood and erosion concerns on upstream and/or downstream properties. Opportunities to reduce existing natural hazards such as existing flooding and erosion issues should be considered (where possible) through this EA study.

Please note:

In the case of riverine flood hazards, the Province has established the minimum Regulatory Flood Standard to be the 1:100 Year Flood. Although the 100 Year (1% risk of occurrence in any given year) is established as the minimum, the Regulatory Flood Standard for the UTRCA is the 1937 Observed Flood (1:250 Year Flood or 0.4 % risk of occurrence in any given year) as approved by the Minister of Natural Resources in 1989.

Stormwater Management

- 8) If it becomes necessary to enlarge the existing Stormwater Management (SWM) pond or construct a secondary one we note that a SWM Report and plans will be required that confirm how post-development flows will be controlled to pre-development flows for all storm events up to and including the Regulatory (1: 250) Year Storm;
- 9) Please note Enhanced Quality Control will be required at this location;
- 10) With regards to any SWM facility upgrades please note that the UTRCA takes the 1: 250 Year storm as our regulatory storm event standard. Please ensure any reports and

modeling provide controls for all events up to and including the 250-year storm under the post-development landfill conditions;

- 11) The watercourses downstream of the existing landfill have been identified as cold/cool water systems. Stormwater is generally considered to be a contributing factor in the thermal enrichment of watercourses rather than a cooling factor. Please ensure the studies provide recommendations and mitigation measures in the design of the landfill expansion to address this and to protect the watercourses from thermal (warming) impacts;

Drinking Water Source Protection

- 12) The existing landfill site falls within the Wellhead Protection Area of the Tavistock Municipal Water Supply system;
- 13) In terms of Drinking Water Source Protection, we suggest the Environmental Assessment process is the best time to consider regulatory requirements of the Clean Water Act (CWA) and Source Protection Plan as well as designated vulnerable areas;
- 14) In the assessment of alternatives it will be important to consider the impacts on vulnerable areas. The comparison of alternatives should also consider whether there are any activities associated with the alternatives that would be threats to the drinking water sources. You may wish to engage the municipal Risk Management Official to identify whether landfill expansion may affect the wells, including the Tavistock Municipal Water Supply and those of any private landowners who may be affected by the project;
- 15) The municipality is required by s. 27(3) of O. Reg. 287/07 to notify the CA of the creation of, or modification of any transport pathways;
- 16) The CWA has very specific requirements for notification related to those who are engaged in significant drinking water threats as a result of revisions to the Assessment Report and Source Protection Plan. It is important that this be considered to ensure that those affected by the proposal are engaged through the proposed Landfill Expansion EA process while alternatives are being considered;
- 17) If the proponents have questions on how source protection and the local plan may affect the proposed alternatives they may contact UTRCA Drinking Water Source Protection (DWSP) staff or their municipal Risk Management Official (RMO).

Summary

Please be advised that we have not yet received enough information to provide detailed comments regarding the project. However, we appreciate being contacted early in the process and are always open to meeting with you to discuss and work through any concerns or complications along the way.

UTRCA Comments

Notice of Study Commencement – HW 401 Class EA

Our office would like to be included in future circulations regarding this project. We would appreciate receiving information and reports as they become available in order to ensure that we can meet the project deadlines with our comments.

While it is anticipated that some of these comments can be dealt with at the detail design stage, we are providing them in advance in order to facilitate early consultation if necessary.

If you have any questions regarding the above information, please contact the undersigned.

Yours truly,
UPPER THAMES RIVER CONSERVATION AUTHORITY

A handwritten signature in black ink, appearing to read 'BDL', with a horizontal line extending from the bottom of the 'L'.

Ben Dafoe
Land Use Regulations Officer

Adam McClelland

From: Philip Simm [simmp@thamesriver.on.ca]
Sent: December 13, 2022 1:39 PM
To: Adam McClelland
Cc: Dafoe, Ben
Subject: RE: Information request - South Easthope landfill
Attachments: UTRCA_Data.zip

Hi Adam,

I have attached our natural hazard information in Esri geodatabase format.

There is some natural heritage information on our data download site:

<https://thamesriver-camaps.hub.arcgis.com/search?tags=natural%20heritage>

Also, the County of Perth might have additional data if you haven't already contacted them.

Regards,
phil.



Philip Simm

GIS Specialist

1424 Clarke Road London, Ontario, N5V 5B9

519.451.2800 Ext. 247 | Fax: 519.451.1188

simmp@thamesriver.on.ca | www.thamesriver.on.ca

>>> Adam McClelland <AMcClelland@azimuthenvironmental.com> 12/12/2022 1:35 PM >>>

Hello Phil,

I am following up on my previous email. Any information the UTRCA is able to provide is appreciated.
Thanks!

Sincerely,

Adam McClelland, B.Sc.
Terrestrial Ecologist

Merry Christmas and Happy Holidays!

Please note the Azimuth office will be closed from Dec 24, 2022 and reopening on January 3, 2023.

Azimuth Environmental Consulting, Inc.

642 Welham Road

Barrie, Ontario, L4N 9A1

Office: (705) 721-8451 x(204)

Cell: (705) 305-5106

www.azimuthenvironmental.com

Providing services in hydrogeology, terrestrial and aquatic ecology & environmental engineering

Please consider the environment before printing this correspondence

From: Adam McClelland
Sent: November 28, 2022 2:28 PM
To: 'simmp@thamesriver.on.ca'

Cc: 'dafoeb@thamesriver.on.ca'

Subject: Information request - South Easthope landfill

Hello Phil,

Azimuth has recently been in contact with the UTRCA regarding the South Easthope Landfill expansion in the Township of Perth East, and the UTRCA has offered to provide digital mapping of the area. We would like to request any natural heritage or natural hazard data that the UTRCA is able to provide. The address is 2439 Line 29, Township of Perth East (please see the attached figure). Thanks in advance.

Sincerely,

Adam McClelland, B.Sc.
Terrestrial Ecologist

Azimuth Environmental Consulting, Inc.
642 Welham Road
Barrie, Ontario, L4N 9A1
Office: (705) 721-8451 x(204)
Cell: (705) 305-5106
www.azimuthenvironmental.com

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Please consider the environment before printing this correspondence

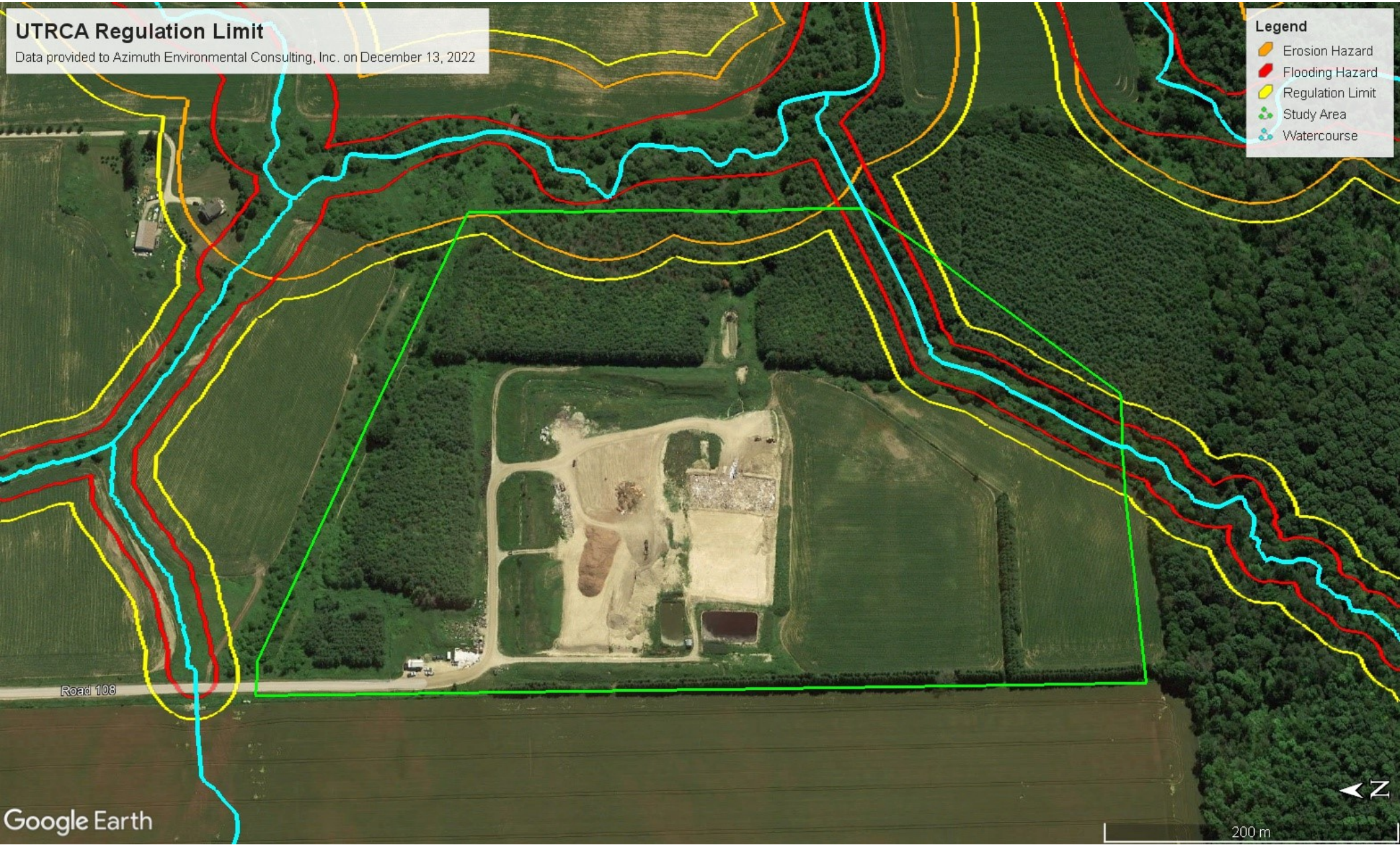
<The contents of this e-mail and any attachments are intended for the named recipient(s). This e-mail may contain information that is privileged, confidential and/or exempt from disclosure under applicable law. If you have received this message in error, are not the named recipient(s), or believe that you are not the intended recipient immediately notify the sender and permanently delete this message without reviewing, copying, forwarding, disclosing or otherwise using it or any part of it in any form whatsoever.>

UTRCA Regulation Limit

Data provided to Azimuth Environmental Consulting, Inc. on December 13, 2022

Legend

- Erosion Hazard
- Flooding Hazard
- Regulation Limit
- Study Area
- Watercourse



Road 108

Google Earth

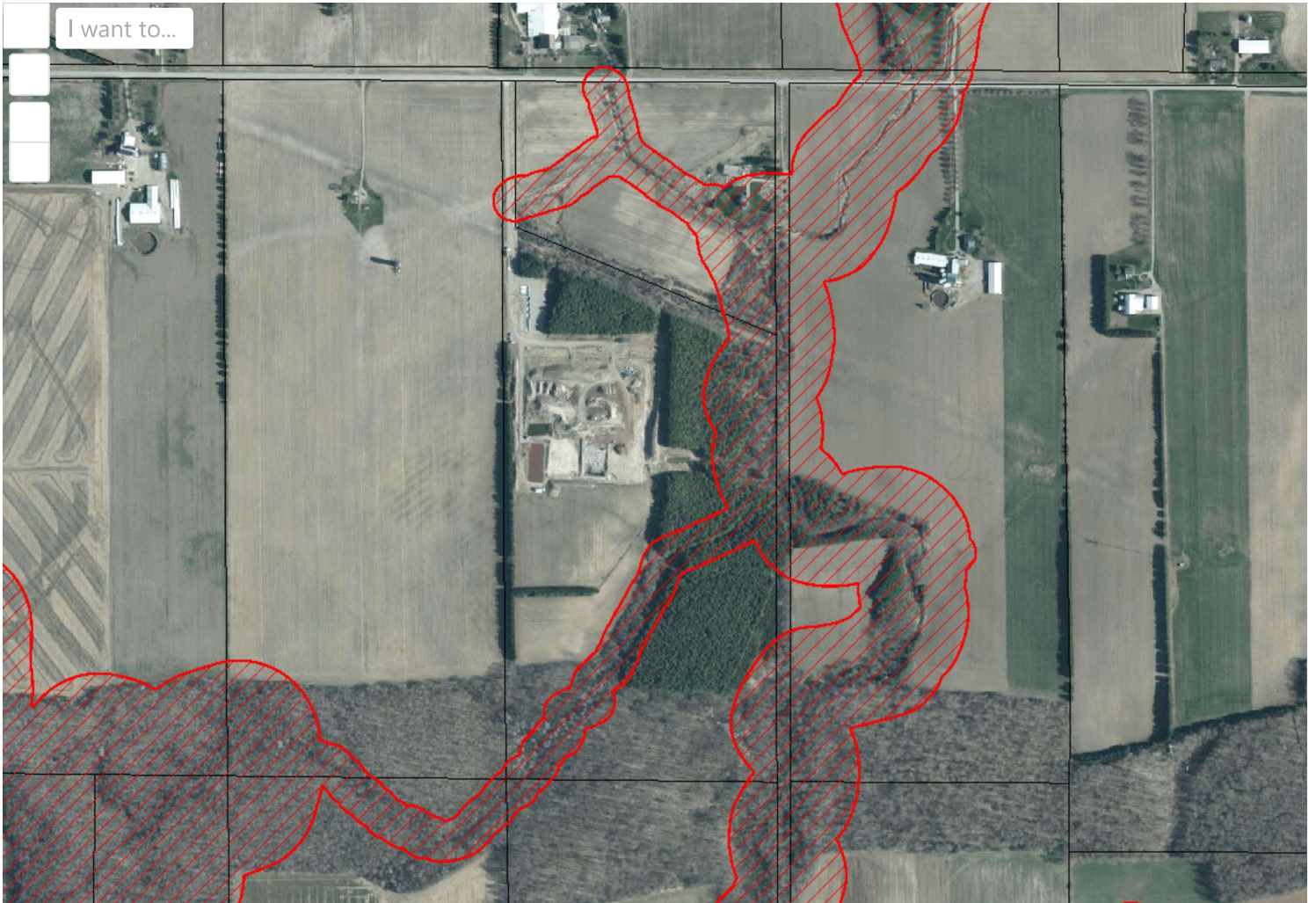
200 m

Navigate Identify Measure

Tool Labels ×

- Pan
- Zoom In
- Zoom Out
- Initial View
- Previous Extent
- Next Extent
- Clear Results

Pan & Zoom Tools



Imagery...

WKID: 4326 Lat/Long ▲

Lat: 43.334° N
Lon: 80.851° W

0 100 200m

Scale 1: 9,028

Go



APPENDIX B

Photographic Record



Photograph 1: Naturalized vegetation patch in the landfill (Disposal and Recycle – CVI2). Looking southeast. (September 20, 2022)



Photograph 2: Fencerow (TAGM5). Looking southwest. (September 20, 2022)



Photograph 3: Dry-Fresh White Pine Naturalized Coniferous Plantation (FOCM6-1). Looking northeast. (September 20, 2022)



Photograph 4: Fresh-Moist Deciduous Thicket (THDM5a). Looking southeast. (September 20, 2022)



Photograph 5: Fresh-Moist Deciduous Thicket (THDM5b). Looking southeast. (September 20, 2022)

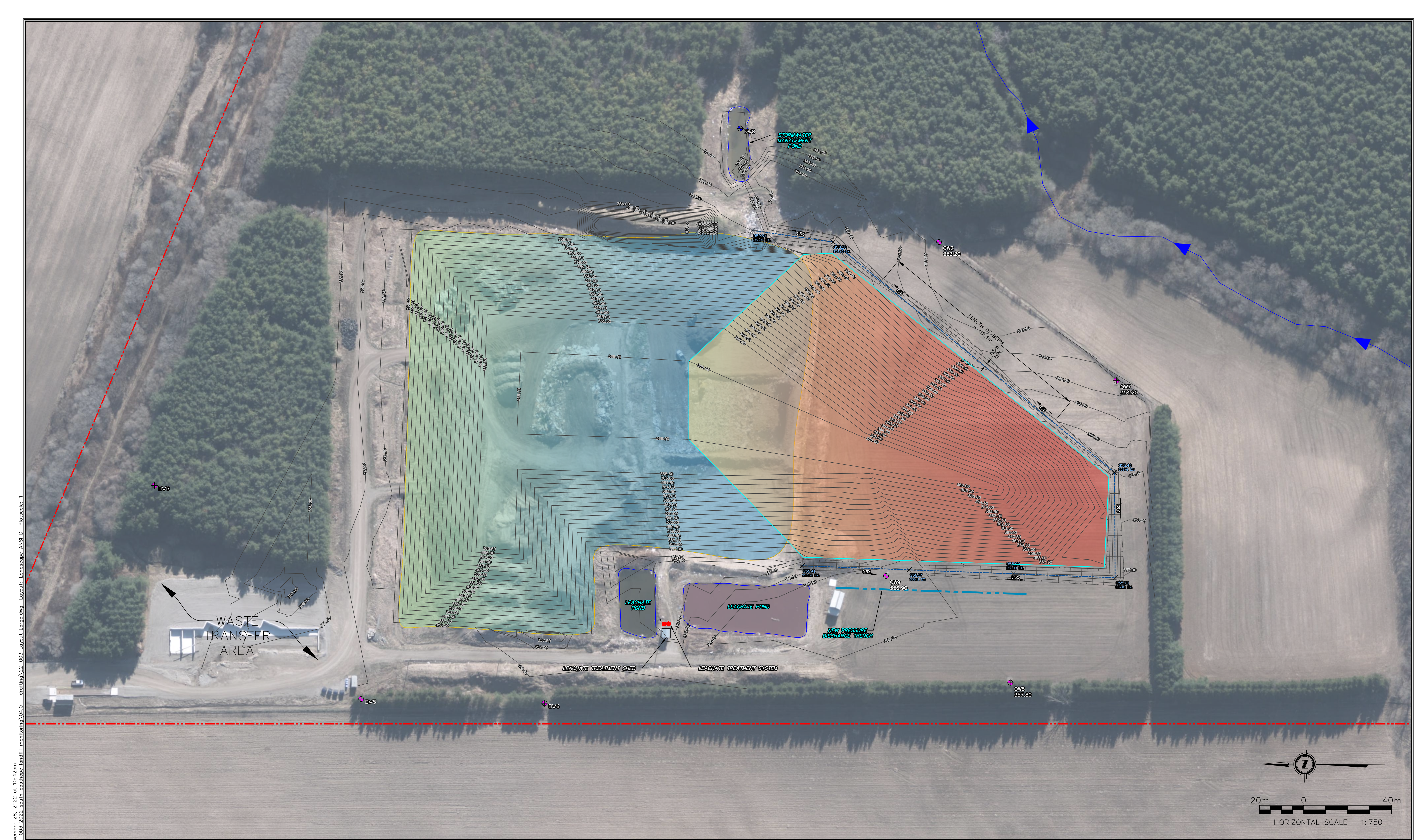


Photograph 6: Wilhelm Municipal Drain, east of the study area. (October 18, 2022)



APPENDIX C

Proposed Site Plan



Plotted by: ALP on November 28, 2022 at 10:42am
 File: Q:\22-projects\22-003_2022_south_easthope_landfill_monitoring\04_0 - drafting\22-003_Layout_Large.dwg Layout: Landscape ANSI D - PlotScale: 1



LEGEND:	
	APPROX. PROPERTY BOUNDARY
	WATERCOURSE
	PROPOSED SURFACE CONTOURS
	PROPOSED PERIMETER DRAIN CENTRELINE
	PERIMETER DRAIN SLOPE LINE
	LTS TRENCH ALIGNMENT
	MONITORING WELL LOCATION
	SURFACE WATER MONITORING LOCATION
	APPROVED WASTE FOOTPRINT AREA
	PROPOSED EXPANDED WASTE FOOTPRINT AREA

SOUTH EASTHOPE LANDFILL EXPANSION
PERTH EAST, ON

PROPOSED EXPANSION
DESIGN

DATE ISSUED:	NOVEMBER 2022	DWG No. 1A
CREATED BY:	A.L.	
PROJECT NO.:	22-003	
REFERENCE:	PERTH COUNTY	



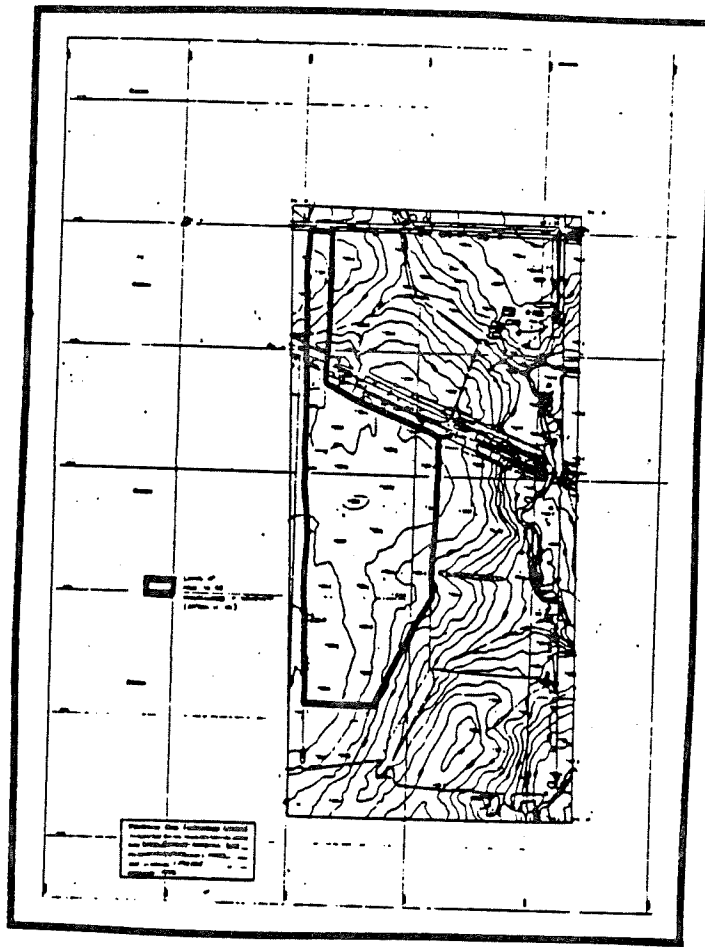
APPENDIX H

Archaeology Assessment

APPENDIX B

REPORT BY ARCHAEOLOGICAL SERVICES INC.

ON THE ARCHAEOLOGIC SURVEY



**ARCHAEOLOGICAL RESOURCE ASSESSMENT
OF THE
PROPOSED LANDFILL SITE
PART OF LOT 26, CONCESSION 5
TOWNSHIP OF SOUTH EASTHOPE**

AUGUST 1987

An Archaeological Resource Assessment
of the
Proposed Landfill Site,
Township of South Easthope

Submitted to

R. Cave and Associates Ltd.
Oakville, Ontario

Prepared by

ARCHAEOLOGICAL SERVICES INC.
662 Bathurst St.
Toronto, Ontario
(416) 531-6396

August 1987

ARCHAEOLOGICAL RESOURCE ASSESSMENT

OF THE

PROPOSED LANDFILL SITE, PART OF LOT 26, CONCESSION 5, TOWNSHIP OF SOUTH EASTHOPE, ONTARIO

INTRODUCTION

Archaeological Services Inc. was contracted by R. Cave and Associates Ltd. of Oakville, Ontario to conduct an archaeological resource assessment of the above proposed landfill site located on Part of Lot 26, Concession 5, Township of South Easthope (see Figures 1 and 2). The subject lands encompass an area of approximately eleven hectares.

The survey was conducted by Mr. Andrew Clish, Ms. Margot Snyder, Ms. Jackie Fisher, and Mr. Andrew Schoenhofer under the direction of Dr. Ron Williamson during the second week of August, 1987 in accordance with the Ontario Heritage Act (1974) under an archaeological consulting license (87-16) issued to Archaeological Services Inc. No archaeological resources have been previously documented either directly on, or within five kilometers of, the subject property.

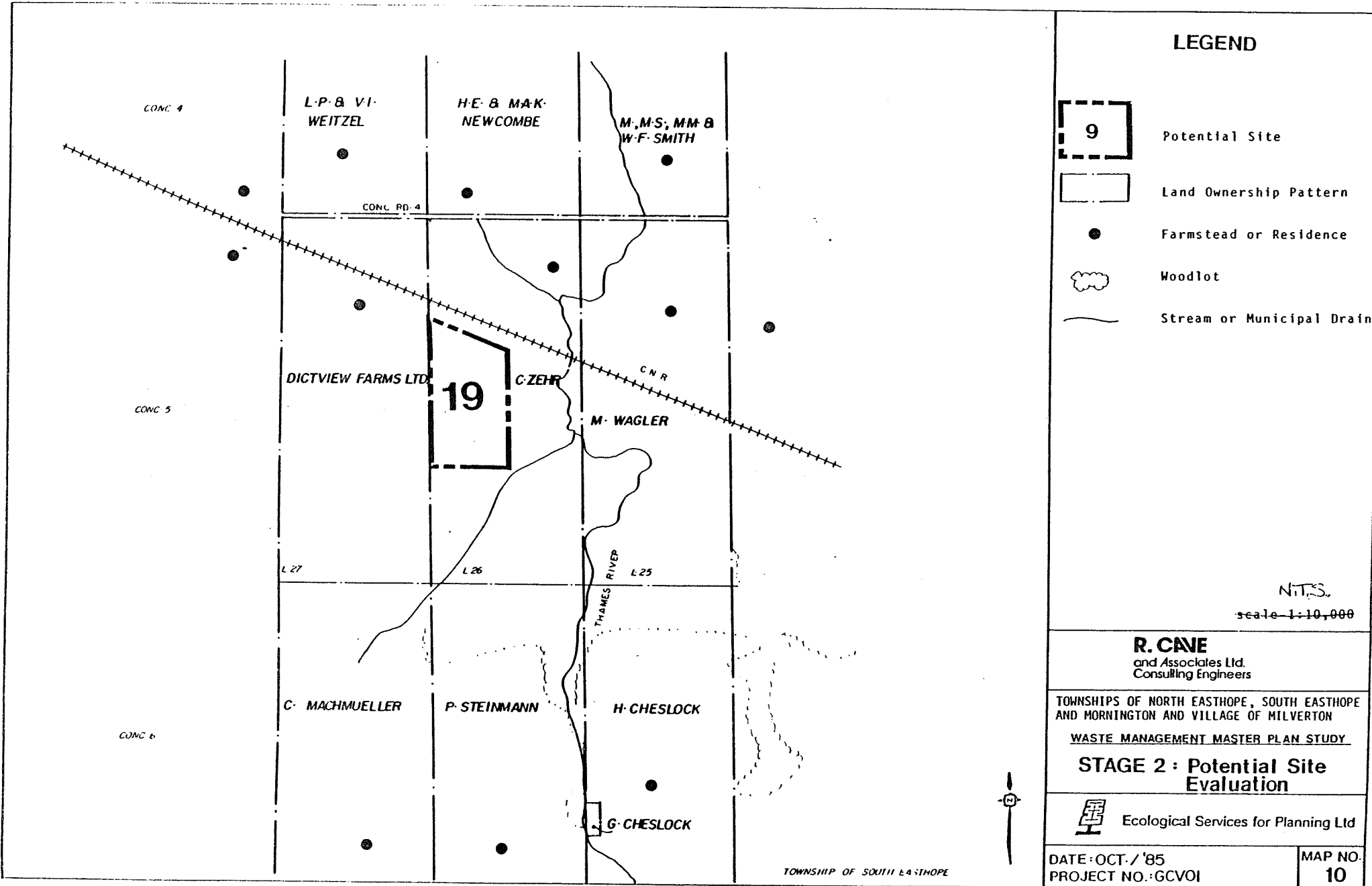
FIELD RESEARCH

Since all of the property had been recently ploughed, survey was accomplished through intensive and systematic surface collection with transect intervals of eight to ten metres. Field conditions were excellent as a result of the recent cultivation and visibility of surface debris was heightened by recent rains. Despite careful examination of the property, no artifactual remains were recovered.

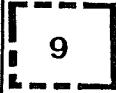




RECOMMENDATIONS

The property would therefore appear to be free of further archaeological concern.

Figure 1



LEGEND

-  Potential Site
-  Land Ownership Pattern
-  Farmstead or Residence
-  Woodlot
-  Stream or Municipal Drain

N.T.S.
scale 1:10,000

R. CNE
and Associates Ltd.
Consulting Engineers

TOWNSHIPS OF NORTH EASTHOPE, SOUTH EASTHOPE
AND MORNINGTON AND VILLAGE OF MILVERTON
WASTE MANAGEMENT MASTER PLAN STUDY

**STAGE 2: Potential Site
Evaluation**

 Ecological Services for Planning Ltd

DATE: OCT./'85 PROJECT NO.: GCV01	MAP NO. 10
--------------------------------------	----------------------

Figure 2

