HALDIMAND COUNTY

LAKE ERIE INDUSTRIAL PARK WASTEWATER TREATMENT SYSTEM

MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT ADDENDUM

February 11, 2022

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HALDIMAND COUNTY

ORIGINAL REPORT

FINAL

PROJECT NO.: 211-10308-00

DATE: FEBRUARY 11, 2022

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EXECUTIVE SUMMARY

In December 2011, Haldimand County, through its consultants AECOM, conducted a Schedule 'C' Municipal Class Environmental Assessment for the Lake Erie Industrial Park (LEIP) Wastewater Treatment System. The project was undertaken to identify alternative solutions to provide wastewater treatment and servicing capacity for the LEIP, Stelco, and surrounding settlements including Townsend and Jarvis (AECOM, 2011).

Based on the evaluation of alternative solutions documented in the 2011 Environmental Study Report (ESR) prepared for the project, Alternative 3 (site a new wastewater treatment plant at new location with a new outfall) was identified as the preferred wastewater treatment solution (AECOM, 2011). Two potential sites for the new wastewater treatment plant were identified and evaluated, and the preferred location was referred to as Site B.

Since filing of the Notice of Completion for the MCEA study on December 12, 2011, there has not been any significant new industrial development on the lands, and therefore, construction of the proposed wastewater infrastructure has not yet been initiated. In accordance with the MCEA process, if a project has not proceeded to implementation within ten years of the Notice of Completion, an Addendum to the ESR is required to address the lapse of time since approval under the *Environmental Assessment Act* was obtained.

The preferred solution and site identified in the 2011 ESR remain the same. The Addendum provides a summary of changes to the existing environmental conditions within the study area and identifies any changes to conditions that have occurred since the original 2011 ESR was completed.

Technical studies completed in support of this Addendum include an updated Natural Heritage Constraints Analysis; a Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment; an updated Stage 1 Archaeological Assessment; and a Phase One ESA. A summary of changes to the existing conditions in the study area since the 2011 ESR is provided in Section 3.0. Considerations for climate change have also been incorporated in this ESR Addendum in Section 4.0.

Based on updated information regarding existing conditions, as well as a review of relevant legislation, regulations and policies, an updated assessment of impacts and mitigation measures are included in the Addendum in Section 5.0.

To invite public, stakeholder and agency feedback as part of the preparation of the ESR Addendum, information was posted online on the County website on November 23, 2021, including background information, a project status update and contact information. Indigenous communities with a potential interest in the project were also engaged. A summary of public, stakeholder and Indigenous engagement is provided in Section 7.0.

A Notice of Filing of Addendum has been circulated to all potentially affected members of the public and review agencies, including all who were contacted during the original MCEA planning process. A period of 30 calendar days has been provided for review and response by the public. The Notice includes information about how to request a higher level of study (i.e., an individual or comprehensive EA) or that conditions be imposed (e.g., requiring further studies) by the Ministry of the Environment, Conservation and Parks (MECP) prior to proceeding to implementation of the project.

PROJECT PERSONNEL

WSP

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TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

1 INTRODUCTION

In December 2011, Haldimand County, through its consultant, AECOM, completed a Schedule 'C' Municipal Class Environmental Assessment (MCEA) for a new Lake Erie Industrial Park (LEIP) wastewater treatment plant (WWTP). The study was undertaken given that the existing LEIP wastewater system was reaching operational capacity and that future planned industrial park development would place further demands for additional capacity. The study also considered alternative scenarios to include wastewater treatment from the surrounding communities of Jarvis and Townsend. The study recommended construction of a new WWTP with a new outfall to Lake Erie, and is documented in an Environmental Study Report (ESR) (referred to as the 2011 ESR throughout).

The project study area considered in the 2011 study is generally bordered to the south by the Lake Erie shoreline, to the east by lands approximately 1,200 metres west of Nanticoke Road, to the west by the Haldimand County/Norfolk County municipal boundary and to the north by the northern limits of the LEIP (i.e., approximately 2,000 metres north of County Road 3) (AECOM, 2011). The LEIP is comprised of over 4,000 hectares (ha) or 10,000 acres (ac) of industrially zoned land, a significant portion of which are vacant. Major industries surrounding the site include Stelco Lake Erie Works (formerly U.S. Steel), Ontario Power Generation (OPG), and Imperial Oil (ESSO). The study area includes the Stelco industrial lands. Imperial Oil and the OPG Plant are adjacent to the study area. Figure 1 below illustrates the study area.

Since filing of the Notice of Completion for the MCEA study on December 12, 2011, there has not been any significant new industrial development on the lands, and therefore, construction of the proposed wastewater infrastructure has not yet been initiated. In accordance with the MCEA process, if a project has not proceeded to implementation within ten years of the Notice of Completion, an Addendum to the Environmental Study Report (ESR) is required to address the lapse of time since approval under the *Environmental Assessment Act* was obtained.

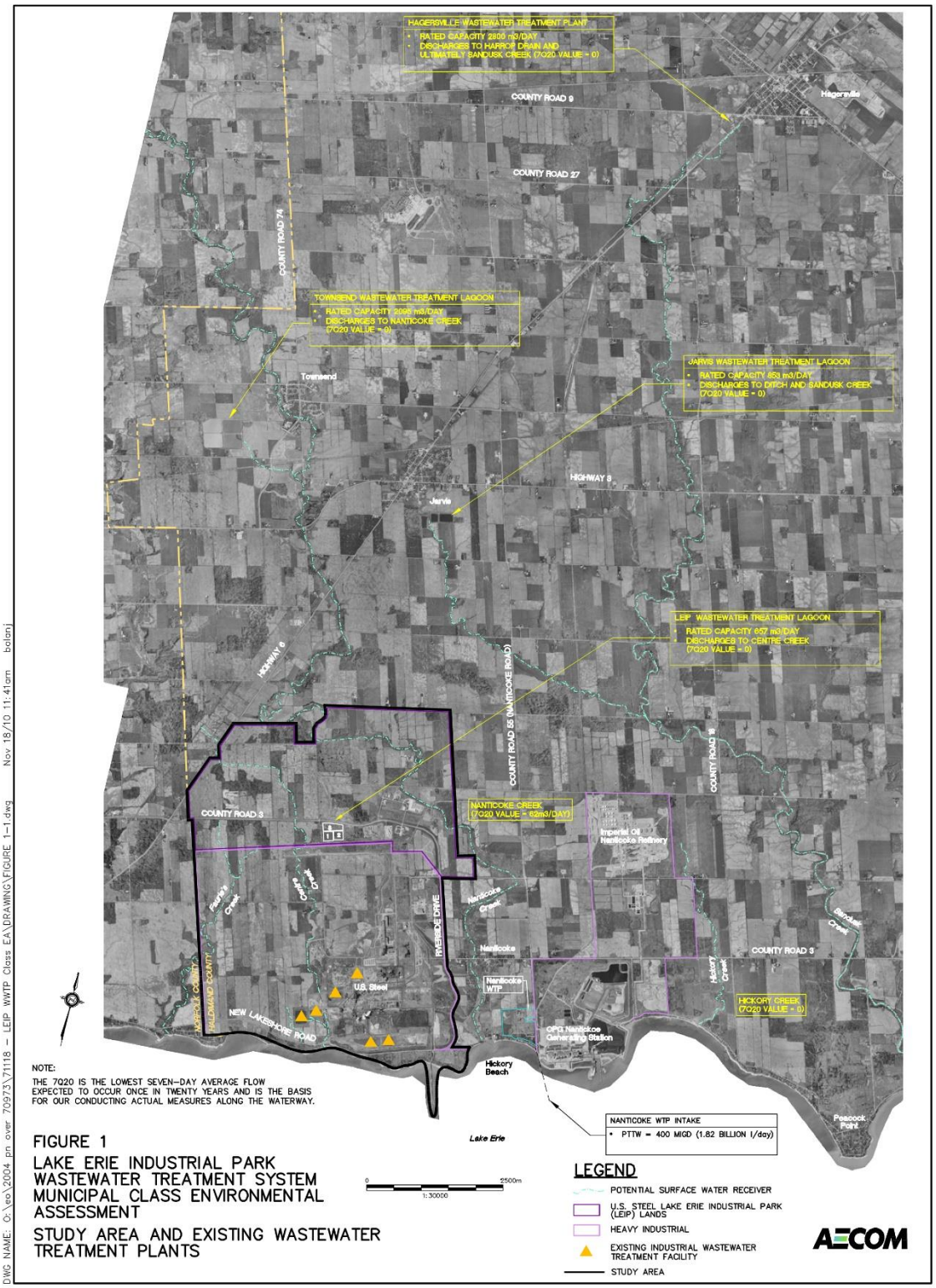

Figure 1-1: Lake Erie Industrial Park Study Area (AECOM, 2011)

1.1 SUMMARY OF 2011 ESR

The MCEA is a Class EA process that is approved under the Ontario *Environmental Assessment Act* (1990). The MCEA establishes a planning and approvals process for a variety of municipal infrastructure projects, including road, water and wastewater projects. It applies to projects that are carried out routinely and have predictable environmental effects that can be readily managed using established and effective mitigation measures.

The process that is implemented through the MCEA process ensures that the intent of the EAA is met by providing for: the identification of problems or opportunities; the identification, evaluation and selection of a preferred means of addressing the problems or opportunities, giving due regard to the need to protect the environment and minimize environmental effects; and, involving the public, stakeholders and Indigenous communities in the decision-making process.

The MCEA process is made up of five phases: (1) definition of problems / opportunities; (2) development and evaluation of alternative solutions; (3) development and evaluation of alternative design concepts; (4) preparation of an Environmental Study Report for public review; and (5) implementation. The 2011 ESR addressed Phases 1 through 4 of the MCEA process.

1.1.1 *PHASE 1 – PROBLEM / OPPORTUNITY STATEMENT*

Phase 1 of the MCEA process involves identification of the problem or opportunities to be addressed by the project. The problem / opportunity statement identified in the 2011 ESR is as follows:

> *The current LEIP wastewater treatment system is reaching its operational capacity. As a result of this and MOE restrictions on existing LEIP wastewater treatment facility expansion, a new LEIP wastewater treatment facility is required to meet current and future wastewater treatment capacity requirements. The study will also consider alternative service area scenarios, which could include the treatment of wastewater flows from surrounding communities such as Jarvis and Townsend at a new LEIP wastewater treatment facility. This also includes treatment of Haldimand County Lakeshore Area septage. Considering current and future wastewater treatment capacity demands and LEIP development potential, the wastewater servicing strategy needs to be developed based on short and long term solutions. (AECOM, 2011).*

1.1.2 *PHASE 2 – DEVELOPMENT OF ALTERNATIVE SOLUTIONS*

Phase 2 of the MCEA process involves developing alternative solutions to address the problems or opportunities identified in Phase 1. As documented in the 2011 ESR, alternative solutions to

address the existing and future wastewater treatment facility capacity requirements were developed. Eight alternative wastewater treatment solutions were evaluated:

1. Site new long term WWTP near existing lagoons
2. Site new package WWTP near existing lagoons and Outfall
3. Site new WWTP at new location with new outfall
4. Expand Upgrade current Lagoon system
5. Extend Municipal Sewers from adjacent system
6. Reduce wastewater flows
7. Limit Growth
8. Do nothing

Alternative 3 (site a new WWTP at a new location with new outfall) was identified as the preferred wastewater treatment solution as it could best address the problem / opportunity statement.

1.1.3 *PHASE 3 – DEVELOPMENT OF ALTERNATIVE DESIGNS*

Phase 3 of the MCEA process involves developing alternative designs (i.e., alternative methods to implement the preferred solution identified in Phase 2). Two candidate WWTP sites were identified and evaluated to identify a preferred design:

- Site A: located north of County Road 3 and is not part of Stelco industrial development lands. Since the site is the farthest from the discharge body (Lake Erie), a long land-based discharge pipe is required and would cross County Road 3
- Site B: located on the north side of New Lakeshore Road within Stelco land holdings. Site B is in close proximity to the discharge body (Lake Erie) and as such is not required to have a long land-based discharge pipe that would cross Centre Creek. A small lakeshore seasonal / residential area is located approximately 1 km to the west.

The location of both sites is illustrated in Figure 1-2. Site B was identified as the preferred site for the new LEIP WWTP. Site B was chosen due to several factors including: lowest construction and operational costs; maximized flexibility to service future development; less woodlot removal; shorter land-based effluent pipe that does not cross Centre Creek; and lesser construction impacts.

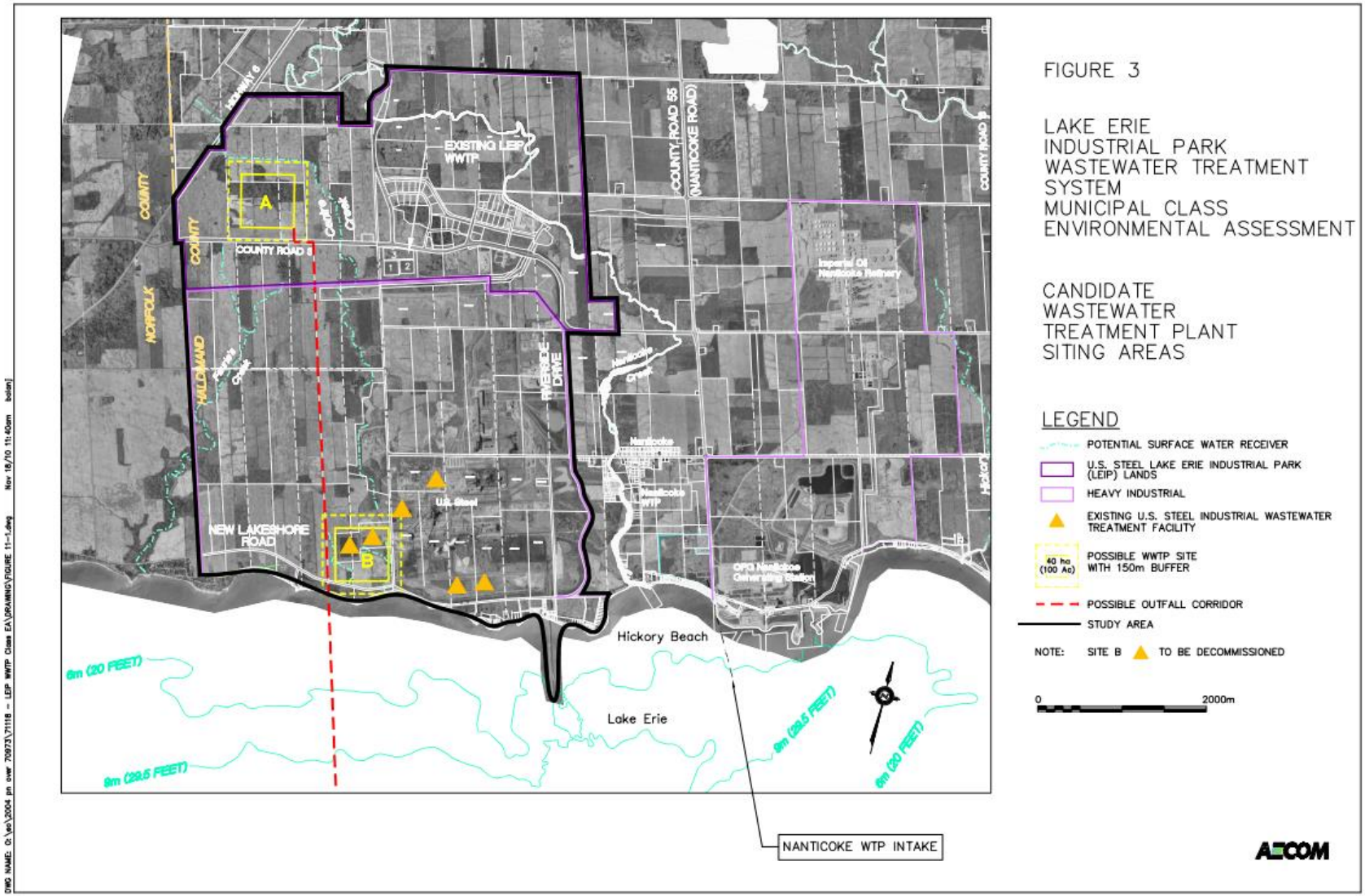

Figure 1-2: LEIP Site A and B (AECOM, 2011)

1.1.4 *PHASE 4 – ENVIRONMENTAL STUDY REPORT*

Phase 4 of the MCEA process involves documentation of the planning, design and consultation process followed in an ESR. The 2011 Notice of Completion was filed on December 12, 2011 and was available for public review for 30 days.

1.2 ADDENDUM PROCESS

The MCEA process allows a proponent up to ten years to begin construction on the project from the time of filing the Notice of Completion. If the period of time from filing of the Notice of Completion to the proposed commencement of construction for the project exceeds ten years, the proponent should review the planning and design process before proceeding with implementation to ensure that the project and the mitigating measures are still valid given the current planning context.

This review is to be documented in the form of an ESR Addendum. A Notice of Filing of Addendum must be circulated to all potentially affected members of the public and review agencies, including all who were contacted during the original MCEA planning process. A period of 30 calendar days shall be provided for review and response by the public. The Notice will include information about how to request a higher level of study (i.e., an individual or comprehensive EA) or that conditions be imposed (e.g., requiring further studies) by the Ministry of the Environment, Conservation and Parks (MECP) prior to proceeding to implementation of the project. This was previously referred to as a Part II Order request; however, under amendments to the *Environmental Assessment Act* passed in July 2020, these provisions now apply only in instances where adverse impacts to constitutionally-protected Aboriginal and / or treaty rights may occur.

This ESR Addendum has been prepared to document the following:

- Study objectives;
- The Addendum process followed;
- An update to existing environmental conditions;
- A description of changes to the Recommended Plan (if any) from the original ESR;
- A Summary of Environmental Concerns and Commitments, updated to capture any changes to existing environmental conditions, environmental impacts and mitigation measures;
- Identification of all future project approvals, licenses and permits which have been or must be obtained prior to construction;
- Further commitments to be addressed during detail design and construction; and,
- Consultation with stakeholders, Indigenous communities and the public as part of the Addendum process.

2 IDENTIFICATION OF PREFERRED DESIGN

The proposed works, as documented in the 2011 ESR, include the following components:

- The decommissioning of the existing Stelco wastewater treatment lagoons.
- The implementation of the following structures within the Site B property: influent pumping station, leachate and septage storage, headworks, primary clarifiers, aeration tanks, secondary clarifiers, UV disinfection, effluent chamber, primary digesters, secondary digesters, and thickening / dewatering structure.
- Creation of a solid handling facility for long-term biosolids and sludge storage.
- Construction of an outfall pipe into Lake Erie approximately 2000 m from the shoreline at a depth of over 9.2 m, with the outfall lying on or tunnelled underneath the lakebed.

The scope of work is unchanged from the 2011 ESR. There have been no design modifications proposed as part of the Addendum process; therefore, this Addendum will address changes in conditions within the study area since the time of the 2011 ESR only.

3 CHANGES IN ENVIRONMENTAL SETTING (2011-2021)

As described in Section 1.2, if ten years have passed since the filing of the Notice of Completion, the proponent must review the planning and design process to ensure that the mitigation measures are still valid and identify any new conditions. The following section describes changes to planning and environmental conditions in the study area that have occurred since 2011, with a focus on the Site B study area.

3.1 PLANNING AND LAND USE

The study area is located within part of Lots 23 and 24, Concession I, within Woodhouse Township and Lot 1, Concession I in Walpole Township. Site B is located on the north side of New Lakeshore Road, east of the intersection of Old Lakeshore Road and New Lakeshore Road. The study area is located within lands held by Stelco. The northern third of the study area is dominated by two wastewater treatment lagoons, covering approximately 4.67 hectares and 1.60 hectares. Single-lane gravel roads, which connect to main roads within the larger Stelco facility, encircle the lagoons. Two structures (a cooling tower, and a pump house) are located in the northeast corner of the study area. Within the study area, the lands south and west of the wastewater treatment lagoons consist of gently rolling active agricultural fields.

The land use as described in the original 2011 ESR remains largely the same. Site B is currently zoned as industrial land, located within the Major Industrial land use designation. Around the site is designated as Industrial Influence Area.

Current major industrial land uses within and adjacent to the study area include the Ontario Power Generation (OPG) Nanticoke Plant, Stelco: Lake Erie Works, and Imperial Oil (ESSO) Refinery. Stelco industrial lands are located within the study area. Located directly southwest of the LEIP are several year-round and seasonal single-detached residences that front along the Lake Erie shoreline.

3.1.2 *PLANNING POLICIES*

3.1.3 *PROVINCIAL POLICY STATEMENT (2020)*

Since the 2011 ESR, there have been two updates to the Provincial Policy Statement, first in 2014 and most recently in 2020.

The 2020 Provincial Policy Statement (PPS) contains several policies that are pertinent to this study. This includes:

- Environment / Natural Heritage: The 2020 PPS includes policies around consideration of the changing climate and includes the definition and identification of natural heritage systems and ecoregions. To preserve various ecological resources deemed significant in the Province, development lands must be assessed for the presence of Natural Heritage Features (NHFs) prior to construction or site alteration. Further discussion of NHFs is provided in Section 4.2 of this report.

- Indigenous Consultation: The 2020 PPS includes further clarification on when and where Indigenous consultation is required:

    - S. IV states that “Indigenous communities have a unique relationship with the land and its resources, which continues to shape the history and economy of the Province today. Ontario recognizes the unique role Indigenous communities have in land use planning and development, and the contribution of Indigenous communities’ perspectives and traditional knowledge to land use planning decisions. The Province recognizes the importance of consulting with Aboriginal communities on planning matters that may affect their section 35 Aboriginal or treaty rights. Planning authorities are encouraged to build constructive, cooperative relationships through meaningful engagement with Indigenous communities to facilitate knowledge-sharing in land use planning processes and inform decision-making.”

    - S 2.6.5 “Planning authorities shall engage with Indigenous communities and consider their interests of Aboriginal communities in conserving when identifying, protecting and managing cultural heritage and archaeological resources.”

- Cultural Heritage & Archaeology: The PPS (2020) contains definitions for Built Heritage Resources and Cultural Heritage Landscapes and calls for the conservation of these features when development or site alteration are considered.

    - S. 2.6.1 “Significant built heritage resources and significant cultural heritage landscapes shall be conserved.”

    - S. 2.6.2 states that “Development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved.”

3.1.4 *GROWTH PLAN FOR THE GREATER GOLDEN HORSESHOE (2019)*

The project site is also located in an area subject to policies outlined in the Growth Plan for the Greater Golden Horseshoe (2019). Since the original 2011 ESR, the Growth Plan has been revised multiple times, with the most recent significant revision occurring in 2019. The Growth Plan outlines where and how to grow for municipalities within the Greater Golden Horseshoe

(including Haldimand County). Haldimand County is included in the outer ring. It directs growth to settlement areas and outlines the necessity of planning for sufficient municipal wastewater systems to support growth (S.3.2.6). There are no changes specific to the study area for this project since the time of the 2011 ESR.

3.1.5 *HALDIMAND COUNTY OFFICIAL PLAN*

The County is currently undergoing an Official Plan Review, in order to bring the Plan into conformity with current provincial legislation and policy. The revised Official Plan will have a 25-year horizon and will guide development and growth in the County until 2046.

The existing Haldimand County Official Plan (HCOP) was approved by the province in 2009. The Haldimand County Official Plan (November 2019 office consolidation version) provides the strategic input to guide land use, management and protection of the natural environment (HCOP 2019).

Schedule A.2: Haldimand County Southwest Land Use Plan (2019) identifies that the subject site contains a former waste disposal site. The site and adjacent lands are designated as major industrial lands, and the land bordering the Lake Erie shoreline south of the subject site are designated as lakeshore hazard lands (HCOP 2019).

Appendix A: Figure 1 shows the location of the subject site relative to the non-provincially significant wetlands and woodland within and adjacent to the site and adjacent hazard lands. Significant Woodland occurs within the southern limits of the subject site and candidate Significant Valleyland occurs south of the subject site.

3.2 NATURAL ENVIRONMENT

The 2011 ESR identified several significant natural heritage features within and around the project area, including the Lake Erie shoreline, Sandusk Creek, Nanticoke Creek, and a number of environmentally sensitive areas, including:

- Salem Rockford Rockland;
- Shoups Farm Quarry;
- Sandusk Creek Floodplain Woods;
- Nanticoke Hemlock Slough Forest;
- Sandusk Falls;
- Sandusk Creek Fossil Beds;
- Sandusk Creek Woods;
- Sandusk/Spring Creek;
- Varency Woods;

- Marburg Swamp;
- Nanticoke Heronry Woods; and
- Dogs Nest Slough Forest (AECOM, 2011).

The Nanticoke Heronry Woods and Varency Woods are located within the LEIP industrial lands (AECOM, 2011). Figure 2 illustrates the natural features located within the study area.

The legislative, regulatory and policy context governing the protection of the natural environment has changed since the original 2011 ESR. For this reason, WSP has completed an updated background review and conducted field investigations to document any changes to conditions in the study area, as well as to address any new regulatory or policy requirements.

Sources consulted for the background review include: the County Official Plan (2019); satellite imagery; the Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) Natural Heritage Information Centre (NHIC) database; Land Information Ontario (LIO); Fisheries and Oceans Canada (DFO) online SAR mapping; eBird; the Ontario Breeding Bird Atlas; the Ontario Reptile and Amphibian Atlas; and iNaturalist. Field investigations were completed on October 12 and 13, 2021 to confirm the presence of location of watercourses, natural heritage features, and general characteristics of the study area. Field investigations included documentation of vegetation communities using the Ecological Land Classification (ELC) system (Lee et al. 1998; Lee 2008), documentation of incidental wildlife observations, and aquatic habitat mapping.

The Natural Heritage Constraints Analysis report is included as Appendix A to this report.

3.2.1 *VEGETATION*

WSP field surveys recorded 83 different plant species within the study area. Approximately 40% of the plant species recorded are non-native. No SAR vegetation was recorded; one species was identified as uncommon in the Carolinian Zone, and five species were identified that are uncommon in Haldimand County. The vegetation communities identified within the study area and adjacent land are described in detail in the Natural Heritage Constraints Analysis report and are illustrated in Figure 3-2.

Figure 3-1: LEIP Natural Features (AECOM, 2011)

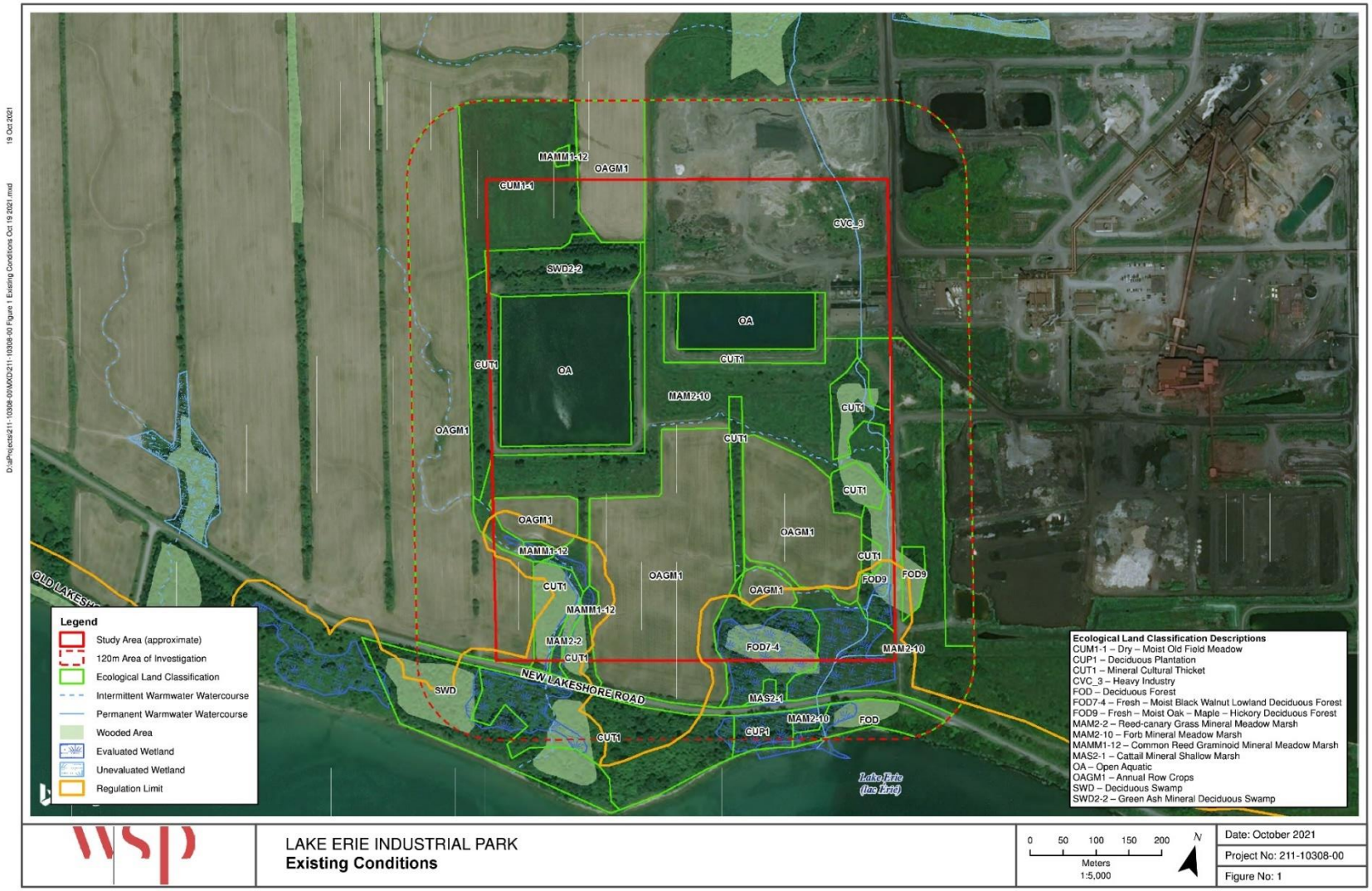

Figure 3-2: Vegetation Communities, from Natural Heritage Constraints Analysis

3.2.2 *WILDLIFE*

Incidental observations of mammals (or evidence of mammals) during WSP field surveys include: White-tailed Deer, Canine Species, Eastern Grey Squirrel, and Raccoon. Visual or vocal observations of the following bird species were noted: Willow Flycatcher, American Goldfinch, Blue Jay, Canada Goose, Red-winged Blackbird, Turkey Vulture, Song Sparrow, Common Merganser, Mourning Dove, Wild Turkey, Great Blue Heron, and Gray Catbird. Amphibians observed include: Grey Tree Frog, Chorus Frog, Northern Leopard Frog, and Midland Painted Turtle. The record of wildlife species identified is included in the Natural Heritage Constraints Analysis report (Appendix A).

3.2.3 *NATURAL HERITAGE FEATURES*

WSP conducted an assessment of the project site to determine presence of Natural Heritage Features (NHFs), as defined in the 2020 PPS. NHFs identified within, or adjacent to the subject site include: significant woodlands, candidate significant valleyland, and candidate significant wildlife habitat. Further discussion of the NHFs identified is included in the Natural Heritage Constraints Analysis report (Appendix A).

SIGNIFICANT WOODLANDS

The woodlands situated toward the southern limit of the subject site are considered significant as per Schedule H of the HCOP. The Significant Woodland extends southwest and southeast of the subject site, adjacent to the Lake Erie shoreline.

SIGNIFICANT VALLEYLAND

Lakeshore Hazard Lands associated with the Lake Erie shoreline occur south of the subject site. Available mapping (HCOP 2009, Schedule E.2) does not identify the feature as Significant Valleyland; however, given the feature is associated with a Lakeshore Hazard Lands, other natural areas (Significant Woodland), and has a wide floodplain, it is likely to satisfy many of the criteria standards for significance (MNRF, 2010). For the purpose of this assessment, this feature is considered a Candidate Significant Valleyland.

SIGNIFICANT WILDLIFE HABITAT

In accordance with the Significant Wildlife Habitat Technical Guide (OMNR 2000) and Ecoregion Criteria Schedules for Ecoregion 7E (MNRF, 2015), candidate Significant Wildlife Habitat (SWH) was identified within or adjacent to the subject site. Due to the timing of the field assessment, seasonally appropriate surveys (i.e., breeding bird survey, amphibian survey, multi-season ELC) were not undertaken to confirm the absence or presence of SWH. There are 20 SWH types that are considered candidate or unconfirmed, and of these, 19 may occur within the subject site:

- Candidate Waterfowl Stopover and Staging Areas (Terrestrial)
- Candidate Waterfowl Stopover and Staging Areas (Aquatic)
- Candidate Shorebird Migratory Stopover Area;
- Candidate Raptor Wintering Area;
- Candidate Bat Maternity Colony;
- Candidate Turtle Wintering Areas;
- Candidate Colonially -Nesting Bird Breeding Habitat (Tree/Shrubs);
- Candidate Migratory Butterfly Stopover Areas;
- Candidate Landbird Migratory Stopover Areas;
- Candidate Other Rare Vegetation Communities;
- Candidate Waterfowl Nesting Area;
- Candidate Bald Eagle and Osprey Nesting, Foraging and Perching Habitat;
- Candidate Amphibian Breeding Habitat (Woodland);
- Candidate Amphibian Breeding Habitat (Wetland);
- Candidate Marsh Breeding Bird Habitat;
- Candidate Shrub/Early Successional Bird Breeding Habitat;
- Candidate Terrestrial Crayfish;
- Candidate Special Concern and Rare Wildlife Species; and,
- Candidate Amphibian Movement Corridors.

In addition to the 19 SWH listed above, there is a candidate SWH that occurs outside of the subject site, yet within the study area:

- Candidate Turtle Nesting Areas

3.2.4 *SPECIES AT RISK AND SPECIES OF CONSERVATION CONCERN*

Natural heritage field investigations to support the 2011 ESR were conducted in 2006, prior to enacting of the provincial *Endangered Species Act* (ESA, 2007).

Since the completion of the 2011 ESR, there have been significant revisions to the *Endangered Species Act* and related Species at Risk list. Species designated as Threatened or Endangered by the Committee on the Status of Species at Risk in Ontario (COSSARO), otherwise known as Species at Risk in Ontario (SARO), and their habitats (i.e., areas essential for breeding, rearing, feeding, hibernation and migration) are automatically afforded legal protection under the ESA, 2007 (Government of Ontario 2007).

NHIC mapping indicates records for a total of four SAR or species of conservation concern (SCC) within the study area: Bald Eagle, Bobolink, Wood Thrush and Silver Chub.

In addition to this, based on the available background information and field survey findings the following SAR have potential to use habitat within the project limits: Bald Eagle, Bank Swallow, Barn Swallow, Chimney Swift, Eastern Wood-pewee, Eastern Meadowlark, Horned Grebe, Peregrine Falcon, Eastern Foxsnake, Gray Ratsnake, Midland Painted Turtle, Queensnake, Milksnake, Little Brown Bat, Small-footed Bat, Northern Long-eared Bat, Butternut, Snapping Turtle and Monarch.

An assessment of the potential for impacts to these SAR and their habitat in the study area is included in Table 3-1. Through this assessment, ten species were identified as having potential to occur within the study area: Bobolink, Eastern Meadowlark, Eastern Foxsnake, Gray Ratsnake, SAR Bats, Butternut, Snapping Turtle and Monarch.

Table 3-1: Species at Risk Screening

Species	ESA Status[1]	ESA Protection[2]	Key Habitats Used by Species in Ontario	Reasonable Likelihood of Presence in Study Area	Surveys Undertaken	Results of Field Surveys	Likelihood and Magnitude of Impacts to Species or Habitat
Birds							
Bank Swallow (*Riparia riparia*)	THR	Species and General Habitat Protection	It nests in a wide variety of naturally and anthropogenically created vertical banks, which often erode and change over time including aggregate pits and the shores of large lakes and rivers (MNRF Guelph - Waterloo List, 2014).	The presence of a watercourse and adjacent Lake Erie shoreline suggests potential nesting opportunities within and outside of the site for this species. This species may forage over the site.	SAR Habitat Assessment.	This species was not detected.	Low - suitable breeding habitat may be present adjacent to Centre Creek; however, the Lake Erie shoreline likely provides more suitable habitat.
Barn Swallow (*Hirundo rustica*)	THR	Species and General Habitat Protection	Prefers farmland; lake/river shorelines; wooded clearings; urban populated areas; rocky cliffs; and wetlands. They nest inside or outside buildings; under bridges and in road culverts; on rock faces and in caves etc. (MNRF Guelph - Waterloo List, 2014).	This species may forage over the site.	SAR Habitat Assessment.	This species was not detected.	Low - no nests or evidence of nesting was observed within the study area. No suitable structures are present on the subject site.
Bobolink (*Dolichonyx oryzivorus*)	THR	Species and General Habitat Protection	Generally prefers open grasslands and hay fields. In migration and in winter uses freshwater marshes and grasslands (MNRF Guelph - Waterloo List, 2014).	Suitable breeding habitat may be provided by the Dry – Moist Old Field Meadow and Forb Mineral Meadow Marsh within the study site. This species may forage over the site.	SAR Habitat Assessment.	This species was not detected.	Moderate - suitable breeding habitat may be present within the Dry – Moist Old Field Meadow and Forb Mineral Meadow Marsh habitat.
Chimney Swift (*Chaetura pelagica*)	THR	Species and General Habitat Protection	Historically found in deciduous and coniferous, usually wet forest types, all with a well-developed, dense shrub layer; now most are found in urban areas in large uncapped chimneys (MNRF Guelph - Waterloo List, 2014).	Suitable cavity trees may be present within the subject site, or the species may migrate through the study area.	SAR Habitat Assessment.	This species was not detected.	Low - no structures containing nests or uncapped chimneys were observed within the study area.
Eastern Meadowlark (*Sturnella magna*)	THR	Species and General Habitat Protection	Generally prefers grassy pastures, meadows and hay fields. Nests are always on the ground and usually hidden in or under grass clumps (MNRF Guelph - Waterloo List, 2014).	Suitable breeding habitat may be provided by the Dry – Moist Old Field Meadow and Forb Mineral Meadow Marsh within the study site. This species may forage over the site.	SAR Habitat Assessment.	This species was not detected.	Moderate - suitable breeding habitat may be present within the Dry – Moist Old Field Meadow and Forb Mineral Meadow Marsh habitat.
Fish							

Species	ESA Status[1]	ESA Protection[2]	Key Habitats Used by Species in Ontario	Reasonable Likelihood of Presence in Study Area	Surveys Undertaken	Results of Field Surveys	Likelihood and Magnitude of Impacts to Species or Habitat
Silver Chub (*Macrhybopsis storeriana*)	THR	Species and General Habitat Protection	Throughout most of its North American range, Silver chub prefers medium to large rivers with substantial current and silt, sand or gravel bottoms, but in Ontario it is only found in the Great Lakes. It is usually found in depths between seven and 12 metres, and is believed to spawn in May and June in open water areas. (MNRF Species Profile Online 2015).	Lake Erie is directly connected to Centre Creek, which flows through the subject site; however, the species requires habitat not present on site (water depths of seven to 12 m).	SAR Habitat Assessment.	This species was not detected.	None – this species requires habitat characteristics that are not present within the subject site or study area.
Herpetiles							
Eastern Foxsnake (Carolinian and Great Lakes/St.Lawrence) (*Pantherophis gloydi*)	END	Species Protection and Habitat Regulation	Generally prefers forests, early successional (old field, prairie, marsh, dune-shoreline) habitat during the active season. Hedgerows bordering farm fields and riparian zones along drainage canals are regularly used. The species in most often found near water (MNRF Guelph - Haldimand List 2015).	Forest habitat is limited to the southeast edges of the subject site. Hedgerows, Dry – Moist Old Field Meadow and marsh habitat surrounding an unnamed tributary and Centre Creek may provide suitable habitat.	SAR Habitat Assessment.	This species was not detected.	Moderate – hedgerows adjacent to farm fields and old field and marsh habitat adjacent to watercourses may provide suitable habitat on the subject site.
Gray Ratsnake (Carolinian) (*Pantherophis spiloides*)	END	Species Protection and Habitat Regulation	Generally associated with deciduous forests, with a preference for a mosaic of forest and open habitats, such as fields and rocky outcrops (MNRF Guelph - Haldimand List 2015).	Deciduous forest is limited to the southeast edges of the subject site.	SAR Habitat Assessment.	This species was not detected.	Moderate – forested habitat adjacent to farm fields and old field and marsh habitat may provide suitable habitat on the subject site.
Queensnake (*Regina septemvittata*)	END	Species Protection and Habitat Regulation	Generally require a permanent body of water, flowing or still, with a temperature remaining at or above 18.3°C throughout most of the active season; abundant cover, such as flat rocks submerged and/or on the bank; and an abundance of crayfish. Other important habitat features may include rocky, gravelly, or slate stream-bed substrates, swift to moderate current, and woodland surroundings (MNRF Guelph - Waterloo List, 2014).	Lake Erie is connected to Centre Creek, which is a warm watercourse that flows through the subject site. Suitable habitat determined by the substrate and cover is only present within 100 m north of New Lakeshore Road. While crayfish are present within Centre Creek the abundance is unknown.	SAR Habitat Assessment.	This species was not detected.	Low - limited suitable habitat within the study area; however, the larger natural area surrounding Lake Erie may be more suitable to the species.
Mammals							

Species	ESA Status[1]	ESA Protection[2]	Key Habitats Used by Species in Ontario	Reasonable Likelihood of Presence in Study Area	Surveys Undertaken	Results of Field Surveys	Likelihood and Magnitude of Impacts to Species or Habitat
Little Brown Bat (Little Brown Myotis) (*Myotis lucifugus*)	END	Species and General Habitat Protection	Overwintering habitat: Caves and mines that remain above 0 degrees Celsius. Maternal Roosts: Often associated with buildings (attics, barns etc.). Occasionally found in trees (25-44 cm dbh) (MNRF Guelph - Waterloo List, 2014).	Potentially suitable wooded and forested habitats are present within the site. The surrounding landscape is dominated by industrial land-use and agriculture, with availability of suitable bat foraging habitats provided by adjacent treed riparian corridor, SWM ponds and lacustrine habitat south of the Site and along the Lake Erie shoreline.	SAR Habitat Assessment.	This species was not detected.	Moderate - removal of trees may impact potential day-roosting opportunities for bats. Impacts can be minimized by restricting removal of trees and structures outside of the bat hibernation period (between October 1st and March 31st).
Northern Long-eared Bat (Northern Myotis) (*Myotis septentrionalis*)	END	Species and General Habitat Protection	Overwintering habitat: Caves and mines that remain above 0 degrees Celsius. Maternal Roosts: Often associated with cavities of large diameter trees (25-44 cm dbh). Occasionally found in structures (attics, barns etc.)(MNRF Guelph - Waterloo List, 2014).	Potentially suitable wooded and forested habitats are present within the site. The surrounding landscape is dominated by industrial land-use and agriculture, with availability of suitable bat foraging habitats provided by adjacent treed riparian corridor, SWM ponds and lacustrine habitat south of the Site and along the Lake Erie shoreline.	SAR Habitat Assessment.	This species was not detected.	Moderate - removal of trees may impact potential day-roosting opportunities for bats. Impacts can be minimized by restricting removal of trees and structures outside of the bat hibernation period (between October 1st and March 31st).
Eastern Small-footed Bat (Eastern Small-footed Myotis) (*Myotis leibii*)	END	Species and General Habitat Protection	Overwintering habitat: Caves and mines that remain above 0 degrees Celsius. Maternal Roosts: primarily under loose rocks on exposed rock outcrops, crevices and cliffs, and occasionally in buildings, under bridges and highway overpasses and under tree bark (MNRF Guelph - Waterloo List, 2014).	Potentially suitable wooded and forested habitats are present within the site. The surrounding landscape is dominated by industrial land-use and agriculture, with availability of suitable bat foraging habitats provided by adjacent treed riparian corridor, SWM ponds and lacustrine habitat south of the Site and along the Lake Erie shoreline.	SAR Habitat Assessment.	This species was not detected.	Moderate - removal of trees may impact potential day-roosting opportunities for bats. Impacts can be minimized by restricting removal of trees and structures outside of the bat hibernation period (between October 1st and March 31st).
Plants							

Species	ESA Status[1]	ESA Protection[2]	Key Habitats Used by Species in Ontario	Reasonable Likelihood of Presence in Study Area	Surveys Undertaken	Results of Field Surveys	Likelihood and Magnitude of Impacts to Species or Habitat
Butternut (*Juglans cinerea*)	END	Species and General Habitat Protection	Generally grows in rich, moist, and well-drained soils often found along streams. It may also be found on well-drained gravel sites, especially those made up of limestone. It is also found, though seldomly, on dry, rocky and sterile soils. In Ontario, the Butternut generally grows alone or in small groups in deciduous forests as well as in hedgerows (MNRF Guelph - Waterloo List, 2014).	This species may be found in the general vicinity of the site, and potentially suitable wooded and forested habitats along streams are present.	SAR Habitat Assessment.	This species was not detected.	Moderate - potential habitat within the study area; recorded occurrences outside study area near Lake Erie shore.

Table 3-2: Species of Conservation Concern Screening

Species	ESA Status[1] and Regional Occurrence	ESA Protection[2]	Key Habitats Used by Species in Ontario	Reasonable Likelihood of Presence in Study Area	Surveys Undertaken	Results of Field Surveys	Likelihood and Magnitude of Impacts to Species or Habitat
Birds							
Eastern Wood-pewee (*Contopus virens*)	SC	N/A	Associated with deciduous and mixed forests. Within mature and intermediate age stands it prefers areas with little understory vegetation as well as forest clearings and edges (MNRF Guelph - Waterloo List, 2014)	Suitable breeding habitat is limited to the Fresh – Moist Oak – Maple Hickory Deciduous woodland habitat to the east of the site. The species may migrate through the site.	SAR Habitat Assessment.	This species was not detected.	Low - limited suitable breeding habitat within the study area.
Bald Eagle (*Haliaeetus leucocephalus*)	SC	N/A	Prefers deciduous and mixed-deciduous forest; and habitat close to water bodies such as lakes and rivers; They roost in super canopy trees such as Pine (MNRF Guelph - Waterloo List, 2014)	The presence of deciduous forest surrounding Centre Creek and Lake Erie suggests potential habitat for this species. This species may migrate through the site.	SAR Habitat Assessment.	This species was not detected.	Low – limited suitable breeding habitat within the study area; however, the larger natural area surrounding Lake Erie may be more suitable to the species.
Peregrine Falcon anatum/tundrius (*Falco peregrinus anatum/tundrius*)	SC	N/A	Generally nest on tall, steep cliff ledges adjacent to large waterbodies; some birds adapt to urban environments and nest on ledges of tall buildings, even in densely populated downtown areas (MNRF Guelph - Waterloo List, 2014).	The adjacent Lake Erie shoreline suggests potential nesting opportunities outside of the site for this species. This species may migrate through the site.	SAR Habitat Assessment.	This species was not detected.	None – no suitable breeding habitat within the study area.

Species	ESA Status[1] and Regional Occurrence	ESA Protection[2]	Key Habitats Used by Species in Ontario	Reasonable Likelihood of Presence in Study Area	Surveys Undertaken	Results of Field Surveys	Likelihood and Magnitude of Impacts to Species or Habitat
Wood Thrush (*Hylocichla mustelina*)	SC	N/A	Nests mainly in second-growth and mature deciduous and mixed forests, with saplings and well-developed understory layers. Prefers large forest mosaics, but may also nest in small forest fragments (MNRF Guelph - Waterloo List, 2014)	Suitable breeding habitat is limited to the Fresh – Moist Oak – Maple Hickory Deciduous woodland habitat to the east of the site. The species may migrate through the site.	SAR Habitat Assessment.	This species was not detected.	Low - limited suitable breeding habitat within the study area.
Herpetiles							
Milksnake (*Lampropeltis triangulum*)	SC	N/A	Generally occur in rural areas, where it is most frequently reported in and around buildings, especially old structures. It is also found in a wide variety of habitats, from prairies, pastures, and hayfields, to rocky hillsides and a wide variety of forest types. They must also be in proximity of water, and suitable locations for basking and egg-laying (MNRF Guelph - Waterloo List, 2014).	There are no buildings within subject site. The surrounding landscape is dominated by agriculture and heavy industrial land-use with limited forested lands and wetland adjacent to a riparian corridor connected to Lake Erie south of the Site.	SAR Habitat Assessment.	This species was not detected.	Low - limited suitable habitat within the study area; however, the larger natural area surrounding Lake Erie may be more suitable to the species.
Snapping Turtle (*Chelydra serpentina*)	SC	N/A	Generally inhabit shallow waters where they can hide under the soft mud and leaf litter. Nesting sites usually occur on gravely or sandy areas along streams. Snapping Turtles often take advantage of man-made structures for nest sites, including roads (especially gravel shoulders), dams and aggregate pits (MNRF Guelph - Waterloo List, 2014).	Snapping Turtles are commonly found in the surrounding areas and riverine and wetland habitat within the subject site may provide suitable nesting habitat.	SAR Habitat Assessment.	This species was not detected.	Moderate - Snapping Turtles may be present within the study area. Exclusion fencing and encounter protocols should be implemented to limit potential impacts to turtles encountered within the study area during the active season.
Insects							
Monarch (*Danaus plexippus*)	SC	N/A	Exist primarily wherever milkweed and wildflowers exist; abandoned farmland, along roadsides, and other open spaces (MNRF Guelph - Waterloo List, 2014)	Vegetation cover on and adjacent to the site may provide potentially suitable habitat for this species. The larval host plant Common Milkweed is present on the site.	SAR Habitat Assessment.	This species was not detected.	High - potential habitat within the study area.

Protection status: [1] ESA – Endangered Species Act and [2] SARA – Species at Risk Act

END – Endangered, THR – Threatened, SC – Special concern, NAR – Not at Risk

3.2.5 *FISH AND AQUATIC HABITAT*

The study site includes two primary watercourses: an un-named tributary to Lake Erie, and Centre Creek.

The unnamed tributary within the study site has no public accessible data on the thermal regime, permanency, or fish community. The watercourse enters the study area from the north-west limits and passes through primarily agricultural lands with little to no riparian vegetation, before entering a more naturalized area with instream and overhanging vegetation. Inputs to this watercourse include overland drainage and groundwater, as indicated by iron staining, visible sheen, and watercress. The watercourse drains east to a 1.15 m diameter corrugated steel pipe culvert crossing at New Lakeshore Road before flowing towards Lake Erie.

Centre Creek is a permanent warm-water creek with a varied fish community that flows into Lake Erie. Centre Creek enters the study area from the northeast, flowing south and crossing New Lakeshore Road via a box culvert that is 1.9 m high and 3.2 m wide. The Creek follows a straight path following the Stelco property and fence line, suggesting it has been straightened in the past. There is a potential seasonal fish barrier present due to a perched culvert (approximately 0.5 m in height) although fish were observed at the time of WSP's field investigations. LIO mapping indicated presence of an aquatic SAR (Silver Chub) within Centre Creek; however, this species is not present in the study area.

No additional characterization of Lake Erie was completed as part of WSP's 2021 field investigations, as conditions as documented in the 2011 ESR are unchanged.

3.3 CULTURAL HERITAGE

In accordance with PPS 2020 policies and current MCEA practices, WSP completed a review to of potential cultural heritage resources in the study to: identify existing and potential built heritage resources (BHRs) and cultural heritage landscapes (CHLs); review the background history of the project area; provide a preliminary impact assessment to conserve BHRs and CHLs; and identify mitigation and/or monitoring for potential impacts, if required.

A field review was conducted on October 29, 2021 by WSP. The field review was preceded by a review of available historical and current aerial photographs and maps. WSP found that there were no built heritage resources or cultural heritage landscapes with known or potential cultural heritage value or interest within or adjacent to the study area. As such, no further heritage reporting is required as part of the project.

The full Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment can be viewed in Appendix B.

3.4 ARCHAEOLOGY

No archaeological assessment was included as part of the 2011 ESR; however, previous archaeological assessments were carried out within the study area in 2008 and 2009 as part of the Nanticoke New Build project.

In October 2008, a Stage 1 archaeological assessment was carried out for a large parcel of land located west of Stelco's Lake Erie Works as part of the Nanticoke New Build project. The assessed area traverses the entire study area, save for two rectangular sections around the existing lagoons. The investigation determined that all of the lands had archaeological potential, and it was recommended that a Stage 2 assessment be conducted in advance of any ground disturbance.

The Stage 2 assessment for the Nanticoke New Build project was conducted in June and July 2009. The assessed area encompassed multiple agricultural fields within the greater project lands, including those traversing the south-central and southeastern parts of the study area. The investigation of these southern fields resulted in the discovery of 21 locations of archaeological materials, with 18 of these sites falling within or partially traversing the study area.

A new Stage 1 Archaeological Assessment was completed by Archaeological Research Associates Ltd. in 2021 and is included as Appendix C. The Stage 1 assessment determined that the study area comprises a mixture of areas that have retained archaeological potential, areas of no archeological potential, and previously assessed lands of further concern (see Figure 3-3). It is recommended that all identified areas of archaeological potential be subject to a Stage 2 property assessment in accordance with Section 2.1 of the 2011 Standards and Guidelines for Consultant Archaeologists. In addition, a Marine Archaeological Assessment shall be undertaken during detailed design to confirm if any specific mitigation actions may be required prior to construction.

A total of 18 sites were identified within the previously assessed lands of further concern, 8 of which were found to be of cultural heritage value or interest (CHVI). It is recommended that each of the 8 sites of CHVI, as well as any new sites of CHVI identified by the additional Stage 2 assessment, are subject to a Stage 3 site-specific assessment and Stage 4 mitigation of development impacts (if required) in accordance with the 2011 Standards and Guidelines for Consultant Archaeologists.

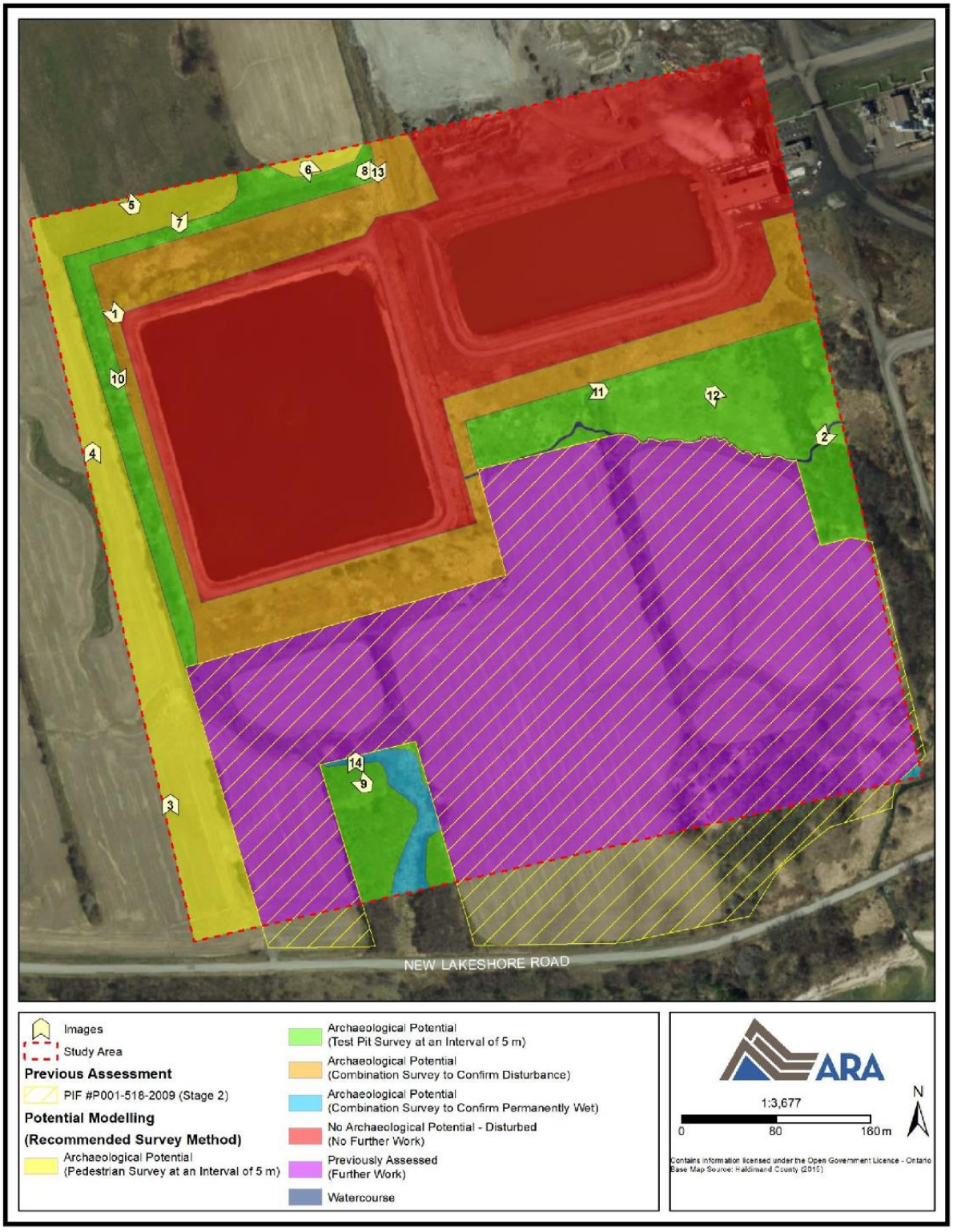

Figure 3-3: Archaeological Potential for Site B From Archaeological Research Associates Ltd.

3.5 CONTAMINANTS

Given the industrial land uses contained within the study area, WSP completed a Phase One Environmental Site Assessment (ESA) in 2021 in order to identify areas of potential environmental concern. The Phase One ESA was completed in accordance with Ontario Regulation 153/04, as amended.

Based on the information obtained and reviewed during this Phase One ESA, potentially contaminating activity (PCAs) have been identified within the study area as contributing to four areas of potential environmental concern. Potentially contaminating activities include: discharge of sewage from sewage lagoons; use of herbicides / pesticides on agricultural lands; use of the lands for iron and steel manufacturing and processing; and the generation, use and / or storage of waste oils and lubricants related to operation of the Stelco plant.

The associated contaminants of potential concern include metals and other regulated parameters, petroleum hydrocarbons (PHCs), benzene, toluene, ethylbenzene and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and organochlorine pesticides (OCs).

A Phase Two ESA is recommended in order to investigate the identified areas of potential environmental concern and further assess the existing soil, groundwater and sediment conditions at the site prior to construction.

The complete Phase One ESA report is included as Appendix D.

4 CLIMATE CHANGE

Climate change and its impacts have increasingly become a reality in the planning of infrastructure projects. The Ministry of the Environment and Climate Change (MECP) now requires consideration of both climate change mitigation and climate change adaptation within the EA process. This is a change in policy since the original 2011 ESR in which climate change was not required to be considered.

The extent to which climate change must be considered scales with the level of the project (MECP, 2017). In addition to this, the 2020 PPS also encourages the use of green infrastructure and requires the consideration of climate change impacts.

Following the MECP *Considering Climate Change in the Environmental Assessments in Ontario* (2017) guide, the following was considered in this Addendum:

1. Effects of the project on climate change
2. Effects of climate change on the project
3. Mitigation measures

4.1 EFFECTS OF THE PROJECT ON CLIMATE CHANGE

The MECP “considers focussing efforts on reducing greenhouse gas emissions and avoiding increases in the levels of these gases in the atmosphere to be in keeping with the principle of pollution prevention and the precautionary approach” (MECP, 2017). Potential effects of the project on climate change should be considered in the site selection and design process.

Potential effects of the project on climate change include:

- GHG emissions associated with construction of WWTP due to the GHG emissions created by construction equipment
- Reduction of vegetation resulting in reduced carbon sink capacity

Mitigation measures will be determined and implemented in the detailed design stage. Potential measures include:

- Replanting of lost vegetation
- Choosing energy efficient machinery

4.2 EFFECTS OF CLIMATE CHANGE ON THE PROJECT

The effects on climate change on the project can be considered both in general as well as site specific occurrences. For example, in general it is expected that climate change will result in more frequent extreme weather events.

Potential impacts include:

- Increased extreme weather events, resulting in additional stormwater that could lead to flooding
- Resulting impact on wastewater reaching waterways
- Increased speed of erosion

Mitigation measures will be determined and implemented in the detailed design stage. Potential measures include:

- Planting vegetation to decrease erosion
- Utilizing green infrastructure for increased absorption of stormwater

5 SUMMARY OF ENVIRONMENTAL EFFECTS AND PROPOSED MITIGATION MEASURES

The 2011 ESR contained a list of recommended mitigative measures and commitments for both construction-related impacts and WWTP operation-related impacts. These effects and mitigation measures have been reviewed to confirm their relevance, and new mitigation measures have been recommended through studies completed as part of this Addendum process. The following sections provide a summary of the potential impacts and proposed mitigation measures, including both the previous 2011 ESR commitments as well as new measures.

The mitigation measures outlined in this section are based on a preliminary assessment of impacts and should be reviewed and confirmed during the Detail Design phase.

5.1 NATURAL ENVIRONMENT

5.1.1 *VEGETATION*

IMPACTS

Development of the site will result in direct and indirect impacts to existing forest and wetland communities. Impacts to Significant Woodlands are described in Section 7.1.3. Non-provincially significant wetland within the subject area may be impacted indirectly by removing a portion of naturally occurring vegetated buffer which mitigate wetland impacts by attenuating runoff, reducing light and noise pollution, and limiting public encroachment. Development has the potential to modify water inputs to adjacent water features by altering the catchment area or through alterations to the groundwater table. Construction activities including refueling of machinery and dewatering may impact wetlands and other natural areas.

MITIGATION MEASURES

General Construction Mitigation

- An Emergency Response Plan should be developed by the Contractor to be implemented immediately in the event of a sediment release or a spill of a deleterious substance.

- The limit of any area to be disturbed should be clearly marked prior to the commencement of the work and the markings should be maintained for the duration of construction.

- Machinery should arrive on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds.

- Vehicle maintenance and fueling will be conducted at the designated and properly contained maintenance areas in the works yards or at commercial garages located well away from retained vegetation areas.

- All construction-related materials, equipment, and construction-generated materials (e.g., sediment in dewatering or runoff from exposed soils, stockpiled soils or other materials from clearing and grubbing) shall be properly stored/contained, maintained, filtered and otherwise handled and managed at a distance of at least 30 m away from significant areas (e.g., watercourses and wetlands).

- An environmental management plan will be prepared, which will outline proposed best management practices with respect to the management of hazardous materials, spill prevention, spill response, dust control, erosion and sediment control (ESC), construction dewatering and discharge management, monitoring, and mitigation, and safety and security of the subject site with respect to the general public and wildlife.

- ESC measures shall be identified in the contract and all associated contract drawings. More specifically, the Contractor shall control erosion and sediment caused by construction methods and operations including but not limited to stockpiles, access and service roads, storage and work areas, and non-designated disposal areas to meet all legislative requirements to prevent the entry of sediment into the watercourse and prevent any migration of sediment beyond the construction area.

Tree Removal

- The extent of vegetation removal and damage should be minimized within construction access, work and staging areas, particularly adjacent to the woodland or wetlands. These areas will be clearly identified in the Contract documents, and then delineated in the field using erosion and sediment control fencing. Erosion and sediment control fencing will be maintained throughout the construction period.

- Exposed soil surfaces should be re-stabilized and revegetated as soon as possible following construction, using native seed mixes where possible.

- Under the County's Forest Conservation By-law (By-law 2204/20), the study area qualifies for an exemption under Section 5.1: "activities or matters undertaken by a

municipality or a local board of a municipality." Therefore, permitting related to tree removals is not required.

- Ash materials should be removed from the site and disposed of within the 'Regulated Area' [see Canada Food Inspection Agency website (CFIA 2021)].

Wetlands

- Encroachment into a wetland and / or wetland buffer is regulated by the Long Point Region Conservation Authority (LPRCA) and is subject to offsetting requirements.

- Future studies should consider potential hydrological impacts to the wetland. This may involve completion of a water balance report. Site-specific mitigation measures should be developed based on the results of future studies.

- All construction-related activities should be controlled so as to prevent entry of any petroleum products, debris or other potential contaminants / deleterious substances, in addition to sediment as outlined above, to the wetland.

5.1.2 *WILDLIFE*

IMPACTS

The removal of vegetation within the breeding bird season has the potential to impact nests, eggs and young of numerous species. The removal of vegetation within the subject site, as well as other construction activities, has the potential to impact other resident wildlife, such as turtles and snakes, that may inhabit or travel into the construction zone.

MITIGATION

- Any wildlife encountered during construction should not be knowingly harmed. Animals within the construction zone should be allowed to move away from the area on their own and if they do not, the Contract Administrator should be notified.

- To reduce the possibility of contravention of the Migratory Birds Convention Act (MBCA), vegetation removal should be scheduled to occur outside of the overall bird nesting season of April 1 to August 31.

- In addition to the bird-nesting season, tree removals should also occur outside of the active period for SAR bats (e.g., up to the end of September); therefore, considering the bird nesting and bat active seasons, clearing of trees is only permitted between October 1 to March 31.

- If vegetation must be removed during the bird nesting season:

- Nest and nesting activity searches should be conducted by a qualified biologist no more than 24 hours prior to vegetation removal. If an active nest or confirmed nesting activity of a migratory bird is observed, a species-specific buffer area will be identified wherein no vegetation removal will be permitted until the young have fledged from the nest. The buffer will be determined by a qualified biologist and will protect a minimum of 10 m around the nest or nesting activity. The results of all nest searches will be documented at the end of each survey day.

5.1.3 *NATURAL HERITAGE FEATURES*

IMPACTS

Wooded areas on and adjacent to the site are part of a larger Significant Woodland. Potential impacts to the Significant Woodland include vegetation removals, removal of the existing forest edge, creation of a new forest edge, removal of a small number of locally rare species, and indirect impacts to interior forest habitat. Indirect impacts include the potential for vegetation clearing / damage beyond the site during construction, and spills of contaminants, fuels and other harmful materials.

No impacts to Significant Valleyland and anticipated as it is located outside of the immediate area of impact.

Candidate SWH has been identified within the study area and requires further analysis during Detail Design to confirm the nature of the habitat and appropriate mitigation measures.

MITIGATION MEASURES

- To aid in maintaining the ecological functions associated with the Significant Woodland (including wildlife habitat functions for resident and migratory woodland birds), the woodland areas within the property should be retained if feasible.

- With these mitigation measures, the forested areas within the subject site should maintain the Significant Woodland designation and associated ecological functions. Candidate SWH identified in this report should be refined during Detail Design based on additional surveys, including seasonally appropriate breeding bird surveys, amphibian surveys, and ELC assessment. Surveys should be a component of a scoped EIS completed during Detail Design.

5.1.4 *SPECIES AT RISK AND SPECIES OF CONSERVATION CONCERN*

IMPACTS

The following SAR have the potential to be impacted by the proposed works:

- Bobolink (Threatened): The Dry – Moist Old Field Meadow and Forb Mineral Meadow Marsh habitat on and adjacent to the subject site may provide potentially suitable breeding habitat for this species. Direct impacts to nesting, foraging and perching habitat may occur as a result of the proposed treatment plant construction. This species receives species and general habitat protection under the ESA.

- Eastern Meadowlark (Threatened): The Dry – Moist Old Field Meadow and Forb Mineral Meadow Marsh habitat on and adjacent to the subject site may provide potentially suitable breeding habitat for this species. Direct impacts to nesting, foraging and perching habitat may occur as a result of the proposed treatment plant construction. This species receives species and general habitat protection under the ESA.

- Eastern Foxsnake (Carolinian and Great Lakes/St.Lawrence) (Endangered): This species has moderate potential to occur within the subject site within hedgerows adjacent to farm fields and old field and marsh habitat adjacent to watercourses.

- Gray Ratsnake (Carolinian) (Endangered): This species has moderate potential to occur within the subject site within forested habitat adjacent to farm fields and old field and marsh habitat.

- Endangered Bats (Little Brown Bat, Northern Myotis and Eastern Small-footed Myotis): All species roost in large trees within forested habitats, while Little Brown Myotis commonly use buildings for maternity habitat. Trees with features such as cavities, crevices, knots, cracks, loose bark or leaf clusters could potentially provide suitable bat maternity roosting habitat. If tree removals are required, there is potential for direct impacts to roosting bats, including lactating females and young, if tree removal, or construction occurs within the sensitive period for bats. Higher quality forested habitat is present in the remainder of the forested tract to the southwest and southeast along the Lake Erie shoreline. These species receive species and general habitat protection under the ESA.

- Butternut (Endangered): Similar forested riparian habitat is likely available in the retained forest tract southwest and southeast of the subject site and along the Lake Erie shoreline.

- Snapping Turtle (Special Concern): This species has moderate potential to occur within the subject site within riverine and wetland habitat.

- Monarch (Special Concern): This species' larval host plant Milkweed was recorded during site investigations. Since similar habitat is abundant in the greater area based on review of aerial imagery (Google Earth 2021), there is minimal potential for impacts to the species.

MITIGATION MEASURES

- In the event that a SAR is found in the construction area, all activities that could potentially harm the animal should cease immediately and the Contract Administrator should be notified. SAR or potential SAR will not be handled prior to consulting with the MECP SAR Branch.

- Endangered Bats: Risk of contravention of Section 9 of the ESA (prohibition on killing, harming, harassing, etc.), can be reduced through timing restrictions for tree and vegetation removal.

    - It is recommended a snag density survey be undertaken in accordance with the MECP's latest guidance. If the results of this assessment indicate the treed habitats on the subject site have potential to support roosting bats, the MECP should be consulted during detail design to confirm the next steps.

    - No tree removals should be undertaken until such time an assessment for bat habitat is completed by a qualified ecologist. When tree removal is approved, removals should be undertaken during the bat hibernation period (i.e., October 1 to March 31) to ensure that no direct harm to SAR bat individuals occurs (including potential maternal and day-roosting bats).

- The subject site and adjacent 50 m area should be assessed for Butternut once limits of tree removals are confirmed. Where a Butternut is confirmed, an approved Butternut Health Assessor should complete the standardized assessment to determine the health of the tree and provide site-specific direction related to approval under the ESA.

5.1.5 *FISH AND AQUATIC HABITAT*

IMPACTS

- The proposed works have no direct impacts on the un-named tributary and Centre Creek watercourses; however, the development of Site B land parcel may have direct and/or indirect impacts on the existing tributaries, drainage pathways and watercourses. Impacts to these aquatic features may impact direct and indirect fish habitat.

- The Lake Erie shoreline, while not within the Site B land parcel is included in the previous 2011 ESR. The proposed works have an outfall discharge pipe leading into Lake Erie, with the potential to directly impact the Lake Erie shoreline, lakebed, and direct fish habitat. The detailed 2011 bathymetric and underwater assessment indicates that there is no sensitive, limited habitat within the proposed path of the outfall pipe; it is assumed that this assessment is still valid and that these conditions have not changed.

MITIGATION

- Schedule any in-channel construction to avoid the restricted activity period set out by NDMNRF: March 1st to July 1st. This timing window should be confirmed with DFO and/or LPRCA. Restore disturbed areas/habitat to natural or improved conditions.

- As part of detail design, hydrogeological investigations should be carried out prior to construction to identify appropriate dewatering techniques and potential impacts to fish and fish habitat.

- All water pumped from the site during construction should be released into settling basins or other similar measures to dissipate flows and remove suspended sediment if the outflow will enter a watercourse following its release.

- Review of the outlet pipe design and potential impact should be completed during Detail Design along with a determination regarding the need to submit a Request for Review to DFO.

- Sediment and Erosion Control:

    - Erosion and Sediment Control (ESC) measures should be installed prior to the initiation of construction works to prevent off-site movement of deleterious substances downstream into Lake Erie. Silt curtains should be installed at the perimeter of any work being completed in Lake Erie.

    - All ESC measures should be inspected and maintained by the Contractor to ensure they are functioning as intended throughout the construction period and until such time that construction is completed. If ESC measures become damaged, they will be repaired / replaced by the Contractor as soon as possible.

    - All ESC measures that are non-biodegradable should be removed from the site when work is complete, and the site is stabilized.

    - Temporary stockpiling and construction staging areas should be located in defined areas and properly contained to prevent any migration of materials from the subject site.

    - ‘Excess material’ from the construction activity should be removed off-site, or reused, or placed only in those areas identified in the Contract documents.

    - Regular inspection should be implemented throughout construction to ensure that environmental protection measures are implemented, maintained and repaired and that remedial measures are initiated where warranted.

- Proposed erosion and sediment control plan will, at a minimum, be consistent with the recommendations contained within the “Erosion and Sediment Control Guide for Urban Construction” (TRCA 2019) and “Measures to Protect Fish and Fish Habitat” (DFO 2019).

- Any areas disturbed by construction will be restored and stabilized as soon as is practicable.

5.1.6 *CULTURAL HERITAGE*

IMPACTS

No built heritage resources or cultural heritage landscapes with known or potential cultural heritage value or interest were identified within the study area.

5.1.7 *ARCHAEOLOGY*

IMPACTS

There are areas of archaeological potential within the study area that will be disturbed by the proposed works. Construction of a new outlet pipe in Lake Erie may impact areas with marine archaeological potential.

MITIGATION

- All identified areas of archaeological potential will be subject to a Stage 2 assessment in accordance with the 2011 Standard and Guidelines for Consultant Archaeologists prior to ground disturbance.

- The Criteria for Evaluating Marine Archaeological Potential checklist will be consulted and a Marine Archaeological Assessment shall be undertaken during detailed design to confirm if any specific mitigation actions may be required prior to construction.

- Each of the 8 sites of CHVI identified within the study area, as well as any new sites of CHVI identified by the additional Stage 2 assessment, will be subject to a Stage 3 site-specific assessment, and Stage 4 mitigation of development impacts (if required), in accordance with the requirements set out in the 2011 Standards and Guidelines for Consultant Archaeologists.

5.1.8 *CONTAMINATED AREAS*

IMPACTS

Based on the findings of the Phase One ESA, four areas of potential environmental concern have been identified within the study area. Contaminated soil and groundwater may be present and must be managed appropriately during construction.

MITIGATION

- A Phase Two Environmental Site Assessment is recommended in order to further assess the existing soil, groundwater and sediment conditions at the site.

5.2 SUMMARY OF MITIGATION MEASURES

Mitigation measures from the 2011 ESR and new mitigation measures identified through this Addendum study are summarized below in **Table 5-1** for construction. No changes to the operation of the plant were considered as part of this Addendum; therefore, **Table 5-2** summarizes the 2011 ESR mitigation measures during operations.

Table 5-1: Summary of Potential Impacts and Mitigation Measures during Construction

CONSTRUCTION		
POTENTIAL IMPACT	**2011 ESR MITIGATION MEASURES**	**2021 MITIGATION MEASURES**
General Construction Operations Construction activities including vegetation clearing, refueling / operation of machinery, spills, and dewatering may impact wetlands and other natural areas.	– Ensure that fuel storage, refuelling and maintenance of construction equipment are handled properly and not allowed in or adjacent to watercourses/bodies. – Contingency plans must be prepared before projects begin for the control and clean up of a spill if one should occur. – As part of detail design, hydrogeological investigations will be carried out prior to construction to identify proper dewatering techniques and impact. – Groundwater removed during construction will be channelled or piped through stabilization and sedimentation ponds allowing the	– An Emergency Response Plan should be developed by the Contractor to be implemented immediately in the event of a sediment release or a spill of a deleterious substance. – The limit of any area to be disturbed should be clearly marked prior to the commencement of the work and the markings should be maintained for the duration of construction. – Machinery should arrive on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds. – Vehicle maintenance and fueling will be conducted at the designated and properly contained maintenance areas in the works yards or at commercial garages located well away from retained vegetation areas. – All construction-related materials, equipment, and construction-generated materials (e.g., sediment in dewatering or runoff from exposed soils, stockpiled soils or other materials from clearing and grubbing) shall be properly stored/contained, maintained, filtered and otherwise handled and managed at a distance of at least 30 m away from significant areas (e.g., watercourses and wetlands).

CONSTRUCTION		
POTENTIAL IMPACT	**2011 ESR MITIGATION MEASURES**	**2021 MITIGATION MEASURES**
	sediments to settle out before entering the watercourse/water body. Suitable roadside ditches may also be used. –	– An environmental management plan will be prepared, which will outline proposed best management practices with respect to the management of hazardous materials, spill prevention, spill response, dust control, erosion and sediment control (ESC), construction dewatering and discharge management, monitoring, and mitigation, and safety and security of the subject site with respect to the general public and wildlife. – ESC measures shall be identified in the contract and all associated contract drawings. More specifically, the Contractor shall control erosion and sediment caused by construction methods and operations including but not limited to stockpiles, access and service roads, storage and work areas, and non-designated disposal areas to meet all legislative requirements to prevent the entry of sediment into the watercourse and prevent any migration of sediment beyond the construction area.
Vegetation Development of the site will require removal of trees and vegetation.	– Removal of vegetation including large trees or large stands of trees has been avoided by the preferred site and land based effluent pipe route alignment. – Restore disturbed areas to natural or better conditions, as required	– The extent of vegetation removal and damage should be minimized within construction access, work and staging areas, particularly adjacent to the woodland or wetlands. These areas will be clearly identified in the Contract documents, and then delineated in the field using erosion and sediment control fencing. Erosion and sediment control fencing will be maintained throughout the construction period. – Exposed soil surfaces should be re-stabilized and revegetated as soon as possible following construction, using native seed mixes where possible. – Under the County's Forest Conservation By-law (By-law 2204/20), the study area qualifies for an exemption under Section 5.1: "activities or matters

CONSTRUCTION		
POTENTIAL IMPACT	**2011 ESR MITIGATION MEASURES**	**2021 MITIGATION MEASURES**
		undertaken by a municipality or a local board of a municipality." Therefore, permitting related to tree removals is not required. – Ash materials should be removed from the site and disposed of within the 'Regulated Area' [see Canada Food Inspection Agency website (CFIA 2021)].
Wetlands Wetlands a may be impacted indirectly by removing a portion of naturally occurring vegetated buffer. Development has the potential to modify water inputs to adjacent water features by altering the catchment area or through alterations to the groundwater table.	– None identified	– Encroachment into a wetland and / or wetland buffer is regulated by the Long Point Region Conservation Authority (LPRCA) and is subject to offsetting requirements. – Future studies should consider potential hydrological impacts to the wetland. This may involve completion of a water balance report. Site-specific mitigation measures should be developed based on the results of future studies. – All construction-related activities should be controlled so as to prevent entry of any petroleum products, debris or other potential contaminants / deleterious substances, in addition to sediment as outlined above, to the wetland.
Wildlife, including Migratory Birds	– None identified	– Any wildlife encountered during construction should not be knowingly harmed. Animals within the construction zone should be allowed to move away from the area on their own and if they do not, the Contract Administrator should be notified.

CONSTRUCTION		
POTENTIAL IMPACT	**2011 ESR MITIGATION MEASURES**	**2021 MITIGATION MEASURES**
Migratory birds may be impacted by removal of vegetation within the breeding bird season The removal of vegetation and general construction activities has the potential to impact other resident wildlife.		– To reduce the possibility of contravention of the Migratory Birds Convention Act (MBCA), vegetation removal should be scheduled to occur outside of the overall bird nesting season of April 1 to August 31. – In addition to the bird-nesting season, tree removals should also occur outside of the active period for SAR bats (e.g., up to the end of September); therefore, considering the bird nesting and bat active seasons, clearing of trees is only permitted between October 1 to March 31. – If vegetation must be removed during the bird nesting season: Nest and nesting activity searches should be conducted by a qualified biologist no more than 24 hours prior to vegetation removal. If an active nest or confirmed nesting activity of a migratory bird is observed, a species-specific buffer area will be identified wherein no vegetation removal will be permitted until the young have fledged from the nest. The buffer will be determined by a qualified biologist and will protect a minimum of 10 m around the nest or nesting activity. The results of all nest searches will be documented at the end of each survey day.
Natural Heritage Features Wooded areas on and adjacent to the site are part of a larger Significant Woodland. Potential impacts to the Significant Woodland include vegetation removals, removal of	– None identified	– To aid in maintaining the ecological functions associated with the Significant Woodland (including wildlife habitat functions for resident and migratory woodland birds), the woodland areas within the property should be retained if feasible. – With these mitigation measures, the forested areas within the subject site should maintain the Significant Woodland designation and associated ecological functions. Candidate SWH identified in this report should be refined during Detail Design based on additional surveys, including seasonally appropriate breeding bird surveys, amphibian surveys, and ELC assessment. Surveys should be a component of a scoped EIS completed during Detail Design.

CONSTRUCTION		
POTENTIAL IMPACT	**2011 ESR MITIGATION MEASURES**	**2021 MITIGATION MEASURES**
the existing forest edge, creation of a new forest edge, removal of a small number of locally rare species, and indirect impacts to interior forest habitat. Indirect impacts include the potential for vegetation clearing / damage beyond the site during construction, and spills of contaminants, fuels and other harmful materials.		
Fish and Aquatic Habitat Aquatic habitat may be impacted during construction and by installation of a new outlet pipe.	– Outfall located (i.e. 2000 metres from shore, 9.2 to 9.3 metres deep). The Assimilative Capacity Study confirms no significant impact to water quality (e.g., Nanticoke Water Treatment Plant intake). – Engage DFO at preliminary design to identify and address harmful alteration, disruption or destruction	– Schedule any in-channel construction to avoid the restricted activity period set out by NDMNRF: March 1st to July 1st. This timing window should be confirmed with DFO and/or LPRCA. Restore disturbed areas/habitat to natural or improved conditions. – As part of detail design, hydrogeological investigations should be carried out prior to construction to identify appropriate dewatering techniques and potential impacts to fish and fish habitat.

CONSTRUCTION		
POTENTIAL IMPACT	**2011 ESR MITIGATION MEASURES**	**2021 MITIGATION MEASURES**
	(HADD) issues. Obtain DFO Letter of Advice and LPRCA permits. – Schedule Lake Erie effluent pipe construction to avoid fish spawning periods (to be determined by MNR) – Proper Sedimentation and Erosion Control (e.g. silt curtains installed at perimeter) as well as near shore including regular monitoring. – Consider outfall construction based on tunneling (reduces impacts to fish habitat compared to blasting and trenching – also would eliminate concern of sediment disposal). – Restore disturbed areas/habitat to natural or better conditions. – For outfall construction, avoid wavy weather on lake. – Ensure proper onsite monitoring of erosion and sediment control, especially during in-water works. Where construction occurs in proximity to watercourses, proper sedimentation/erosion controls (in accordance with Ontario Provincial Standards) will be employed to the	– Review of the outlet pipe design and potential impact should be completed during Detail Design along with a determination regarding the need to submit a Request for Review to DFO. – All water pumped from the site during construction should be released into settling basins or other similar measures to dissipate flows and remove suspended sediment if the outflow will enter a watercourse following its release. Sediment and Erosion Control: – Erosion and Sediment Control (ESC) measures should be installed prior to the initiation of construction works to prevent off-site movement of deleterious substances downstream into Lake Erie. Silt curtains should be installed at the perimeter of any work being completed in Lake Erie. – All ESC measures should be inspected and maintained by the Contractor to ensure they are functioning as intended throughout the construction period and until such time that construction is completed. If ESC measures become damaged, they will be repaired / replaced by the Contractor as soon as possible. – All ESC measures that are non-biodegradable should be removed from the site when work is complete, and the site is stabilized. – Temporary stockpiling and construction staging areas should be located in defined areas and properly contained to prevent any migration of materials from the subject site. – 'Excess material' from the construction activity should be removed off-site, or reused, or placed only in those areas identified in the Contract documents.

CONSTRUCTION		
POTENTIAL IMPACT	**2011 ESR MITIGATION MEASURES**	**2021 MITIGATION MEASURES**
	satisfaction of all relevant agencies including, MNR, and LPRCA. – Provide and maintain sediment control fencing around construction areas and top of bank (and in water) to satisfaction of all applicable agencies. – Proposed erosion and sediment control plan will, at a minimum, be consistent with the recommendations contained within the MOE "Guidelines for Evaluation Activities Impacting Water Resources". – Any areas disturbed by construction will be restored and stabilized as soon as practically possible.	– Regular inspection should be implemented throughout construction to ensure that environmental protection measures are implemented, maintained and repaired and that remedial measures are initiated where warranted. – Proposed erosion and sediment control plan will, at a minimum, be consistent with the recommendations contained within the "Erosion and Sediment Control Guide for Urban Construction" (TRCA 2019) and "Measures to Protect Fish and Fish Habitat" (DFO 2019). – Any areas disturbed by construction will be restored and stabilized as soon as is practicable.
Groundwater Resource Management	– As part of detail design, hydrogeological investigations will be carried out prior to construction to identify proper dewatering techniques and impact. – Groundwater removed during construction will be channelled or piped through stabilization and sedimentation ponds allowing the sediments to settle out before	– Refer to mitigation measures identified under "Aquatic Habitat"

CONSTRUCTION		
POTENTIAL IMPACT	**2011 ESR MITIGATION MEASURES**	**2021 MITIGATION MEASURES**
	entering the watercourse/water body. Suitable roadside ditches may also be used.	
Species at Risk SAR and SAR habitat may be present within the study area and may be impacted by the proposed works.	– None identified	– In the event that a SAR is found in the construction area, all activities that could potentially harm the animal should cease immediately and the Contract Administrator should be notified. SAR or potential SAR will not be handled prior to consulting with the MECP SAR Branch. – Endangered Bats: Risk of contravention of Section 9 of the ESA (prohibition on killing, harming, harassing, etc.), can be reduced through timing restrictions for tree and vegetation removal. – It is recommended a snag density survey be undertaken in accordance with the MECP's latest guidance. If the results of this assessment indicate the treed habitats on the subject site have potential to support roosting bats, the MECP should be consulted during detail design to confirm the next steps. – No tree removals should be undertaken until such time an assessment for bat habitat is completed by a qualified ecologist. When tree removal is approved, removals should be undertaken during the bat hibernation period (i.e., October 1 to March 31) to ensure that no direct harm to SAR bat individuals occurs (including potential maternal and day-roosting bats). – The subject site and adjacent 50 m area should be assessed for Butternut once limits of tree removals are confirmed. Where a Butternut is confirmed, an approved Butternut Health Assessor should complete the standardized assessment to determine the health of the tree and provide site-specific direction related to approval under the ESA.

CONSTRUCTION		
POTENTIAL IMPACT	**2011 ESR MITIGATION MEASURES**	**2021 MITIGATION MEASURES**
Contaminated Areas Contaminated areas may be present and impacted soil and groundwater must be managed appropriately during construction.	– Complete combined Phase I and II Environmental Site Assessment – address potential soil contamination from past or adjacent industrial activities.	– A Phase One ESA has been completed and a Phase Two ESA is recommended in order to further assess the existing soil, groundwater and sediment conditions at the site.
Archaeological Resources There are areas of archaeological potential within the study area that will be disturbed by the proposed works. Construction of a new outlet pipe in Lake Erie may impact areas with marine archaeological potential.	– None identified	– All identified areas of archaeological potential will be subject to a Stage 2 assessment in accordance with the 2011 Standard and Guidelines for Consultant Archaeologists prior to ground disturbance. – The Criteria for Evaluating Marine Archaeological Potential checklist will be consulted and a Marine Archaeological Assessment shall be undertaken during detailed design to confirm if any specific mitigation actions may be required prior to construction. – Each of the 8 sites of CHVI identified within the study area will be subject to a Stage 3 site-specific assessment in accordance with the requirements set out in the 2011 Standards and Guidelines for Consultant Archaeologists.

CONSTRUCTION		
POTENTIAL IMPACT	**2011 ESR MITIGATION MEASURES**	**2021 MITIGATION MEASURES**
Noise, Vibration, Traffic and Dust Increased levels of noise, vibration, traffic and dust are anticipated during construction.	– Construction to take place in area zoned Heavy Industrial. – Dedicated WWTP access road for trucks during construction. – To address construction related vibration impacts in nearby buildings, preconstruction surveys will be completed prior to construction. The surveys will document existing building conditions as well as identify any sensitive structures to be considered during construction. – Requirement and procedure for rock removal to be confirmed at preliminary design. – Minimize closure of new Lakeshore Road related to effluent pipe construction, if required. – Dust control by spraying water, street sweeping use of calcium chloride.	– No new mitigation measures identified.

Table 5-2: Summary of Potential Impacts and Mitigation Measures during Operations

OPERATIONS	
POTENTIAL IMPACT	**2011 ESR MITIGATION MEASURES**
Air Quality Impact Assessment / Odour Management	– In order to address potential odour impacts from the proposed new WWTP, an Air Quality Impact Assessment Odour Management approach that will be followed at detail design is summarized below: – 1. Review the WWTP conceptual design; – 2. Development of emissions inventory; – 3. Obtain and review the WWTP surrounding areas; – 4. Carry out dispersion modeling; 5. Assess potential odour effects; 6. Evaluate for the Use of Odour Mitigation Measures; – 7. Develop impact assessment including mitigation measures; and – 8. Prepare C of A (Air and Noise) as part of the future WWTP detailed design.
Visual Impact of WWTP	– Screening, landscaping and architectural design will be captured in preliminary and detail design
Noise and Vibration	– The preferred WWTP site (Site B) is located within an area zoned Heavy Industrial. The WWTP will be operated in accordance with MOE guidelines, which will include noise and vibration review as part of the MOE environmental compliance approval process. Requirements and procedures for rock removal are to be determined at preliminary design.
Truck Traffic	– It is expected that almost all truck traffic will reach the preferred WWTP site by County Road 3 and Riverside Drive

6 FUTURE PERMITS AND APPROVALS

Based on the updated impact assessment completed, the environmental permits and approvals identified in **Table 6-1** may be required during Detail Design.

Table 6-1: Future Environmental Permits and Approvals

Agency	2011 Permit / Approval	2021 Permit / Approval
Department of Fisheries and Oceans (DFO)	– The 2011 ESR recommended review of harmful alteration, disruption or destruction (HADD) issues and that a DFO Letter of Advice should be obtained.	– The *Fisheries Act* has since been amended and a Request for Review may be required to confirm potential permit or approval requirements from DFO. – The outlet pipe design and potential impacts should be completed during Detail Design along with a determination regarding the need to submit a Request for Review to DFO.
Ministry of Environment, Conservation & Parks	– Environmental Compliance Approval for operation of the WWTP.	– Environmental Compliance Approval for operation of the WWTP. – Permit under *Endangered Species Act* may be required, pending completion of recommended natural environmental follow up studies and confirmation of potential SAR impacts.
Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI)	– None identified.	– MHSTCI is the approval authority for archaeological assessments in Ontario and must review and accept the required archaeological assessments prior to construction.
Conservation Authority	– Approval from the LPRCA was identified as a requirement with regards to design of the outlet pipe and review of ESC measures.	– LPRCA should be consulted during Detail Design to review: offsetting requirements for wetland impacts; confirmation of in-water work timing windows; and confirmation of permit and approval requirements under *Ontario Regulation 178/06 - Development, Interference with*

		Wetlands and Alterations to Shorelines and Watercourses.

7 CONSULTATION ON THE PROPOSED CHANGES

The MCEA process requires a Notice of Filing of Addendum be issued to all potentially affected members of the public and review agencies, including all those who were contacted during the original Class EA planning process. A period of 30 calendar days will be provided for review of the ESR Addendum and comment by the public and stakeholders. The Notice will include information about how to request a higher level of study (i.e., an individual or comprehensive EA) or that conditions be imposed (e.g., requiring further studies) by MECP prior to proceeding to implementation of the project. This was previously referred to as a Part II Order request; however, under amendments to the Environmental Assessment Act passed in July 2020, these provisions now apply only in instances where adverse impacts to constitutionally-protected Aboriginal and / or treaty rights may occur.

7.1 CONSULTATION OVERVIEW

Information was posted online on the County website for public and stakeholder review on November 23, 2021, including background information, a project status update and contact information for County staff. A public consultation information package was prepared and available for download or viewing online. A copy of the material is provided as Appendix E.

Notification of the public consultation information was circulated through a posting on the County's website and social media accounts, as well as through distribution to a study contact list and to local residents by mail / email.

7.1.1 *COMMENTS RECEIVED*

Public and stakeholder comments submitted regarding this ESR Addendum are summarized in Table 7-1.

Table 7-1: Summary of Comments Received

Date and Form of Comment	Summary of Comment	How It Was Addressed
December 6, 2021 / Facebook	- Resident inquiring about accumulation of black sludge and algae alone shoreline east of Nanticoke	- County staff responded noting that the re-occurrence of algal blooms in Lake Erie is a longstanding issue with multiple contributing factors. The proposed mechanical wastewater treatment plant has the ability to treat

		wastewater to a higher quality than the existing wastewater treatment lagoons, which will reduce the facility's environmental impact but will not solve the issue of algae in the lake. Haldimand's wastewater treatment processes operate under strict regulations that meet or exceed standards set by the provincial and federal government to protect public health and the environment.
December 7, 2021 / Email	- Resident inquiring about methods of notifying community of this study and transparency of process. - Has Norfolk County been informed and are residents of Nanticoke or Vaughan Survey area invited to participate? - Initial studies were completed in 2011, so will new environmental standards be considered and investigated? - Will Indigenous communities be involved, as stewards of land and water? - Does this plan expand on current location of Nanticoke, or is this new? If new, what are impacts on land, creek and Lake Erie? - Consultation should be done more transparently and engagement methods must be tailored appropriately for seasonal, elderly and concerned residents.	County staff responded noting: - The County strives to reach as many residents as possible through a number of communication channels including (but not limited to): radio, newspaper, social media, and the county website. - Earlier this year a preliminary 'Keeping You Connected' survey was mailed to every household in Haldimand County (with the Haldimand County Playbook) to obtain public input on how we can enhance our current communications and community engagement program. - All previous studies are being revisited to confirm and or update existing conditions and to complete any further study activities to satisfy current requirements. - The County has reached out early in the study process to consult with Indigenous communities. - Norfolk County has been identified as a potential stakeholder. However, they are not involved in this project. - The focus of this study is to provide wastewater servicing to support future growth within the Lake Erie Industrial Park and surrounding communities. However, there are no plans at this time

		to extend wastewater servicing into Norfolk County.

7.1.2 *NOTICE OF FILING OF ESR ADDENDUM*

A Notice of Filing of this ESR Addendum has been published and distributed to the study contact list on February 11, 2022.

Interested persons are encouraged to review the ESR Addendum and provide comments by March 14, 2022. In addition, a request may be made to the Ministry of the Environment, Conservation and Parks for an order requiring a higher level of study (i.e., requiring an individual/comprehensive EA approval before being able to proceed), or that conditions be imposed (e.g. require further studies), only on the grounds that the requested order may prevent, mitigate or remedy adverse impacts on constitutionally protected Aboriginal and treaty rights.

Information about how to submit comments or questions on this ESR Addendum is included in the Notice of Filing of Addendum in Appendix F.

7.2 INDIGENOUS CONSULTATION

7.2.1 *INITIAL ENGAGEMENT*

A contact list of potentially-interested Indigenous communities was prepared at the start of the study and confirmed with MECP staff. The Indigenous community contact list includes: Mississaugas of the Credit First Nation; Six Nations of the Grand River; and the Haudenosaunee Development Institute (HDI).

Each community was invited to participate in a meeting with the Project Team to discuss their interests and concerns in the project, summarized in Table 7-2.

Table 7-2: Summary of Indigenous Interests

Community and Form of Contact	**Summary of Concerns**	**How It Was Addressed**
Six Nations of the Grand River • Notification of study sent by	- Concern that input was requested with a very short timeline. - Concerns regarding the Cultural Heritage report,	Six Nations was invited to provide input to the oral history section as well as any available information regarding built heritage and cultural heritage resources. WSP and County staff will continue discussions with Six Nations and the

Community and Form of Contact	Summary of Concerns	How It Was Addressed
email by County staff on October 4, 2021 • A meeting was held on December 1, 2021 • Six Nations of the Grand River provided detailed comments regarding the Cultural Heritage Report on January 28, 2022	including: incorrectly identifying traditional territory; oral history contained in the report does not reflect history and archaeological evidence; disagreement with the conclusion that there is no cultural heritage value; no interviews with Indigenous communities were completed; too much of a focus on built heritage as opposed to cultural heritage landscapes; limited photos and mapping were provided; heritage potential of the industrial lands were not considered. - Requested that County staff are to be involved in the next meeting. - Formally requested to take part in the site work necessary for the Stage 2 Archaeological Assessment.	concerns expressed around this report beyond the filing of this ESR Addendum for public review and during detailed design. WSP staff were not permitted to take photographs while on Stelco's premises. Within the study area, the industrial lands consisted of a pumphouse and cooling tower were constructed between 1972 and 1982. During the field review, these buildings were determined not to meet the threshold for having cultural heritage value or interest, and as such, were not included as built heritage resources in the Cultural Heritage Report. We are in the process of improving our Indigenous engagement efforts in order to provide an acceptable consultation process. We are committed to working closely with Six Nations for the duration of this project in order to ensure that all questions and comments are answered effectively. This includes continued engagement through the forthcoming detailed design and construction phases. We are grateful for the opportunities that we have had thus far to engage with Six Nations and look forward to continuing to build a strong and transparent working relationship. The County confirms that Six Nations will be contacted when site work for the Stage 2 Archaeological Assessment is to be completed.
Mississaugas of the Credit First Nation	- The Mississaugas of the Credit First Nation (MCFN) requested further technical information regarding the	- The County clarified that if the full Highway 6 Servicing Strategy is enacted, the following treatment plants and lagoons will be decommissioned. Wastewater flows from each of these

Community and Form of Contact	Summary of Concerns	How It Was Addressed
• Notification of study sent by email by County staff on October 4, 2021 • A meeting was held on November 30, 2021	treatment ponds on-site and existing treatment plants. - MCFN requested ecological reporting to be provided for review. Of particular concern are the potential presence of 16 species at risk within the Study Area (one fish, nine birds, and six herptiles), which will need to be considered during detailed design and permitting. MCFN also requested clarification on the presence of herpetile species. - MCFN requested further detail on the potential effects and mitigation measures on wooded areas and watercourses. - Requested that County staff are to be involved in the next meeting. - MCFN requests to be involved in ecological studies going forward.	communities will be conveyed and treated at the proposed centralized Nanticoke Wastewater Treatment Plant: • Caledonia Wastewater Treatment Plant • Hagersville Wastewater Treatment Plant • Jarvis Wastewater Treatment Lagoons • Townsend Wastewater Treatment Lagoons - The ponds located on the north end of the Site 'B' property are owned by Stelco and will remain online throughout construction and operation of the proposed Nanticoke Wastewater Treatment Plant. The west lagoon is used for wastewater treatment while the east lagoon is used as a water reservoir. - WSP circulated the Natural Heritage Constraints Analysis Report to the Mississaugas of the Credit First Nation on December 14, 2021 for review. - In addition to the review of previous studies, background data also includes data gleaned from the Natural Heritage Information Centre (NHIC) database, agency data requests and reviews of a select group of standardized "atlases" such as the Ontario reptile and amphibian atlas (ORAA) and the breeding bird atlas (BBA). There are several others sources which are reviewed as part of the background

Community and Form of Contact	Summary of Concerns	How It Was Addressed
		data review, however, the herptile background data would have been predominantly from the NHIC database, the ORAA, and agency correspondence. - There would be a total of 9 herptile species since the Midland Painted Turtle was identified in the background data as well as during field investigations. Additional consultation with agencies at the beginning of detail design should occur to determine appropriate level of effort regarding surveys for each of these species / groups of species - Additional, detailed mitigation recommendations would be made following further surveys and in conjunction with the design team, during detail design. Normally, the mitigation for woodlands is to revise the siting of the construction works to avoid the wooded areas and wetlands (in this case, move the site approx. 160 m north) or establish a buffer between the development and the woodlot (typical recommendation is 30 m from dripline, but this varies greatly by site and other associated environmental considerations). If woodlot is required to be removed, a potential mitigation measure would be replant elsewhere, however additional alternatives would be explored during detailed design. - The County will be involved in the next meeting, and the County will involve MCFN on future ecological studies.

Community and Form of Contact	Summary of Concerns	How It Was Addressed
Haudenosaunee Development Institute (HDI) • Notification of study sent by email by County staff on October 4, 2021	- To date, the project team has invited HDI to meet but has not had an opportunity to do so; however, outreach and engagement will continue during the ESR Addendum review period and during detail design.	

8 REFERENCES

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