

HALDIMAND COUNTY

CULTURAL HERITAGE REPORT: EXISTING CONDITIONS AND PRELIMINARY IMPACT ASSESSMENT

LAKE ERIE INDUSTRIAL PARK WASTEWATER TREATMENT SYSTEM: MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT ADDENDUM

January 27, 2022

FINAL





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HALDIMAND COUNTY

ORIGINAL REPORT

FINAL

PROJECT NO.: 211-10308-00

DATE: JANUARY 27, 2022

WSP

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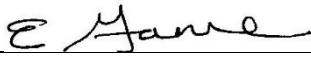
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EXECUTIVE SUMMARY

WSP Canada Inc. (WSP) was retained by Haldimand County (the Client), to conduct a Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (Cultural Heritage Report) as part of the Lake Erie Industrial Park (LEIP) Wastewater Treatment System Municipal Class Environmental Assessment (MCEA) Addendum. The project was undertaken to identify alternative solutions that will provide wastewater treatment and servicing capacity for:

- The LEIP;
- U.S. Steel (formerly Stelco Holdings Inc [Stelco]) LEIP (separate land holdings); and
- Surrounding settlements including Townsend and Jarvis.

Identified alternative solutions and design concepts were evaluated based on estimated long term wastewater treatment requirements. The recommended solution is based on the development of a new wastewater treatment plant (WWTP) facility that has the flexibility for future expansion should it be warranted. This also includes construction of a new Lake Erie treated effluent pipe outfall.

Presently, only a few small industries and U.S. Steel Lake Erie Works Pickle Line use the current LEIP wastewater treatment lagoon facility which is based on seasonal discharge to Centre Creek. Recognizing that the current LEIP wastewater treatment system is close to exceeding its operational capacity and that future industrial park development will result in additional wastewater flows, this study addresses current and future wastewater treatment capacity requirements. The study involves siting a new LEIP wastewater treatment facility and will also consider alternative service area scenarios, which could include the treatment of wastewater flows from surrounding communities such as Jarvis and Townsend. Based on the evaluation of candidate WWTP sites, Site B was identified as the preferred site for the new LEIP WWTP (AECOM, 2011).

The cultural heritage identification and assessment in this Cultural Heritage Report follows the process set out in the *Draft Existing Conditions and Preliminary Impact Assessment Report Guidelines* provided by the MHSTCI (2019). In addition, best practice in heritage identification and assessment has been used, as outlined in the MHSTCI's *Standards and Guidelines for the Conservation of Provincial Heritage Properties* (2010), *Identification and Evaluation Process* (2014) and the *Ontario Heritage Toolkit* (2006a).

This Cultural Heritage Report was prepared by Emily Game, B.A., Cultural Heritage Specialist and reviewed by Joel Konrad, PhD, CAHP, Cultural Heritage Lead, Ontario.

This Cultural Heritage Report considered the preferred WWTP Site B and included a 150m buffer, located on the north shore of Lake Erie, west of the U.S. Steel LEIP (Figures 1 and 2, Appendix A). The location of the preferred WWTP was provided by WSP's design team prior to conducting fieldwork.

A field review was conducted on October 29, 2021, by Emily Game, which confirmed that there are no BHRs or CHLs with known or potential cultural heritage value or interest (CHVI) adjacent to the study area.

The report has resulted in the following recommendations:

- 1 No built heritage resources or cultural heritage landscapes with known or potential cultural heritage value or interest were identified within the WWTP Site B. As such, no further heritage reporting is required as part of the project.
- 2 Should future work require expansion of the WWTP Site B, a qualified heritage consultant should be contacted to confirm the impacts of the proposed work on known or potential BHRs and CHLs.

PROJECT PERSONNEL

WSP

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1 INTRODUCTION

1.1 STUDY PURPOSE AND OBJECTIVE

Haldimand County has retained WSP Canada Inc. to undertake a Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (Cultural Heritage Report) for Lake Erie Industrial Park (LEIP) Wastewater Treatment System Municipal Class Environmental Assessment (MCEA) Addendum (Figure 1, Appendix A).

The current LEIP wastewater treatment system is reaching its operational capacity. As a result of this and Ministry of Environment (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.

A Cultural Heritage Report is required for the Environmental Assessment process to: identify existing and potential built heritage resources (BHR) and cultural heritage landscapes (CHL); review the background history of the project area; complete a site visit to confirm existing conditions; provide a preliminary impact assessment to conserve BHRs and CHLs; identify mitigation and/or monitoring for potential impacts; and determine whether additional heritage reporting is required.

To meet these objectives, the report will:

- Introduce the study including the purpose and methodology used to undertake the work.
- Review background studies to complete a summary history of the study area using local histories, historical mapping and aerial photographs. This work will trace the evolution of the study area and aid in the identification of existing and potential BHRs and CHLs.
- Contact Haldimand County regarding heritage recognitions and identification of listed and/or designated heritage properties within the study area.
- Confirm the presence of previously recognized built heritage resources and cultural heritage landscapes. This process will aid in the identification of built heritage resources and cultural heritage landscapes that may be impacted by the undertaking. This task will include a review of municipal, provincial, and federal heritage registers and inventories, including Heritage Haldimand Designated Properties (Haldimand County, n.d.).

This work will be conducted in accordance with the *Ontario Heritage Act* (OHA) (2005), the *Provincial Policy Statement* (2020), the *Environmental Assessment Act* (1990) and the Haldimand County *Official Plan*.

1.2 PROJECT DESCRIPTION AND STUDY AREA

The preferred solution, Site B of the LEIP Wastewater Treatment System project 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 Lake Shore Road and new Lake Shore Road. The study area is located within lands held by U.S. Steel. 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 U.S. Steel facility, encircle the lagoons. Two structures, a cooling tower, and a pump house 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 consists of gently rolling active agricultural fields.

2 LEGISLATIVE FRAMEWORK

This report reviews BHRs and CHLs within the study area to ensure that the requirements under the Ontario *Environmental Assessment Act* (1990) are satisfied. This section outlines the various legislative frameworks and policies relevant to the report.

2.1 UNITED NATIONS DECLARATION ON THE RIGHTS OF INDIGENOUS PEOPLES

On June 21st, 2021, the Canadian federal government enacted *United Nations Declaration on the Rights of Indigenous Peoples Act* and confirmed that the *United Nations Declaration on the Rights of Indigenous Peoples* (Declaration - 2007) “must be implemented in Canada.” As a result, Indigenous peoples in Canada are recognized as having unique rights, including those that pertain to the conservation of Indigenous heritage. As per Articles 11 and 31 of the Declaration:

11. 1) Indigenous peoples have the right to practice and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites, artefacts, designs, ceremonies, technologies and visual and performing arts and literature.

31. 1) Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions.

- 2) In conjunction with Indigenous peoples, States shall take effective measures to recognize and protect the exercise of these rights.

These rights to historical sites, ceremonies, cultural traditions, etc. (collectively understood as Indigenous heritage) are pertinent to the Environmental Assessment process through Articles 25 and 26 of the Declaration, which state that:

25. Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard.
26. 1) Indigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired.

2) Indigenous peoples have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired.

3) States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditions, and land tenure systems of the Indigenous peoples concerned.

2.2 ENVIRONMENTAL ASSESSMENT ACT

The purpose of the Ontario Environmental Assessment Act (1990) is “the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management, in Ontario, of the environment” (*Environmental Assessment Act 2009, Part I-Section 2*). The *Environmental Assessment Act* (1990) defines the environment broadly to include the built and cultural environment and outlines a planning and decision-making process to ensure that potential environmental effects are considered before a project begins. This legislation applies to provincial ministries and agencies, municipalities and other public bodies.

2.3 PROVINCIAL POLICY STATEMENT

The *Provincial Policy Statement* (PPS) (2020) outlines provincial “policy direction on matters of provincial interest related to land use planning and development” (Part I: Preamble PPS 2020). The intent is to provide for appropriate development that protects resources of public interest, public health and safety and the quality of the natural and built environment. The PPS 2020 identifies the conservation of significant built heritage resources and cultural heritage landscapes as a provincial interest in Section 2.6.1.

Relevant definitions from the PPS 2020 include:

Built Heritage Resources (BHR): means a building, structure, monument, installation or any manufactured or constructed part or remnant that contributes to a property’s cultural heritage value or interest as identified by a community, including an Indigenous community. *Built heritage resources* are located on property that may be designated under Parts IV or V of the OHA, or that may be included on local, provincial, federal and/or international registers.

Cultural Heritage Landscapes (CHL): means a defined geographical area that may have been modified by human activity and is identified as having cultural heritage value or interest by a community, including an Indigenous community. The area may include features such as buildings, structures, spaces, views, archaeological sites or natural elements that are valued together for their interrelationship, meaning or association. *Cultural heritage landscapes* may be properties that have been determined to have cultural heritage value or interest under the OHA, or have been included on federal and/or international registers, and/or protected through official plan, zoning by-law, or other land use planning mechanisms.

Conserved: means the identification, protection, management and use of built heritage resources, *cultural heritage landscapes* and *archaeological resources* in a manner that ensures their cultural heritage value or interest is retained. This may be achieved by the implementation of recommendations set out in a conservation plan, archaeological assessment, and/or heritage impact assessment that has been approved, accepted or adopted by the relevant planning authority and/or decision-maker. Mitigative measures and/or alternative development approaches can be included in these plans and assessments.

2.4 ONTARIO HERITAGE ACT

The OHA (2005) gives municipalities and the provincial government powers to preserve the heritage of Ontario, with a primary focus on protecting heritage properties and archaeological sites. The OHA grants the authority to municipalities and to the province to identify and designate properties of heritage significance, provide standards and guidelines for the preservation of heritage properties and enhance protection of heritage conservation districts, marine heritage sites and archaeological resources.

Designation ensures the conservation of important places and can take the form of individual designations (Part IV of the OHA) or as part of a larger group of properties, known as a Heritage Conservation District (Part V of the OHA). An evaluation using the criteria outlined in Ontario Regulation (O. Reg) 9/06 is used to determine whether a property possesses cultural heritage value or interest and may be worthy of designation under the OHA. Designation offers protection for properties under Sections 33, 34 and 42 of the OHA, prohibiting the owner of a designated property from altering, demolishing or removing a building or structure on the property unless the owner applies to the council of the municipality and receives written consent to proceed with the alteration, demolition or removal.

In addition to designated properties, the OHA allows municipalities to list properties that are considered to have cultural heritage value or interest on their Municipal Heritage Register. Under Part IV, Section 27 of the OHA, municipalities must maintain a Register of properties situated in the municipality that are of cultural heritage value or interest. Section 27 (1.1) states that the register shall be kept by the clerk and that it must list all designated properties (Part IV and V). Under Section 27 (1.2), the Register may include property that has not been designated, but that council believes to be of cultural heritage value or interest. Listed properties, although recognized as having cultural heritage value or interest, are not protected under the OHA to the same extent as designated properties, but are acknowledged under Section 2 of the PPS 2020 under the *Planning Act*. An owner of a listed heritage property must provide the municipality with 60 days' notice of their intention to demolish a building or structure on the property.

The OHA also allows for the designation of provincial heritage properties (PHP). Part III.1 of the OHA enables the preparation of standards and guidelines that set out the criteria and process for identifying the cultural heritage value or interest of PHPs (Part II of the OHA) and cultural heritage value or interest of provincial heritage properties of

provincial significance (PHPPS) (Ontario Regulation (O. Reg.) 10/06 of the OHA) and to set standards for their protection, maintenance, use, and disposal.

2.4.1 ONTARIO REGULATION 9/06

The criteria for determining cultural heritage value or interest is defined in O. Reg. 9/06. This regulation was created to ensure a consistent approach to the designation of heritage properties under the OHA. All designations under the OHA made after 2006 must meet the criteria outlined in the regulation.

A property may be designated under Section 29 of the OHA if it meets one or more of the following criteria for determining whether it is of cultural heritage value or interest:

- 1 The property has design value or physical value because it,
 - i. is a rare, unique, representative or early example of a style, type, expression, material or construction method,
 - ii. displays a high degree of craftsmanship or artistic merit, or
 - iii. demonstrates a high degree of technical or scientific achievement.
 - 2 The property has historical value or associative value because it,
 - i. has direct associations with a theme, event, belief, person, activity, organization or institution that is significant to a community,
 - ii. yields, or has the potential to yield, information that contributes to an understanding of a community or culture, or
 - iii. demonstrates or reflects the work or ideas of an architect, artist, builder, designer or theorist who is significant to a community.
 - 3 The property has contextual value because it,
 - i. is important in defining, maintaining or supporting the character of an area,
 - ii. is physically, functionally, visually or historically linked to its surroundings, or,
 - iii. is a landmark.
-

2.5 HALDIMAND COUNTY OFFICIAL PLAN

The Haldimand County *Official Plan* (2019) is a policy document, adopted in accordance with the provisions of the *Planning Act*. Policies relevant to heritage in the *Official Plan* include:

1. Haldimand County's cultural heritage adds to the quality of life for local residents, attracts visitors to the County, aids in revitalization of communities and plays a role in supporting local businesses. Heritage resources also provide physical and cultural links to the original settlement of the area and to specific periods or events in the County. Heritage resources are human made features exhibiting historical, cultural, architectural, or archaeological features of local, Provincial or Natural significance. The Grand River is a Canadian Heritage River, and is well known for its archaeological heritage. Other landscapes such as Mohawk Island, the Carolinian forest and the Lake Erie shoreline also add to Haldimand County's natural heritage. Buildings and structures of historical significance or special architectural merit such as Ruthven Park, a National Historic Site and Haldimand County Museums consisting of Edinburgh Square Heritage and Cultural Centre, Haldimand County Museum and Archives and the Wilson MacDonald Memorial

School Museum, draw both local and outside visitors to the County.

Haldimand County values its local heritage and will continue to preserve to the greatest extent possible the cultural and heritage assets. A Strategic Plan will be prepared that will establish standards and guidelines for identifying, designating and preserving cultural heritage resources. As well, the Plan will enable the undertaking of various initiatives including cultural mapping and/or cultural inventories to increase heritage awareness. This section of the Official Plan may be amended as appropriate to reflect the Provincial changes to the Heritage Act and the Strategic Plan

2. In accordance with the *Ontario Heritage Act*, Heritage Haldimand Local Architectural Conservation Advisory Committee (LACAC) identifies heritage resources, advises the County on heritage matters, and assists with the conservation of cultural heritage resources. The County may document heritage features, encourage the development of heritage sites, trails, interpretive plaques, public archives, awards, educational programs and other appropriate measures to promote heritage resources.
3. The County in consultation with LACAC may prepare a study to determine the feasibility of designation and delineation of heritage conservation districts for future conservation and planning. The area to be studied will be defined by bylaw.
4. The County will encourage the preservation of designated significant heritage buildings, structures and features including scale, form, colour, texture, material and the relation between structures, open spaces and landforms.
5. The County may, by by-law, establish an area of Demolition Control under the Planning Act to control the demolition in whole or in part of a designated property or property in a designated area. The County may give consideration to the designation of any heritage resource if that resource is threatened with demolition. Where an owner of a heritage resource applies for approval to demolish, the County may consider acquisition of the property where it determines that it is in the public interest to do so, and the property is of sufficient heritage merit to the community.
6. The County will inform the appropriate government agencies of new development or redevelopment that may affect defined heritage features. In reviewing such developments, the County may consider the following:
 - a. Profile and character of adjacent heritage buildings;
 - b. The effect of shadows on adjacent heritage properties, particularly on landscaped open spaces and outdoor amenity areas;
 - c. Encourage residential infill in heritage areas to be sensitive to the existing scale and pattern of those areas and districts, which maintains the existing landscape and streetscape qualities of those areas and which does not result in the loss of any heritage resources; and
 - d. Utility companies will be required, where possible, to place metering equipment, power lines, equipment boxes, piping, and other utility equipment and devices in locations which do not detract from the visual character of heritage resources, and which do not have a negative impact on the architectural integrity of those resources.

7. The Grand River is a designated Canadian Heritage River running through Dunnville, Cayuga and Caledonia. Since its designation, Haldimand County and various local interest groups have engaged in various projects to protect and promote the Grand River. The County will continue to support appropriate incentives to maintain, enhance, manage and conserve those features of the Grand River that are integral to its recognition and designation as a heritage river.

The County will continue to partner with other agencies such as the Grand River Conservation Authority, the Lower Grand River Land Trust and other relevant agencies engaged in other activities that protect and preserve the Grand River as a heritage river.

8. Vistas are open spaces that provide scenic views. Vistas along the Lake Erie shoreline and the Grand River provide visual access to the water. Where feasible, the County will protect public vistas by evaluating new development for impact on significant vistas and requiring building setbacks or construction techniques to retain the important views as much as possible. Also, where feasible, the County may consider preserving and/or reserving existing public land along strategic locations on the shoreline for scenic views.

3 METHODOLOGY

3.1 BACKGROUND REVIEW

BHRs and CHLs already recognized by the municipality, the OHT, provincially and federally were identified by reviewing the following:

- The inventory of OHT easements;
- The OHT's Ontario Heritage Plaque Guide, an online, searchable database of Ontario Heritage Plaques;
- Ontario's Historical Plaques website;
- Inventory of known cemeteries/burial sites in the Ontario Ministry of Government and Consumer Services and the Ontario Genealogical Society's online databases;
- Parks Canada's Historic Places website, an online, searchable register that provides information on historic places recognized at the local, provincial/territorial and national levels;
- Parks Canada's Directory of Federal Heritage Designations, a searchable on-line database that identifies National Historic Sites, National Historic Events, National Historic People, Heritage Railway Stations, Federal Heritage Buildings and Heritage Lighthouses;
- Canadian Heritage River System, a national river conservation program that promotes, protects and enhances the best examples of Canada's river heritage; and
- UNESCO World Heritage Sites.

The following municipality-specific resource was consulted in addition to contacting Haldimand County's supervisor of Heritage and Culture:

- Heritage Haldimand Designated Properties (Haldimand County, n.d.), a website that provides all BHRs and CHLs that are designated under Part IV or V of the OHA, listed on the heritage register.

For the purposes of this study, any property previously identified by a municipality, municipal staff, provincial or federal agencies as containing, or having the potential to contain, CHVI will be determined to be a BHR or CHL, and if applicable, will be discussed in Section 5.4.

3.2 FIELD ASSESSMENT

Field assessment for this report included a survey of the cultural heritage study area from the publicly accessible right-of-way to confirm or identify existing and/or potential BHRs and CHLs. Where identified, potential resources were photographed and mapped, and physical characteristics visible from the right-of-way or aerial imagery were described.

The use of a 40-year threshold is a guiding principle when conducting a preliminary identification of cultural heritage resources (MHSTCI 2016). While identification of a resource that is 40 years old or older does not confer outright heritage significance, this threshold provides a means to collect information about resources that may retain heritage value. Similarly, if a resource is younger than 40 years old it does not preclude this resource from having CHVI, however it does provide a systematic means of identifying properties that have a higher likelihood of retaining cultural heritage value.

This report includes background research that summarizes the history of the study area. In addition to textual sources, historical mapping and aerial photography was consulted to identify the presence of structures/building, settlement patterns and other previously recognized BHRs and CHLs.

3.3 IDENTIFICATION OF CULTURAL HERITAGE VALUE OR INTEREST

Properties identified during field review were screened by employing an application of the 40-year threshold used to identify potential BHRs and/or CHLs, followed by a high-level and cursory evaluation based on a theoretical understanding of the criteria outlined in O. Reg. 9/06 for determining CHVI (see Section 2.3.1 for full criteria). The criteria in O. Reg. 9/06 were established to identify properties with sufficient CHVI to warrant designation under the OHA. It is considered best practice when identifying potential BHRs and CHLs to employ O. Reg. 9/06 as it provides a general framework for understanding and interpreting heritage value. It should be noted, however, that the application of this framework is used as a theoretical underpinning, not as a strict measurement applied, to a greater or lesser degree, to each property under study. This report does not provide a comprehensive evaluation of a property according to O. Reg. 9/06 and does not satisfy the requirement for a Cultural Heritage Evaluation Report (CHER).

3.4 AGENCY DATA REQUESTS

As part of this study, the Heritage Haldimand Designated Properties (Haldimand County, n.d.) website was reviewed to determine if properties and structures have been previously identified and/or have been designated under the OHA. A request was sent to Anne Unyi, Haldimand County's supervisor of Heritage and Culture on November 10, 2021, to confirm those properties that are listed on the Register or designated under Parts IV or V of the OHA and which may be located within the study area. A response was received on November 29, confirming the study area contains no properties designated under Part IV of the OHA and no notice of intention to designate has been given. A request was sent to the OHT on November 10, 2021, to obtain information related to OHT easements and owned properties. A response was received on November 24, 2021, confirming the OHT does not have any conservation easements or Trust-owned properties within or adjacent to the study area.

Another request was sent to the MHSTCI on November 10, 2021, to confirm if any PHPs were located within the study area. A response was received on December 9, 2021, Ms. confirming there are no Provincial Heritage Properties and/or Provincial Heritage Properties of Provincial Significance within the study area

A summary of data requested through consultation with the agencies noted above is provided in Table 3-1.

Table 3-1: Agency Data Requests

Contact Name / Position	Organization	Contact Information	Dates of Communication	Description of Information Received
Anne Unyi, Supervisor, Heritage and Culture, Haldimand Museums	Haldimand County	aunyi@haldima ndcounty.on.ca	Sent: November 10, 2021 Received: November 29, 2021	Ms. Unyi confirmed the study area contains no properties designated under Part IV of the OHA; no notice of intention to designate has been given. Ms. Unyi was not aware of any cemeteries, burial grounds, churches or other properties with cultural heritage value attached by the community located in this area. Additionally, it was confirmed there are no notice(s) of intention to designate or to list under Section 27 (1.2) of the Act for potential cultural heritage value or interest.
Kevin De Mille, Natural Heritage Coordinator	OHT	Kevin.DeMille @heritagetrust.o n.ca	Sent: November 10, 2021 Received: November 24, 2021	Mr. De Mille confirmed that the OHT does not have any conservation easements or Trust-owned properties within or adjacent to the study area.
Karla Barboza, Heritage Planner	MHSTCI	karla.barboza@ ontario.ca	Sent: November 10, 2021 Received: December 9, 2021	Ms. Barboza confirmed there are no Provincial Heritage Properties and/or Provincial Heritage Properties of Provincial Significance within the study area. Ms. Barboza identified a Provincial Heritage Property east of the study area. The Nanticoke Generating Station site was determined to satisfy criteria from O. Reg. 9/06 made under the OHA. Significance of the site is limited to remnants of the coal generating plant, machinery, modified Lake Erie shoreline and site organization and not the landscape features as these have developed separately or were part of the ash disposal process rather than the power generating process.

4 HISTORICAL CONTEXT

4.1 PRE-CONTACT PERIOD

The general culture history of the Indigenous pre-contact period of southern Ontario, based on Ellis and Ferris (1990), is summarised in Table 4-1.

Table 4-1: Overview of Pre-contact Cultural Chronology of Southern Ontario

Period		Time Range Before Present Date (BP)*	Characteristics
Paleo	Early	10,950 – 10,350 BP	Gainey, Barnes and Crowfield traditions; small bands; mobile hunters and gatherers; utilization of seasonal resources and large territories; fluted projectiles
	Late	10,350 – 9,950 BP	Holcombe, Hi-Lo and Lanceolate biface traditions; continuing mobility; campsite/way-station sites; smaller territories are utilized; non-fluted projectiles
Archaic	Early	9,950 – 7,950 BP	Side-notched, Corner-notched (e.g., Nettling, Thebes) and Bifurcate Base traditions; growing diversity of stone tool types; heavy woodworking tools appear (e.g., ground stone axes and chisels)
	Middle	7,950 – 4,450 BP	Stemmed (e.g., Kirk, Stanly/Neville), Brewerton side- and corner-notched traditions; reliance on local resources; populations increasing; more ritual activities; fully ground and polished tools; net-sinkers common; earliest copper tools
	Late	4,450 – 2,900 BP	Narrow Point (e.g., Lamoka), Broad Point (e.g., Genesee) and Small Point (e.g., Crawford Knoll) traditions; less mobility; use of fish-weirs; formal cemeteries appear; stone pipes emerge; long-distance trade (marine shells and galena)

Period		Time Range Before Present Date (BP)*	Characteristics	
Woodland	Early	2,900 – 2,350 BP	Meadowood tradition; cord-roughened ceramics emerge; Meadowood cache blades and side-notched points; bands of up to 35 people	
	Middle	2,350 – 1,400 BP	Saugeen tradition; stamped ceramics appear; Saugeen projectile points; cobble spall scrapers; Seasonal settlements and resource utilization; post holes, hearths, middens, cemeteries and rectangular structures identified	
	Transitional	1,400 – 1,050 BP	Princess Point tradition; cord roughening, impressed lines, and punctate designs on pottery; adoption of maize horticulture at the western end of Lake Ontario; oval houses and ‘incipient’ longhouses; first palisades; villages with up to 75 people	
	Late		1,050 – 650 BP (early Late)	Glen Meyer tradition; settled village-life based on agriculture; small villages (0.4 ha) with 75–200 people and 4–5 longhouses; semi-permanent settlements
			650 – 550 BP (middle Late)	Uren and Middleport traditions; classic longhouses emerge; larger villages (1.2 ha) with up to 600 people; more permanent settlements (30 years)
			550 – 350 BP (late Late)	larger villages (1.7 ha); examples up to 5 ha with 2,500 people; extensive croplands; Also hamlets, cabins, camps and cemeteries; potential tribal units; fur trade begins ca. 1580 CE (Common Era); European trade goods appear

* (BP) Before Present Era dates are calculated using the year 1950 as the recognized start date of the present era.

4.1.1 PALEO PERIOD

Occupation of southern Ontario became possible just after the end of the Wisconsin Glacial Period. Although there were a complex series of ice retreats and advances which played a large role in shaping the local topography, this portion of Ontario was finally ice free by 12,500 years ago. The first human settlement can be traced back 11,000 years, when this area was settled by Indigenous groups that had been living south of the Great Lakes. The period of these early Indigenous inhabitants is known as the Paleo Period (Ellis and Deller 1990). The Paleo period marks the beginning of human settlement in southern Ontario. It is characterized by small bands of nomadic hunter-gatherers who largely depended on the communal hunting of big game such as caribou, and possible mammoth and/or mastodon. This early period of occupation is divided into early and late phases, which span from ca. 10,950 – 9,950 BP (Ellis and Deller 1990) and from ca. 10,350 -9,950 BP (Jackson 2004), respectively.

Our current understanding of settlement patterns of Early Paleo peoples suggests that small bands, consisting of probably no more than 25-35 individuals, followed a pattern of seasonal mobility extending over large territories (Ellis and Deller 1990). Early Paleo sites tend to be located in elevated locations on well-drained loamy soils. Many of the known sites were located on former beach ridges associated with glacial lakes. There are a few extremely large Early Paleo sites, such as one located close to Parkhill, Ontario, which covered as much as six hectares. It appears that these sites were formed when the same general locations were occupied for short periods of time over the course of many years. Given their placement in locations conducive to the interception of migratory mammals such as caribou, it has been suggested that they may represent communal hunting camps. There are also smaller Early Paleo camps scattered throughout the interior of southwestern and south-central Ontario, usually situated adjacent to wetlands.

The most recent research suggests that population densities were very low during the Early Paleo Period (Ellis and Deller 1990: 54). Archaeological examples of Early Paleo sites are rare.

The Late Paleo Period (10,350 – 9,950 BP / 8,400 – 8000 BCE) has been less researched and is consequently more poorly understood. By this time the environment of south-central Ontario was coming to be dominated by closed coniferous forests with some minor deciduous elements. It seems that many of the large game species that had been hunted in the early part of the Paleo Period had either moved further north, or as in the case of the mastodons and mammoths, become extinct.

Like the Early Paleo peoples, Late Paleo peoples covered large territories as they moved about in response to seasonal resource fluctuations. On a province-wide basis, Late Paleo projectile points are far more common than Early Paleo materials, suggesting a relative increase in population.

The end of the Late Paleo Period was heralded by numerous technological and cultural innovations that appeared throughout the Archaic Period. These innovations may be best explained in relation to the dynamic nature of the post-glacial environment and region-wide population increases.

4.1.2 ARCHAIC PERIOD

During the Early Archaic Period (9,950 – 7,950 BP / 8000 – 6000 BCE), the jack and red pine forests that characterized the Late Paleo environment were replaced by forests dominated by white pine with some associated deciduous trees (Ellis et al. 1990: 68-69). One of the more notable changes in the Early Archaic Period is the appearance of side and corner-notched projectile points.

Other significant innovations include the introduction of ground stone tools such as celts and axes, suggesting the beginnings of a simple woodworking industry. The presence of these often large and not easily portable tools suggests there may have been some reduction in the degree of seasonal movement, although it is still suspected that population densities were quite low, and band territories large.

During the Middle Archaic Period (7,950 – 4,450 BP / 6000 – 2500 BCE), the trend to more diverse toolkits continued, as the presence of net-sinkers suggest that fishing was becoming an important aspect of the subsistence economy. It was also at this time that "bannerstones" were first manufactured.

Bannerstones are carefully crafted ground stone devices that served as a counterbalance for atlatls or spear-throwers. Another characteristic of the Middle Archaic Period is an increased reliance on local, often poorer quality, chert resources for the manufacturing of projectile points and other stone tools. It seems that during earlier periods, when

groups occupied large territories, it was possible for them to visit a primary outcrop of high-quality chert at least once during their seasonal round. However, during the Middle Archaic Period, groups inhabited smaller territories that often did not encompass a source of high-quality raw material. In these instances, lower quality materials which had been deposited by the glaciers in the local till and river gravels were utilized.

This reduction in territory size was probably the result of gradual region-wide population growth which led to the infilling of the landscape. This process forced a reorganization of Indigenous subsistence practices, as more people had to be supported from the resources of a smaller area. During the latter part of the Middle Archaic Period, technological innovations such as fish weirs have been documented as well as stone tools especially designed for the preparation of wild plant foods.

It is also during the latter part of the Middle Archaic Period that long distance trade routes began to develop, spanning the northeastern part of the continent. In particular, indigenous copper tools manufactured from a source located northwest of Lake Superior were being widely traded (Ellis et al. 1990: 66). By 5,450 BP (3500 BCE) the local environment had stabilized and began to reflect the more modern landscape (Ellis et al. 1990: 69).

During the Late Archaic Period (4,450 – 2,900 BP / 2500 – 950 BCE), the trend towards decreased territory size and a broadening subsistence strategy continued. Late Archaic sites are far more numerous than either Early or Middle Archaic sites, and it seems that the local population had expanded. It is during the Late Archaic Period that the more formal cemeteries appear. The appearance of cemeteries during the Late Archaic Period has been interpreted as a response to increased population densities and competition between local groups for access to resources. It is argued that cemeteries would have provided strong symbolic claims over a local territory and its resources. These cemeteries are often located on heights of well-drained sandy/gravel soils adjacent to major watercourses.

This suggestion of increased territoriality is also consistent with the regionalized variation present in Late Archaic Period projectile point styles. It was during the Late Archaic Period that distinct local styles of projectile points appear. Also, it was during the Late Archaic Period that trade networks which had been established during the Middle Archaic Period continued to flourish. Indigenous copper from northern Ontario and marine shell artifacts from as far away as the Mid-Atlantic coast are frequently encountered as grave goods at Southern Ontario sites. Other artifacts such as polished stone pipes and banded slate gorgets also appear on Late Archaic sites in Southern Ontario. One of the more unusual and interesting of the Late Archaic Period artifacts is the birdstone, which are small, bird-like effigies usually manufactured from green banded slate.

4.1.3 WOODLAND PERIOD

The Early Woodland Period dates between 2,900 – 2,350 BP (950 – 400 Before Common Era [BCE]), is distinguished from the Late Archaic Period primarily by the addition of ceramic technology. While the introduction of pottery provides a useful demarcation point for archaeologists, it may have made less difference in the lives of the Early Woodland peoples. The first pots were thick walled and often friable when recovered from the archaeological record. It has been suggested that they were used in the processing of nut oils by boiling crushed nut fragments in water and skimming off the oil. These vessels were not easily portable, and individual pots likely did not have a long use life. There have also been numerous Early Woodland sites located at which no pottery was found, suggesting that pottery vessels had yet to assume a central position in the day-to-day lives of Early Woodland peoples.

Other than the introduction of this limited ceramic technology, the lifeways of Early Woodland peoples show a great deal of continuity with the preceding Late Archaic Period. For instance, birdstones continue to be manufactured, although the Early Woodland varieties have "pop-eyes" which protrude from the sides of their heads.

Likewise, the thin, well-made projectile points which were produced during the terminal part of the Archaic Period continue in use. However, the Early Woodland Period variants were side-notched rather than corner-notched, giving them a slightly altered and distinctive appearance.

The trade networks which were established in the Middle and Late Archaic Periods also continued to function, although there does not appear to have been as much trade in marine shell during the Early Woodland Period. During the last 200 years of the Early Woodland Period, projectile points manufactured from high quality raw materials from the American Midwest begin to appear on sites in southwestern Ontario.

In terms of settlement and subsistence patterns, the Middle Woodland Period between 2,350 – 1,400 BP (400 B.C. – 500 CE) provides a major point of departure from the Archaic and Early Woodland Periods. While Middle Woodland peoples still relied on hunting and gathering to meet their subsistence requirements, fish were becoming an even more important part of the diet.

In addition, Middle Woodland peoples relied much more extensively on ceramic technology. Middle Woodland vessels are often heavily decorated with hastily impressed designs covering the entire exterior surface and upper portion of the vessel interior. Consequently, even very small fragments of Middle Woodland vessels are easily identifiable.

It is also at the beginning of the Middle Woodland Period that rich, densely occupied sites appear along the margins of major rivers and lakes. While these areas had been utilized by earlier peoples, Middle Woodland sites are significantly different in that the same location was occupied off and on for as long as several hundred years and large deposits of artifacts often accumulated. Unlike earlier seasonally utilized locations, these Middle Woodland sites appear to have functioned as base camps, occupied off and on over the course of the year. There are also numerous small upland Middle Woodland sites, many of which can be interpreted as special purpose camps from which localized resource patches were exploited. This shift towards a greater degree of sedentism continues the trend witnessed from at least Middle Archaic times and provides a prelude to the developments that follow during the Late Woodland Period.

The Late Woodland began with a shift in settlement and subsistence patterns involving an increasing reliance on corn horticulture (Fox 1990: 185; Smith 1990; Williamson 1990: 312). Corn may have been introduced into southwestern Ontario from the American Midwest as early as 1,300 BP (600 CE) or a few centuries before. Corn did not become a dietary staple, however, until at least three to four hundred years later, when the cultivation of corn gradually spread into south-central and southeastern Ontario.

During the early Late Woodland Period, particularly within the Princess Point Complex circa 1,450 -900 BP (500-1050 CE), a number of archaeological material changes have been noted including the appearance of triangular projectile point styles, first seen during this period beginning with the Levanna form; cord-wrapped stick decorated ceramics using the paddle and anvil forming technique evolving from the mainly coil-manufactured and dentate stamped and pseudo-scallop shell impressed ceramics; and if not appearance, increasing use of maize (*Zea mays*) as a food source (e.g., Crawford et al. 1997; Ferris and Spence 1995: 103; Spence et al. 1990; Williamson 1990: 299).

The Late Woodland Period is widely accepted as the beginning of agricultural life ways in south-central Ontario. Researchers have suggested that a warming trend during this time may have encouraged the spread of maize into southern Ontario, providing a greater number of frost-free days (Stothers and Yarnell 1977). Further, shifts in the location of sites have also been identified with an emphasis on riverine, lacustrine and wetland occupations set against a more diffuse use of the landscape during the Middle Woodland (Dieterman 2001).

One such site, located on the Grand River near Cayuga, Ontario is the Grand Banks site (AfGx-3). As of 1997, 40 maize kernels and 29 cupules had been recovered at this site (Crawford et al. 1997). The earliest AMS radiocarbon assay run on maize from paleosol II produced a date of approximately 1,450 BP (500 CE) (Crawford et al. 1997: 116). This site is interpreted as a long-term basecamp that may have been used year-round or nearly year-round. This growing sedentism is seen as a departure from Middle Woodland hunting and gathering and may reflect growing investment in the care of garden plots of maize (Smith 1997: 15). The riverine location of Grand Banks (AfGx-3) may have also provided light, nutrient-rich soil for agriculture (Crawford et al. 1997). While Levanna projectile points are formal tools, Princess Point Complex toolkits are predominantly characterized by informal or expedient flake tools and ground stone and bone artifacts are rare (Ferris and Spence 1995: 103). At Grand Banks, experimental archaeology suggests that chert flakes were put to a variety of useful tasks, from butchering to bone-working to wood-working to plant-working. Formal bifaces and projectile points had less evidence of use-wear. Local cherts appear to have been used, although Onondaga, albeit also a local resource, was preferred at Grand Banks (AfGx-3).

The first agricultural villages in southern Ontario date to the 10th century CE. Unlike the riverine base camps of the Middle Woodland Period, these sites are located in the uplands, on well-drained sandy soils. Categorized as early Late Woodland (1,050 – 650 BP / 900 – 1300 CE), many archaeologists believe that it is possible to trace a direct line from the Iroquoian groups which later inhabited southern Ontario at the time of first European contact, back to these early villagers.

Village sites dating between 1,050 – 650 BP (900 and 1300 CE), share many attributes with the historically reported Iroquoian sites, including the presence of longhouses and sometimes palisades. However, these early longhouses were actually not all that large, averaging only 12.4 metres (m) in length (Dodd et al. 1990: 349; Williamson 1990: 304-305). It is also quite common to find the outlines of overlapping house structures, suggesting that these villages were occupied long enough to necessitate re-building.

The Jesuits reported that the Huron moved their villages once every 10 – 15 years, when the nearby soils had been depleted by farming and conveniently collected firewood grew scarce (Pearce 2010). It seems likely that villages were occupied for considerably longer during the early Late Woodland Period, as they relied less heavily on corn than did later groups, and their villages were much smaller, placing less demand on nearby resources.

Judging by the presence of carbonized corn kernels and cob fragments recovered from sub-floor storage pits, agriculture was becoming a vital part of the early Late Woodland economy. However, it had not reached the level of importance it would in the middle and late Late Woodland Periods. There is ample evidence to suggest that more traditional resources continued to be exploited and comprised a large part of the subsistence economy. Seasonally occupied special purpose sites relating to deer procurement, nut collection, and fishing activities, have all been identified. While beans are known to have been cultivated later in the Late Woodland Period, they have yet to be identified on early Late Woodland sites.

The middle Late Woodland Period has a date range of 650 – 550 BP (1300 – 1400 CE) and witnessed several interesting developments in terms of settlement patterns and artifact assemblages. Changes in ceramic styles have

been carefully documented, allowing the placement of sites in the first or second half of this 100-year period. Moreover, villages, which averaged approximately 0.6 hectares in extent during the early Late Woodland Period, now consistently range between one and two hectares in size.

House lengths also change dramatically, more than doubling to an average of 30 m, while houses of up to 45 m have been documented. This increase in longhouse length has been variously interpreted. The simplest possibility is that increased house length is the result of a gradual, natural increase in population (Dodd et al. 1990: 323;350;357; Smith 1990). However, this does not account for the sudden shift in longhouse lengths around 650 BP (1300 CE). Other possible explanations involve changes in economic and socio-political organization (Dodd et al. 1990: 357). One suggestion is that during the middle Late Woodland Period small villages were amalgamating to form larger communities for mutual defence (Dodd et al. 1990: 357). If this was the case, the more successful military leaders may have been able to absorb some of the smaller family groups into their households, thereby requiring longer structures. This hypothesis draws support from the fact that some sites had up to seven rows of palisades, indicating at least an occasional need for strong defensive measures. There are, however, other middle Late Woodland villages which had no palisades present (Dodd et al. 1990). More research is required to evaluate these competing interpretations.

The lay-out of houses within villages also changes dramatically by 650 years ago. During the early Late Woodland Period villages were haphazardly planned, with houses oriented in various directions. During the middle Late Woodland Period villages are organized into two or more discrete groups of tightly spaced, parallel aligned, longhouses. It has been suggested that this change in village organization may indicate the initial development of the clans which were a characteristic of the historically known Iroquoian peoples (Dodd et al. 1990: 358).

Initially at least, the late Late Woodland Period (550 – 350 BP / 1400-1650 CE) continues many of the trends which have been documented for the preceding century. For instance, between 550 and 500 years ago (1400 and 1450 CE) house lengths continue to grow, reaching an average length of 62 m. One longhouse excavated on a site southwest of Kitchener was an incredible 123 m (Lennox and Fitzgerald 1990: 444-445). After this time house lengths begin to decrease, with houses dating between 450 – 370 BP (1500 and 1580 CE) averaging 30 m in length.

Why house lengths started to decrease roughly 450 years ago is poorly understood, although it is believed that the even shorter houses witnessed on Historical Period sites can be at least partially attributed to the population reductions associated with the introduction of European diseases such as smallpox (Lennox and Fitzgerald 1990: 405;410).

Village size also continues to expand throughout the late Late Woodland Period, with many of the larger villages showing signs of periodic expansions. The end of the middle Late Woodland Period and the first century of the late Late Woodland Period was a time of village amalgamation. One large village situated just north of Toronto has been shown to have expanded on no fewer than five occasions. These large villages were often heavily defended with numerous rows of wooden palisades, suggesting that defence may have been one of the rationales for smaller groups banding together. Late Late Woodland Period village expansion has been clearly documented at several sites throughout southwestern and south-central Ontario. The excavations at the Lawson site, a large late Late Woodland village located in southwestern Ontario, has shown that the original village was expanded by at least twenty percent to accommodate the construction of nine additional longhouses.

During the late 1600s and early 1700s, the French explorers and missionaries reported a large population of Iroquoian peoples clustered around the western end of Lake Ontario. The area which was later to become Halton Region was known to have been occupied by ancestors of two different late Late Woodland groups who evolved to

become the historically known Neutral and Huron. For this reason the late Late Woodland groups which occupied parts of southern Ontario prior to the arrival of the French are often identified as "Prehistoric Neutral" and "Prehistoric Huron" (Lennox and Fitzgerald 1990; Smith 1990: 283).

4.1.4 CONTACT INDIGENOUS PERIOD

The Huron-Wendat and Haudenosaunee called those within the territory of the Niagara Peninsula the 'Attiewandaron' (also spelled Attiwondaronks and Atiquandaronk) (Brown 2009: 26). According to Samuel de Champlain, who first referred to the Attiewandaron as la Nation neutre, the Attiewandaron inhabited forty villages and could field 4,000 warriors (Jury 1974: 04; White 1978: 410; Warrick 2008: 80). It is speculated that prior to the great epidemics of the 1630s, the Attiewandaron Confederacy numbered approximately 35,000 to 40,000 individuals (White 1978: 409; Warrick 2008: 86).

Their territory at the western end of Lake Ontario and along the north shore of Lake Erie was favourably located for easy trade with the Erie, Haudenosaunee, Tionnontaté, and Huron-Wendat (Trigger 1994: 47). The interior lands occupied by the Attiewandaron contained rapidly running streams, large rivers, and portage routes. A significant trail beginning at Lake Simcoe, following the Nottawasaga River to the Pine River to the source of the Irvine River and into the Grand River and banks of Lake Erie, formed an Indigenous portage route favoured for travel and trade between Huron-Wendat and Attiewandaron territorial lands (Bricker 1934: 58).

There are limited records documenting European contact with the Attiewandaron. In 1626, Reverend Father Joseph de la Roche D'aillon, a Récollet (or Recollect) missionary, journeyed from the Huron-Wendat to the Attiewandaron under the pretense of trade, and spent months studying the Attiewandaron language in an attempt to instruct them in the principals of Christian religion (Jury 1974: 03; White 1978: 409; Gingras 2000). However, the Huron-Wendat guarded their trade advantage and travelled from village to village, warning the Attiewandaron of "misfortune and ruin if they received the French in their midst" (Jury 1974: 20). This action caused the dismissal of Father D'aillon from the Attiewandaron and no direct trade relationship was ever formed between the French and Attiewandaron (White 1978: 407). In the winter of 1640-41, Jesuit Missionaries stayed in ten Attiewandaron villages and produced a map of the Attiewandaron territory, but it has not survived (Jury 1974: 04; White 1978: 407; Brown 2009: 27).

By 1645, having grown dependent on European goods and with their territory no longer yielding enough animal pelts, the Haudenosaunee became increasingly aggressive towards the Huron-Wendat Confederacy (Trigger 1994: 53). From 1649 to 1650, the Haudenosaunee engaged in warfare with the Huron-Wendat Confederacy, destroying several Huron-Wendat villages throughout Southern Ontario (Trigger 1994: 53). The small groups that remained of the Huron-Wendat Confederacy became widely dispersed throughout the Great Lakes region, ultimately resettling in Quebec (Schmalz 1991: 17). Many Huron-Wendat groups sought refuge and protection within the Attiewandaron, until the Haudenosaunee attacked in the 1650s (Trigger 1994: 56; Warrick 2008: 208). Many were captured and incorporated into the Haudenosaunee or sought refuge within other tribes (Lennox and Fitzgerald 1990: 410; Trigger 1994: 57).

The last mention of the Attiewandaron in French writing was in 1671 (Noble 2012). After the 1649-50 warfare, and "for the next forty years, the Haudenosaunee used present-day Ontario to secure furs with the Dutch, then with the English" (Coyne 1895: 20; Schmalz 1991: 17; Smith 2013: 19).

Although their homeland was located south of the lower Great Lakes, the Haudenosaunee controlled most of southern Ontario after the 1660s, occupying at "least half a dozen villages along the north shore of Lake Ontario and

into the interior” (Schmalz 1991: 17; Williamson 2013: 60). The Haudenosaunee established “settlements at strategic locations along the trade routes inland from the north shore of Lake Ontario. Their settlements were on canoe-and-portage routes that linked Lake Ontario to Georgian Bay and the upper Great Lakes” (Williamson 2013: 60). The Haudenosaunee had established a village at the Rouge River, the Humber River, and at the Niagara River (Robinson 1965: 15-16; Schmalz 1991: 29).

At this time, several Algonquin-speaking linguistic and cultural groups within the Anishinaabeg (or Anishinaabe) began to challenge the Haudenosaunee in the region (Johnston 2004: 9-10; Gibson 2006: 36). The Anishinaabeg were originally located primarily in northern Ontario. Before contact with the Europeans, the Ojibwa territorial homeland was situated inland from the north shore of Lake Huron (MNCFN n.d.: 03). The English referred to those Algonquin-speaking linguistic and cultural groups that settled in the area bounded by Lakes Ontario, Erie, and Huron as Chippewas or Ojibwas (Smith 2002: 107). In 1640, the Jesuit fathers had recorded the name “oumisagai, or Mississaugas, as the name of an Algonquin group near the Mississagi River on the northwestern shore of Lake Huron. The French and later English applied this same designation to all Algonquian [-speaking groups] settling on the north shore of Lake Ontario” (Smith 2002: 107; Smith 2013: 19-20). “The term ‘Mississauga’ perplexed the Algonquins, or Ojibwas, on the north shore of Lake Ontario, who knew themselves as the Anishinaabeg” (Smith 2013: 20).

Following a major smallpox epidemic, combined with the capture of New Netherland by the English, access to guns and powder became increasingly restricted for the Haudenosaunee. After a series of successful attacks against the Haudenosaunee by groups within the Anishinaabeg, the Haudenosaunee dominance in the region began to fail. By the 1690s, Haudenosaunee settlements along the northern shores of Lake Ontario were abandoned, and in 1701, the Haudenosaunee were defeated. After these battles, the Anishinaabeg replaced the Haudenosaunee in Southern Ontario (Coyne 1895: 28; Schmalz 1991: 20;27;29; Gibson 2006: 37; Warrick 2008: 242; Williamson 2013: 60).

In 1701, representatives of several groups within the Anishinaabeg and the Haudenosaunee, collectively known as the First Nations, assembled in Montreal to participate in Great Peace negotiations, sponsored by the French (Johnston 2004: 10). The Mississaugas were granted possession of the territory along and extending northward of Lake Ontario and Lake Erie (Hathaway 1930: 433). The Seneca, a group within the Haudenosaunee, had settled along the eastern banks of the Niagara River at Fort Niagara, a French fort, at the mouth of the Niagara River (Abler and Tooker 1978: 506; Surtees 1994: 96). From 1701 to the fall of New France in 1759, the Anishinaabeg experienced a “golden age” of trade, holding no conclusive alliance with either the British or the French while maintaining their middle-man position between Indigenous groups to the north and in southwestern Ontario (Schmalz 1991: 35). Mississauga subsistence patterns include a primary focus on hunting, fishing and gathering with little emphasis on agriculture. Temporary and moveable house structures were utilized which were easy to construct and disassemble, allowing swift travel throughout their territory. Consequently, little archaeological material was left behind.

The Seven Years War brought warfare between the French and British in North America. In 1763, the Royal Proclamation declared the Seven Years War over, giving the British control of New France. The British did not earn the respect of the Anishinaabeg or the Haudenosaunee, as the British did not honour fair trade or the land as the French had. Consequently, the Pontiac Uprising, also known as the Beaver Wars, began that same year (Schmalz 1991: 70; Johnston 2004: 13-14). This uprising involved groups both within the Haudenosaunee and the Anishinaabeg. The Seneca remained pro-French and supported the Pontiac Uprising (Abler and Tooker 1978: 507; Surtees 1994: 96). The Seneca utilized the Niagara River as an advantage against the British. During an ambush at Devil’s Hole, a trail between Fort Schlosser at the top of the falls and Fort Niagara, over 70 British soldiers were killed (Abler and Tooker 1978: 507; Surtees 1994: 96). The Seneca eventually made peace with the British and the

Seneca surrendered a tract of land six and a half kilometres (km) in depth on the east side of the Niagara River and three km deep on the west side of the Niagara River along the full length of the river (Surtees 1994: 97). This surrender secured a navigable route for the British and punished the Seneca for their support of the French during the Seven Years' War and for the Devil's Hole massacre (Surtees 1994: 97).

During the American Revolutionary War, the Haudenosaunee were divided in their support of the British and their support of the Americans. The Mohawk, Onondaga, Cayuga and Seneca supported the British and many fled from their territorial homelands south of Lake Ontario to the Niagara Peninsula and remained there until the Treaty of Paris was signed in 1784 (Tooker 1978: 435). However, the Treaty made no provisions for the Indigenous, and "consequently, the [divided Iroquois] had to treat each government separately. This meant that as individuals the [Haudenosaunee] had to decide where they should go live and with which country they wished to enter into a treaty agreement with" (Tooker 1978: 435). Fort Niagara remained in the control of the British, under the command of John Butler from 1777 to 1784. The Haudenosaunee who had sought refuge at Fort Niagara placed enormous strain on the fort's resources and these individuals were ultimately relocated to the Grand River Valley (Surtees 1994: 97-101).

4.1.5 POST-CONTACT INDIGENOUS PERIOD

The historical Indigenous occupation of Southern Ontario was heavily influenced by the dispersal of various Iroquoian-speaking peoples by the New York State Iroquois, and the subsequent arrival of Algonkian-speaking groups from northern Ontario at the end of the seventeenth century and beginning of the 18th century (Schmalz 1991).

Following the introduction of Europeans to North America, the nature of Indigenous settlement size, population distribution, and material culture shifted as settlers began to colonize the land. Despite this shift in life ways, "written accounts of material life and livelihood, the correlation of historically recorded villages to their archaeological manifestations, and the similarities of those sites to more ancient sites have revealed an antiquity to documented cultural expressions that confirms a deep historical continuity to Iroquoian systems of ideology and thought" (Ferris 2009: 114). As a result, Indigenous peoples throughout Southern Ontario have left behind archaeologically significant resources which show continuity with past peoples. Many of these archaeological sites are not recorded in historical Euro-Canadian documentation.

The study area is situated within the boundaries of Treaty No. 3, also known as the Between the Lakes Purchase. This treaty was signed on December 7, 1792, by representatives of the Crown and certain Mississauga peoples. The original Between the Lakes Purchase was signed in 1784. However, due to uncertainties with the description of the lands in the original surrender, Treaty 3 was entered into in 1792 to clarify what was ceded. The Between the Lakes Purchase was named as such because it included all the land "lying and being between the Lakes Ontario and Erie." The territory described in the written treaty covers approximately 3 million acres (Government of Ontario, 2021).

4.2 EURO-CANADIAN SETTLEMENT PERIOD

4.2.1 HALDIMAND COUNTY

Haldimand County was created in 1798 within the Niagara District and was named for Sir Frederick Haldimand, the Governor of the Province of Quebec from 1777 to 1789. European settlement began in Haldimand in 1784, with the

county described as an unbroken forest punctuated by large areas of swampy land. Settlement was focused on the areas fronting Lake Erie until after the War of 1812 when a Naval Depot was established on the Grand River, encouraging inland settlement. Further settlement within the County was facilitated by improvements to infrastructure including the clearing of Talbot Road (1834 to 1840) and the Hamilton & Port Dover Plank Road (1839 to 1843). Several railways were also constructed that traversed the county including the Brantford & Goderich Railway (1852), the Great Western Loop Line (1870), the Canada Southern Railway (1870), and the Hamilton & Lake Erie Railway (1878). Following the abolition of the district system in 1849, Haldimand County emerged as an independent municipality and included the Townships of Walpole, Oneida, Seneca, North Cayuga, South Cayuga, Rainham, Canborough, Moulton, Dunn, and Sherbrooke (H.R. Page & Co, 1879).

4.2.2 NORFOLK COUNTY

Located on the north shore of Lake Erie, Norfolk County was created in 1792 by Lieutenant-Governor John Graves Simcoe. The county was named by Simcoe after Norfolk County, England; the county was opened up for settlement in the 1790s. By the 1790s, American settlers, including Loyalists who had originally settled in New Brunswick, began to settle near Long Point, Port Ryerse, Port Dover, and Vittoria (Mika & Mika, 1983: 56).

The logging of pine forests of Norfolk County resulted in the development of a substantial timber and lumber industry. By the mid-nineteenth century, approximately 90 sawmills were in operation, employing 600 men. As the timber and lumber industry diminished, settlers began mixed farming for their livelihood. Waterford, Courtland, and Port Dover became the county's market centres, with Port Dover becoming an important fishing port (Mika & Mika, 1983: 57).

HISTORICAL MAPPING REVIEW

A review of historical mapping and aerial photography was undertaken to understand the changing landscape and built environment within and adjacent to the study area. To determine the presence of historical features, nineteenth century historical county maps and aerial photos were reviewed. While these maps and photographs were not the only visual sources consulted for the purposes of this study, they were determined to provide the best overview of land development in the study area. It should also be noted that the absence of structures or other features shown on the historical maps does not preclude their presence on these properties. Illustrating all homesteads on the historical atlas maps would have been beyond the intended scope of the atlas and, often, homes were only illustrated for those landowners who purchased a subscription.

The 1856 Tremaine Map of Norfolk County and the 1863 W. Jones Map of Haldimand County (Figure 3, Appendix A) indicates that present-day Lake Shore Road had been constructed and the study area constituted a rural landscape. Although landowners are listed for each lot within the study area, no structures are illustrated. Within Woodhouse Township, Lots 23 and 24, Concession I were owned by James Hodson and Reverend Drayton, respectively and Lot 1, Concession I in Walpole Township was owned by James Moore. An unmarked watercourse bisects Lot 24, Concession I, approximately north to south.

The 1877 illustrated historical atlas of the county of Norfolk, Ontario and the 1879 illustrated historical atlas of the county of Haldimand, Ontario (H.R. Page & Co., 1877 and 1879; Figure 4, Appendix A) indicates that the study area remained predominantly rural. Lots 23 and 24, Concession I within Woodhouse Township were owned by Thomas Hodson and Hugh More, respectively and Lot 1, Concession I in Norfolk Township was owned by John Moore. Structures are illustrated on all three lots, and orchards were present on Lots 23 and 24, Concession I in Walpole Township.

A review of Department of National Defence topographic maps was undertaken to understand development within the study area. A review of the 1909 and 1939 topographic maps illustrates some change within the study area. By 1939, a north-south oriented road was constructed on the eastern boundary of the study area and several brick and frame structures are present along the lake shore (Figures 5 and 6, Appendix A).

For a twentieth century view of the study area, aerial images from 1954 to 2006 were reviewed to assist in documenting more recent changes to the landscape. The aerial photography and topographic map reveal a largely agricultural landscape, not significantly different than that depicted in the 1877 and 1879 historical map. The 1954 aerial photographs shows one structure in the southeast corner of the study area and the unmarked watercourse is clearly visible. The study area remains rural in nature (Figure 7, Appendix A). By 2006, the U.S. Steel facility and two lagoons are present on the aerial photograph (Figure 8, Appendix A). The surrounding land remains under cultivation; no residential structures are visible in 2006.

5 EXISTING CONDITIONS

5.1 FIELD REVIEW

A field review was conducted on October 29, 2021, by Emily Game, Cultural Heritage Specialist, to record the existing conditions of the LEIP study area. Access to the lands held by U.S. Steel was granted by Stelco, however, WSP was not permitted to take photographs on the premises. Photographs included in this Cultural Heritage Report were taken from the public right of way.

The field review was preceded by a review of available historical and current aerial photographs and maps. These photographs and maps were reviewed for any potential BHRs and CHLs that may be extant in the study area as well as provide a description of the study area. The existing conditions of the study area are described below. No BHRs or CHLs were identified during the field review.

5.2 DESCRIPTION OF EXISTING CONDITIONS

The preferred WWTP Site B is located on the north side of New Lakeshore Road, east of the intersection of Old Lake Shore Road and new Lake Shore Road. The study area is located within lands held by U.S. Steel (Photographs 1 and 2).

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 U.S. Steel facility, encircle the lagoons. Two structures, a cooling tower, and a pump house, are located in the northeast corner of the study area. The pumphouse is a rectilinear building of concrete cinderblock and steel construction, consisting of two storeys, but containing one floor. The pumphouse and cooling tower were constructed between 1972 and 1982.¹

¹ Information provided by Garret Urie (Area Manager - Primary Utilities) on October 29, 2021
Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment
Lake Erie Industrial Wastewater Treatment System: MCEA Addendum
Haldimand County

Within the study area, the lands south and west of the wastewater treatment lagoons consists of gently rolling active agricultural fields and scrub meadow.



Photograph 1: View to west along Old Lake Shore Road



Photograph 2: View to east along Old Lake Shore Road



Photograph 3: View to north of active agricultural fields (Stelco building in background)



Photograph 4: View to northeast of active agricultural fields



Photograph 5: Scrub meadow within study area



Photograph 6: Stream south of New Lake Shore Road

5.3 PREVIOUS CULTURAL HERITAGE ASSESSMENTS

No previous cultural heritage assessments have been conducted within the study area.

5.4 IDENTIFIED CULTURAL HERITAGE RESOURCES

Background and a field visit were completed to identify known and potential BHRs and CHLs older than 40 years of age located within or adjacent to the study area as described in Section 3. A review was conducted to determine previously identified heritage resources documented within or adjacent to the study area, including listed (registered non-designated) and designated properties, heritage conservation districts and known CHLs. This included a review of Heritage Haldimand's Designated Properties (Haldimand County n.d.).

During the field review, potential heritage resources were identified by employing a high-level and cursory evaluation based on an understanding of the criteria identified in the MHSTCI's Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes.

As a result of this review, no BHRs or CHLs have been identified within or adjacent to the study area.

6 PRELIMINARY IMPACT ASSESSMENT

To establish potential impacts, identified BHRs and CHLs were considered against a range of possible impacts as outlined in the MHSTCI's *Information Bulletin 3: Heritage Impact Assessments for Provincial Heritage Properties* (2017) (see Section 1.2 for a full description of impacts).

Where any BHRs and CHLs may experience direct or indirect impacts, appropriate mitigation measures will be developed. If appropriate, this may require the completion of a CHER to identify the property's CHVI and heritage attributes if the property's heritage attributes have yet to be defined. For properties that have been subject to a

CHER or their CHVI has otherwise been defined, a Heritage Impact Assessment (HIA) may be required to determine appropriate mitigation measures.

6.1 PRELIMINARY IMPACTS ON CULTURAL HERITAGE RESOURCES

This Cultural Heritage Report identifies potential BHRs and CHLs and provides a preliminary impact assessment to identify negative impacts and preliminary mitigation recommendations.

The following provides a summary of the assessment results:

- No BHRs or CHLs were identified within the study area.

7 RECOMMENDATIONS

This Cultural Heritage Report has resulted in the following recommendations:

- 1** No built heritage resources or cultural heritage landscapes with known or potential cultural heritage value or interest were identified within the WWTP Site B. As such, no further heritage reporting is required as part of the project.
- 2** Should future work require expansion of the WWTP Site B, a qualified heritage consultant should be contacted to confirm the impacts of the proposed work on known or potential BHRs and CHLs.

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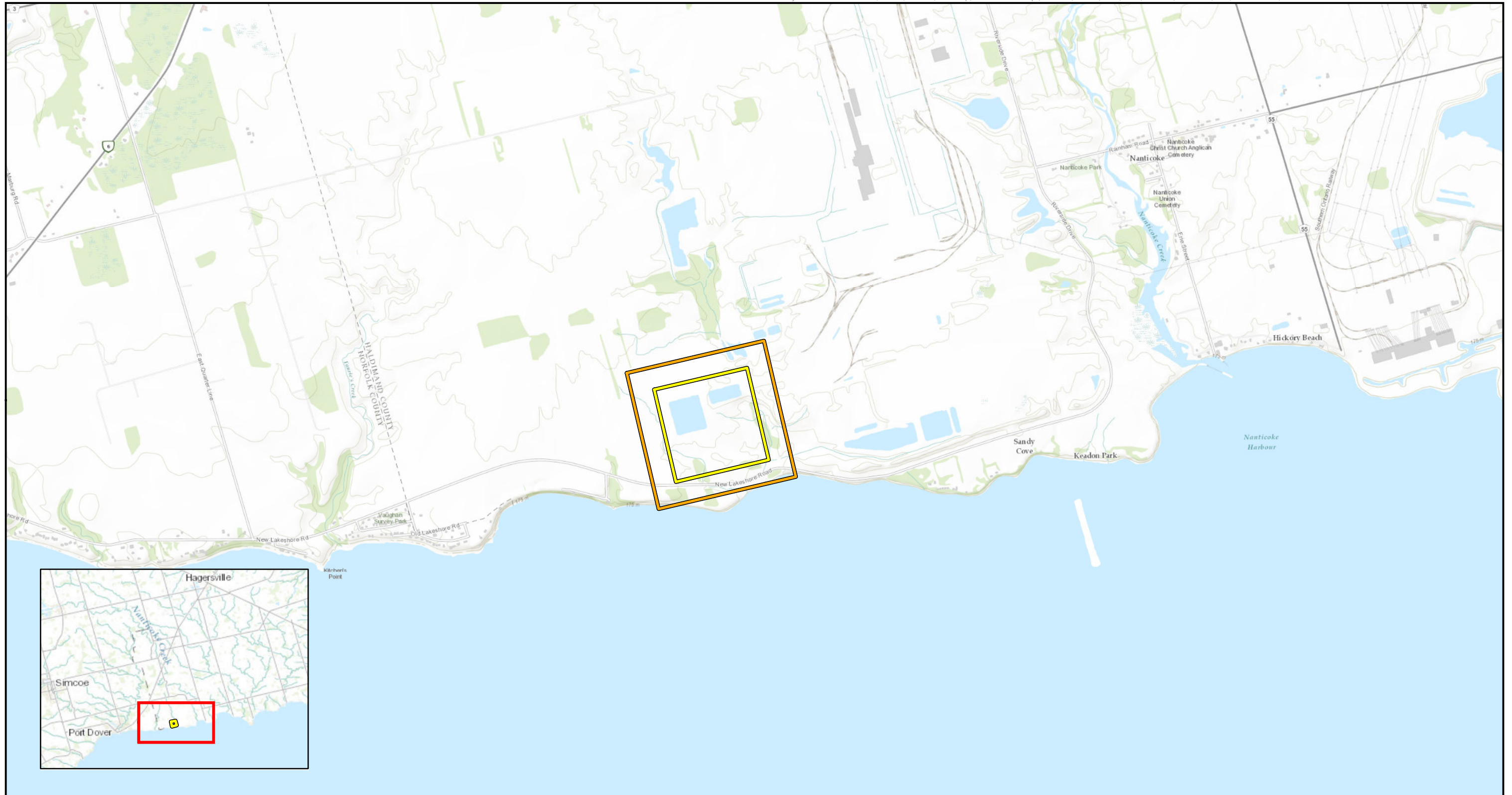
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9 FIGURES





LEGEND


- Study Area
- 150 m Buffer

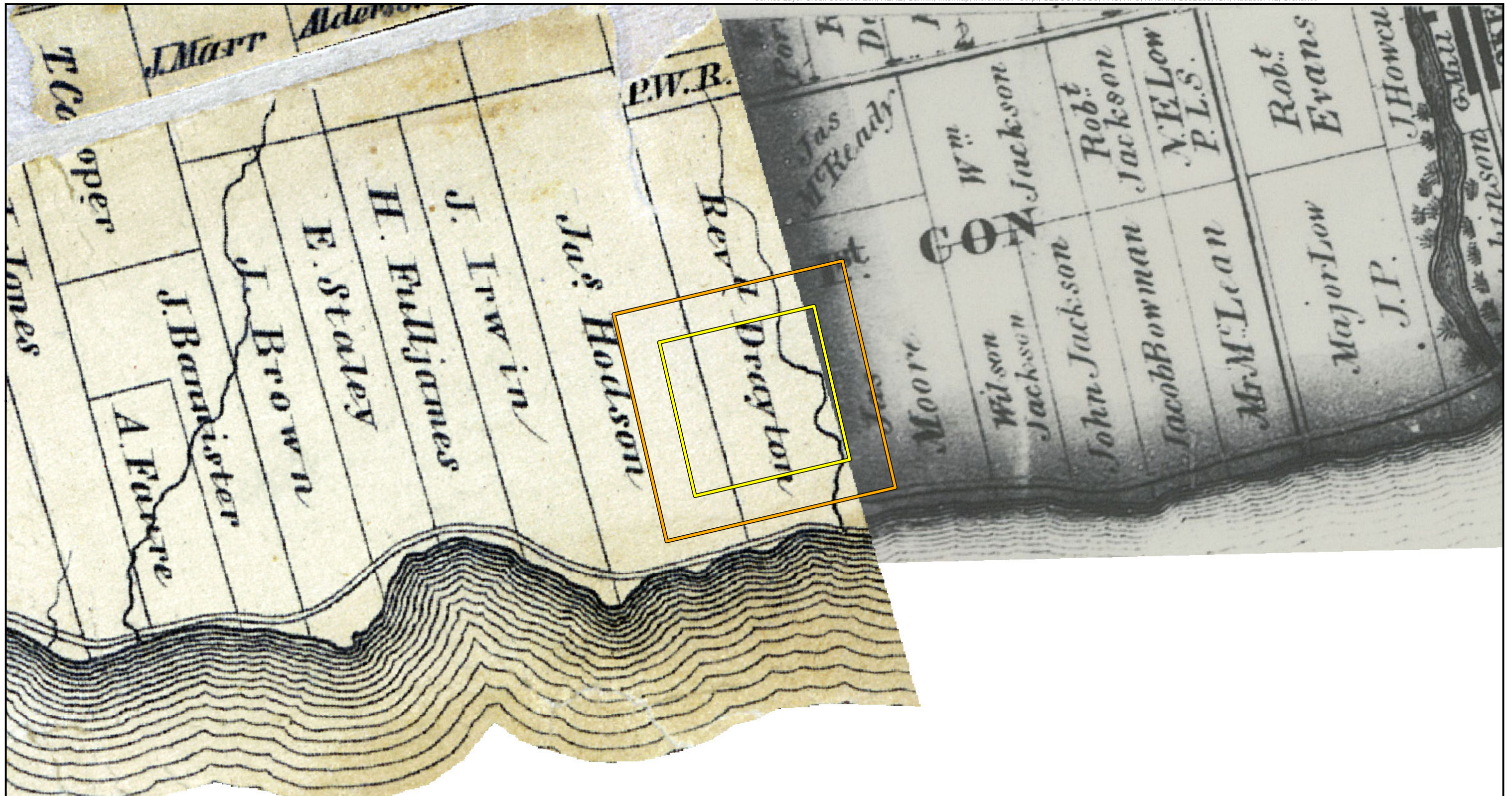
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PROJECT: CULTURAL HERITAGE REPORT LAKE ERIE INDUSTRIAL PARK (LEIP) WWTP		CREDITS:	
0 500 1,000 m			N



LEGEND

-  Study Area
-  150 m Buffer

TITLE: FIGURE 2: STUDY AREA	SCALE: 1:5,900	PROJECT NO: 211-10308-00	DATE: NOVEMBER 2021
PROJECT: CULTURAL HERITAGE REPORT LAKE ERIE INDUSTRIAL PARK (LEIP) WWTP	DRAWN BY: JAS	CLIENT: HALDIMAND COUNTY	CREDITS:
0 150 300 m 			



LEGEND

- Study Area
- 150 m Buffer

TITLE: FIGURE 3: HISTORICAL MAPPING (1856)	SCALE: 1:15,000	PROJECT NO: 211-10308-00	DATE: NOVEMBER 2021
	DRAWN BY: JAS	CLIENT: HALDIMAND COUNTY	
PROJECT: CULTURAL HERITAGE REPORT LAKE ERIE INDUSTRIAL PARK (LEIP) WWTP		CREDITS: TREMAINE, 1856	
0 400 800 m			



LEGEND

- Study Area
- 150 m Buffer

TITLE: FIGURE 4: HISTORICAL MAPPING (1877)	SCALE: 1:15,000	PROJECT NO: 211-10308-00	DATE: NOVEMBER 2021
	DRAWN BY: JAS	CLIENT: HALDIMAND COUNTY	
PROJECT: CULTURAL HERITAGE REPORT LAKE ERIE INDUSTRIAL PARK (LEIP) WWTP		CREDITS: H.R. PAGE & CO. 1879	
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LEGEND

- Study Area
- 150 m Buffer

TITLE: FIGURE 5: HISTORICAL MAPPING (1909)	SCALE: 1:12,500	PROJECT NO: 211-10308-00	DATE: NOVEMBER 2021
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PROJECT: CULTURAL HERITAGE REPORT LAKE ERIE INDUSTRIAL PARK (LEIP) WWTP		CREDITS: DEPARTMENT OF MILITIA AND DEFENCE, SHEET 040116 (1909)	
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- Study Area
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TITLE:
FIGURE 6: HISTORICAL MAPPING (1939)

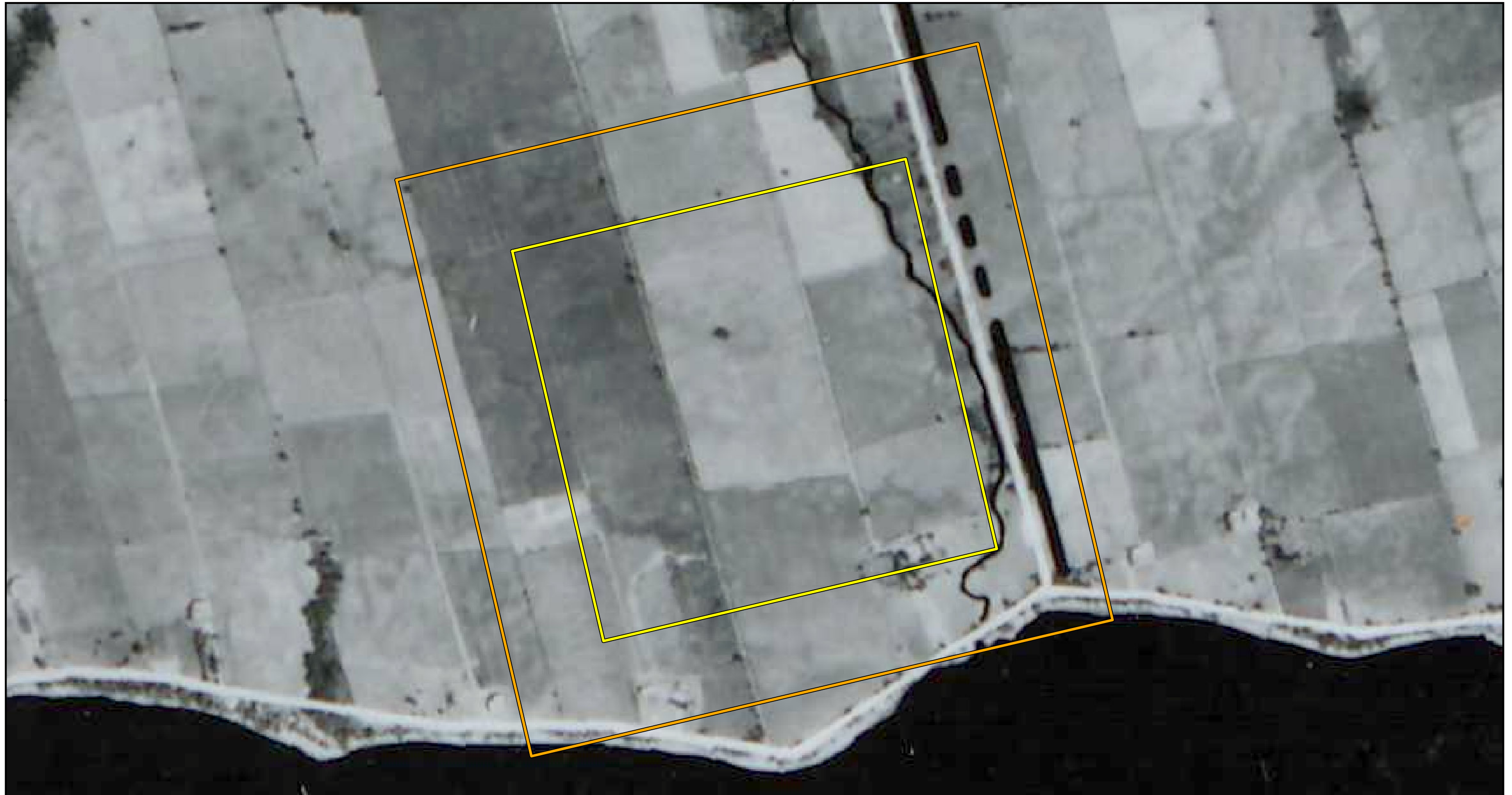
SCALE: 1:12,500	PROJECT NO: 211-10308-00	DATE: NOVEMBER 2021
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DRAWN BY: JAS	CLIENT: HALDIMAND COUNTY
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PROJECT:
CULTURAL HERITAGE REPORT
LAKE ERIE INDUSTRIAL PARK (LEIP) WWTP

CREDITS:
DEPARTMENT OF NATIONAL
DEFENCE, SHEET 040116 (1939)







LEGEND

- Study Area
- 150 m Buffer

TITLE: FIGURE 7: AERIAL IMAGERY (1954)	SCALE: 1:5,900	PROJECT NO: 211-10308-00	DATE: NOVEMBER 2021
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PROJECT: CULTURAL HERITAGE REPORT LAKE ERIE INDUSTRIAL PARK (LEIP) WWTP	CREDITS: UNIVERSITY OF TORONTO MAP AND DATA LIBRARY PHOTO 427.801		
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LEGEND

-  Study Area
-  150 m Buffer

TITLE: FIGURE 8: AERIAL IMAGERY (2006)	SCALE: 1:6,000	PROJECT NO: 211-10308-00	DATE: NOVEMBER 2021
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PROJECT: CULTURAL HERITAGE REPORT LAKE ERIE INDUSTRIAL PARK (LEIP) WWTP	CREDITS: HALDIMAN COUNTY		
