Stage 1 & 2 Archaeological Assessment

Completed in Support of the:

Napanee Generating Station (NGS) Expansion Project

Part of Lots 18, 19 & 20, Concession 1,
Geographic Township of South Fredericksburgh,
Now in the Town of Greater Napanee
In the County of Lennox & Addington

Atura Power

REVISED REPORT PREPARED FOR:

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PIF #: P025-0903-2024
Associated PIF #s:
P121-117-2013 (Stage 1 & 2 Assessment of abutting lands and part of the NGS Expansion project's study area)
P025-0863-2023 (Stage 1 & 2 Assessment of adjacent lands)

Part of the Independent Environmental Consultants team

Date: March 4, 2025

Executive Summary

Northeastern Archaeological Associates Ltd. was contracted to conduct a combined Stage 1 & 2 archaeological assessment of the proposed Napanee Generating Station (NGS) Expansion project on part of Lots 18, 19, and 20 in Concession 1 of the geographic Township of South Fredericksburgh, County of Lennox & Addington, now in the Municipality of the Town of Greater Napanee. It is located on lands west of Atura Power's existing NGS facility, within the existing Ontario Power Generation (OPG) Lennox Generating Station (LGS) boundaries, but which have been dedicated for the proposed NGS Expansion project that would include adding a simple cycle combustion turbine generator unit with a nameplate capacity of up to 430 megawatts (MW), supporting systems and an administration building. The proposed project would provide reliable capacity to the grid to support year-round electricity generation in Ontario.

This assessment was conducted under PIF# P025-0903-2024 and in compliance with the 2011 *Standards and Guidelines for Consultant Archaeologists*, as used by the Ontario Ministry of Citizenship and Multiculturalism (MCM). The proposed NGS Expansion is subject to an environmental assessment under the Ontario *Environmental Assessment Act* (*EA Act*) and in accordance with Ontario Regulation (O. Reg) 50/24, Part II Electricity Projects. As the project involves the construction and operation of a natural gas project that generates more than 5 MW of electricity and has potential environmental effects that can be mitigated, the project is classified as a Category B electricity project and is subject to the requirements of the Environmental Screening Process. Atura Power has voluntarily opted to undertake an Environmental Review under the more rigorous Environmental Screening Process.

The study area is located about 13 kilometres (km) south of Napanee on the north side of Highway 33 (Loyalist Parkway) east of County Road 21 and encompasses an area of roughly 6.9 hectares (ha). It consists of seven separate but adjoining areas that are referred to throughout this report as Zones 1 to 7.

The Stage 1 assessment determined that, even though some parts of the study area have experienced high degrees of prior soil disturbance related to various types of construction activities, large portions of it are considered to have high archaeological potential based on criteria described in detail in the Ministry's *Standards and Guidelines*.

As stated in Standard 1 of Section 1.3 in the *Standards & Guidelines*, if the Stage 1 evaluation indicates there is archaeological potential anywhere on the study area, then a Stage 2 assessment is required. In this case, it was recommended that the Stage 2 assessment consist of test-pit survey of any areas with high or moderate archaeological potential, while areas such as compacted gravel storage yards and access roads would be exempt from test-pit survey due to low archaeological potential.

The Stage 2 test-pit survey was carried out as recommended. Despite the use of 5 m and 10 m survey grid intervals in the areas with high and moderate archaeological potential, nothing of cultural heritage value or interest was recovered or observed.

In addition to the test-pit survey, Stage 2 archaeological monitoring of borehole drilling also took place for five boreholes in Zone 1, two boreholes in Zone 4, and eight boreholes in Zone 5. The

monitoring was conducted according to instructions from MCM, but nothing of archaeological or cultural heritage significance was discovered.

Based on the results of the Stage 2 archaeological assessment conducted for the study area, the following three recommendations are made:

(1) Since no archaeological artifacts or cultural heritage resources were found during either the test-pit survey or the monitoring of borehole drilling phases of the Stage 2 archaeological assessment, no further archaeological assessment of the study area is recommended, as per Section 7.8.4 Standard 3 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011).

(2) Only the lands outlined in red on Map 2 of this report (referred to throughout this report as the "study area") have been assessed during this Stage 1 & 2 archaeological assessment. Any of the unassessed surrounding lands will require assessment should future development be considered.

(3) As an extra measure of caution and due diligence, especially given the proximity of the culturally significant Upper Gap archaeological site, archaeological construction monitoring during project development is recommended by Alderville First Nation, in areas of high archaeological potential, due to the potential for artifacts and/or ancestral remains to still be present in deeply buried or deeply disturbed contexts.

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Supplementary Documentation Package

Indigenous Engagement Package

Project Personnel

Project Director	Lawrence Jackson, Ph.D. *(Archaeological License # P-025)*
Report Preparation	Donna Morrison, M.A.
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Field Directors	Daniel Smith (*License # R-1216*) Justin Tighe (*License # R-421*) Jelissa Kollaard (*License # R-1396*)
Field Technicians	Michael Obie Erik Wright Melissa Plavins Philip Abbott

Acronyms

B.P. ..... Before Present

BESS..... Battery Energy Storage System

CARF..... Cataraqui Archaeological Research Foundation

cm..... centimetre(s)

EA..... Environmental Assessment

EA Act ..... Ontario *Environmental Assessment Act*

ha ..... hectare(s)

km..... kilometre(s)

LGS ..... Lennox Generating Station

MBQ ..... Mohawks of the Bay of Quinte

MCM..... Ontario Ministry of Citizenship and Multiculturalism

MECP ..... Ontario Ministry of the Environment, Conservation and Parks

m ..... metre(s)

mm ..... millimetre(s)

MTC..... Ontario Ministry of Tourism and Culture

MW ..... megawatt(s)

NGS..... Napanee Generating Station

O. Reg. ..... Ontario Regulation

OPG ..... Ontario Power Generation

1. Development Context

The *Ontario Heritage Act* (R.S.O. 1990 c. O.18) requires anyone wishing to carry out archaeological fieldwork in Ontario to have a license from the Ontario Ministry of Citizenship and Multiculturalism (MCM). All licensees are to file a report with MCM containing details of the fieldwork that has been done for each project. Following the standards and guidelines set out by MCM is a condition of a license to conduct archaeological fieldwork in Ontario. Northeastern Archaeological Associates Ltd. confirms that this report meets Ministry report requirements as set out in the 2011 *Standards and Guidelines for Consultant Archaeologists* and is filed in fulfillment of the terms and conditions of an archaeological license.

In compliance with the MCM requirements, a combined Stage 1 & 2 archaeological assessment was conducted for the study area, which is located roughly 13 kilometres (km) south of the Town of Greater Napanee, on the north side of Highway 33 (Loyalist Parkway) and east of County Road 21. It is located on lands west of Atura Power's existing Napanee Generating Station (NGS) facility, within the existing Ontario Power Generation (OPG) Lennox Generating Station (LGS) boundaries (see Maps 1 to 4 in Section 12 of this report) but which have been dedicated for the proposed NGS Expansion project that would include adding a simple cycle combustion turbine generator unit with a nameplate capacity of up to 430 megawatts (MW), supporting systems, and an administration building. The proposed project would provide reliable capacity to the grid to support year-round electricity generation in Ontario.

According to the Ministry of the Environment, Conservation and Parks (MECP) 2024 *Guide to Environmental Assessment Requirements for Electricity Projects* and Ontario Regulation (O. Reg.) 50/24 under the Ontario *Environmental Assessment Act* (*EA Act*), the proposed NGS Expansion is subject to an assessment under the *EA Act*. As the project involves the construction and operation of a natural gas project that generates more than 5 MW of electricity and has potential environmental effects that can be mitigated, the project is classified as a Category B electricity project and is subject to the requirements of the Environmental Screening Process. Atura Power has voluntarily opted to undertake an Environmental Review Stage under the Environmental Screening Process.

The Environmental Screening Process is intended to screen projects with minimal environmental effects confirmed upon satisfying 39 screening criteria, as potential environmental effects do not warrant the completion of a Comprehensive Environmental Assessment (EA). One of the screening criteria requires the proponent to determine if the project will result in significant effects to heritage and cultural resources (which may include built heritage resources, cultural heritage landscapes, and/or archaeological resources). Significant effects to heritage and cultural resources are to be determined based on technical, cultural heritage studies prepared by qualified persons. This is the reason why this Stage 1 & 2 archaeological assessment was undertaken, and the assessment report will support the Environmental Review Report.

The study area of this assessment consists of seven adjacent sections of land, which together have a total area of about 6.9 hectares (ha). They are referred to throughout this report as Zones 1 through 7 (see Maps 2 and 3). One of the zones at the north end of the study area (Zone 6) was previously subjected to a Stage 1 & 2 archaeological assessment that was conducted for the NGS

in 2013 under PIF # P121-0117-2013 (Advance Archaeology 2014). Photographs and information about Zone 6 are included in this assessment in order to document its current condition, but there was no need to re-test it. The other six zones, however, are located outside the limits of the previous assessment area and therefore they required a Stage 1 & 2 archaeological assessment, which was conducted in 2024 under PIF # P025-0903-2023. Map 3 in this report is a satellite view of the study area, showing the area that was assessed in 2013 shaded in light blue as well as another area abutting the west end of Zone 6, which was previously assessed in 2023 under PIF # P025-0863-2023 (Northeastern Archaeological Associates 2023), that is shaded in yellow.

Zones 1, 2, 3 and 7 are located on part of the existing OPG LGS, on part of the east half of Lot 18 and part of the west half of Lot 19 in Concession 1 of geographic Fredericksburgh Township in Lennox & Addington County, now in the Town of Greater Napanee. Zone 1 consists of: an asphalt parking lot; a concrete pad for a former warehouse; some sections of grass, weeds, and small trees/shrubs; and part of an existing access road referred to on some maps as “Industrial Park Road”. The parking lot and former warehouse location were heavily disturbed in the past but the grassy sections appeared to have less prior soil disturbance. Zone 2 (immediately south of Zone 1) consists primarily of lands covered in grass as well as a short section of the access road; the level of prior soil disturbance could not be determined by visual inspection, except for the small section of access road that had been heavily disturbed in the past. Zone 3 (immediately south of Zone 2) also consists primarily of grass-covered land with undetermined prior soil disturbance levels, as well as part of an asphalt parking lot. Zone 7 (immediately south of Zone 3) is a small rectangular piece of grass-covered land that extends from the northeast corner of Zone 3 eastward to the road allowance for Highway 33.

Zone 4 and Zone 5 are OPG lands, of which all of Zone 5 and part of Zone 4 will be transferred to Atura Power for this project. Zone 6 is part of the existing NGS property and will remain so. These zones are located on part of the existing NGS, which abuts the OPG LGS, and are on part of Lot 19 in Concession 1 of geographic Fredericksburgh Township in Lennox & Addington County, now in the Town of Greater Napanee. Zone 4 is a square piece of land that consists mostly of a previously disturbed gravel staging or laydown yard, with thin sections of grass and weeds along two of its perimeters. Zone 5 is a rectangular parcel with an existing warehouse (which OPG will remove prior to transferring this land to Atura Power), gravel parking and laydown areas, an asphalt access road, and sections of grass and weeds on three of the perimeters. Zone 6 is a large, narrow zone extending north from Zones 4 and 5, which consists of parts of the access road (Industrial Park Road).

The northern end (about 20%) of Zone 6 is located on part of the west half of Lot 20 in Concession 1 of geographic Fredericksburgh Township in Lennox & Addington County, now in the Town of Greater Napanee. It consists of part of the access road (Industrial Park Road) and a small section of the existing NGS facility.

Permission to enter the property was granted by the proponent. The Stage 2 test-pit survey took place on May 7, May 10, and June 3 of 2024 under excellent lighting conditions and typical warm spring temperatures, with no snow cover and no frost in the ground. Daniel Smith acted as Field Director and Michael Obie, Erik Wright, Melissa Plavins, Philip Abbott, and Jelissa Kollaard as Field Technicians for the test-pit survey. Daniel Smith was also on site to monitor the drilling of six boreholes within Zone 1, which took place on June 3, 4, 5, and 6 of 2024. Additional monitoring of borehole drilling in Zones 4 and 5 was conducted on July 8, 9, 10, 11, 12, 15, 16, and 17, with Jelissa Kollaard and Justin Tighe as Field Directors.

Engagement with local Indigenous communities was led by the proponent from the early stages of the project, with Northeastern Archaeological Associates Ltd. engaging during this archaeological assessment and during the monitoring of borehole drilling. Atura Power sent the Notice of Commencement on April 8, 2024, to the following First Nations as part of this work: Alderville First Nation, Curve Lake First Nation, Hiawatha First Nation, Mississaugas of Scugog Island First Nation, Beausoleil First Nation, Chippewas of Georgina Island First Nation, Chippewas of Rama First Nation, Kawartha Nishnawbe, Huron Wendat Nation and Mohawks of the Bay of Quinte (MBQ) Mohawk Nation. Atura Power has worked with the same First Nations on the Napanee Battery Energy Storage System (BESS) project and is familiar with which ones may have Site Liaisons to provide support during the archaeological fieldwork. Atura Power surveyed Alderville First Nation, Curve Lake First Nation, Hiawatha First Nation, Mississaugas of Scugog Island First Nation in early spring of 2024 to determine if they would have available Site Liaisons and both Hiawatha First Nation and Alderville First Nation expressed interest. Atura Power is also aware that MBQ Mohawk Nation may have Site Liaisons so instructed Northeastern Archaeological Associates Ltd. to also reach out to them when the fieldwork was being planned. Alderville First Nation, Hiawatha First Nation and MBQ Mohawk Nation were therefore contacted to request Site Liaisons and at the time of the study, Alderville First Nation was able to supply a Site Liaison to the site for the duration of the work. Further details are reported separately in the attached “Indigenous Engagement Package”.

Maps are presented in Section 12 of this report and photographs are presented in Section 13. Any documentation generated in relation to this property is shown in this report.

2. Historical Context

2.1 Indigenous Treaty History

The study area is located on some of the lands involved in what is collectively called the Upper Canada Land Surrenders, which was a series of agreements made between Indigenous peoples and the Crown during the late 1700s and into the 1800s prior to Confederation and the creation of the province of Ontario that surrendered Indigenous lands to the colonial government for a variety of purposes including settlement and development (Boileau 2020). Specifically, the study area falls within the boundaries of the 1783 Crawford Purchases, which involved land along the north shore of Lake Ontario and the St. Lawrence River stretching from the Toniata/Onagara River [Jones Creek] near Brockville in the east to the Trent River in the Bay of Quinte in the west, including all the islands and extending back from the lake "as far as a man can travel in a day" (Boileau 2020). These purchases were designed to provide land to Loyalists who fought on behalf of the British during the American Revolution, including Indigenous allies and United Empire Loyalists. Captain William Crawford conducted negotiations with the Mississaugas who occupied a large portion of what is now southern Ontario. The area was outlined on a 1931 treaty map for the Province of Ontario and was labelled "Crawford's Treaty, Algonquins and Iroquois, Oct. 8th 1783" (Morris 1931). However, in essence, the Crawford Purchase was not a treaty, but the acquisition of land without ongoing British obligations, such as annual payments or gifts, a key feature of most treaties. Ontario Treaty maps and Treaty details are published by the Ministry of Indigenous Relations and Reconciliation (2018).

In 1784, Kanyen'kehà:ka (Mohawk) Chief John Deserontyon led about 100 followers from New York State to settle on part of the Crawford Purchase. In recognition of their support during the American Revolutionary War, the British officially granted this area to the Mohawks of the Bay of Quinte in 1793 by Treaty 3 ½, or the Simcoe Deed (Boileau 2020).

The MBQ Mohawk Nation is the closest Treaty and Land Rights holder to the study area, and is located on reserve lands situated on the north shore of Lake Ontario approximately 20 km to the northwest. Engagement with MBQ Mohawk Nation was undertaken by the proponent from the early stages of the NGS Expansion project and later by Northeastern Archaeological Associates Ltd. In addition, engagement was conducted with Alderville First Nation, which is a Mississauga Anishinaabeg First Nation located on reserve lands south of Rice Lake roughly 97 km to the northwest of the study area. Engagement was also conducted with Hiawatha First Nation, a Mississauga Anishinaabeg First Nation that is located on reserve lands north of Rice Lake roughly 108 km to the northwest of the study area. The lands on which the study area is located are within the traditional and treaty territory of the Mississauga Anishinaabeg, and their valued input was sought throughout the project. Additional information on treaty history and the history of the MBQ Mohawk Nation, Alderville First Nation, and Hiawatha First Nation is provided below.

Mohawks of the Bay of Quinte Nation

The closest Treaty and Land Rights holder to the study area is MBQ, a Mohawk Nation located on reserve lands situated on the north shore of Lake Ontario approximately 20 km to the northwest of the study area.

The following information was written by members of the MBQ/Kenhtè:ke Kanyen'kehá:ka Mohawk Nation (MBQ 2023) and is presented here in order to amplify on the Indigenous oral tradition and treaty history for the Kanyen'kehá:ka community in the area:

"The ancestral homeland of the Mohawk Nation is the Mohawk River Valley, which is in present day New York State. The Mohawks are considered the easternmost Nation within the Iroquois/Six Nation Confederacy and as such are referred to as the Keepers of Eastern Door. The original Five Nation Confederacy was made up of the Mohawk, Oneida, Onondaga, Cayuga and Seneca Nations. When the Tuscaroras were adopted into the Iroquois Confederacy around 1722, the Iroquois became known as the Six Nations Confederacy.

Our ancestors were military allies of the British Crown during the American Revolution as well as many previous wars between England and France. Fighting as British allies in the American Revolution, some of the bloodiest battles took place in the Mohawk Valley. Although the official position at the onset of the revolutionary war was one of neutrality, our ancestors later assisted the British as the Mohawk Valley broke out in warfare. One of the many promises made to our ancestors in order to gain their support was that their homeland villages would be restored at the end of the war. However, when the war ended with the signing of the 1783 Treaty of Paris, Britain gave up the Mohawk homelands to the American rebel forces.

In recompense for the loss of the homelands and in recognition for their faithful military allegiance with the British Crown, the Six Nations were to select any of the unsettled lands in Upper Canada. As a result of this Crown promise, our ancestors selected lands on the north shore of Lake Ontario for settlement. These lands were not unknown to the Six Nations people as they were part of a vast northern territory controlled by Iroquois Confederacy prior to the Royal Proclamation of 1763. The Bay of Quinte is also the birthplace of Tekanawita, the Peacemaker that brought the original Five Nations Iroquois Confederacy under a constitution of peace in the 12th century.

After travelling by canoe from Lachine, Quebec, our ancestors arrived on the shores of the Bay of Quinte on May 22, 1784. About 20 families, approximately 100-125 people, were met by Mississaugas who were in the area. It is our tradition to mark the anniversary of the Landing with a re-enactment of landfall and a thanksgiving for the safe arrival of our ancestors.

Although the Crown had promised the lands to the Six Nations the year before, our ancestors found some of the lands had been occupied by Loyalist families. After nine years of reminding the Crown of promises made at the close of the war, the Six Nations were granted a tract of land although smaller than originally promised. The land came to be known as the Mohawk Tract, about the size of a township, approximately 92,700 acres on the Bay of Quinte. A deed to this land known as the Simcoe Deed or Treaty 3½ was executed on April 1, 1793 by Lieutenant Governor John Graves Simcoe.

Not long after the Mohawks made settlement, many United Empire Loyalists continued to come into the Bay of Quinte area. Within a span of 23 years (1820-1843) two-thirds of the treaty land base under the Simcoe Deed was lost as the government made provisions to accommodate settler families. Today, the Mohawks of the Bay of Quinte have approximately 18,000 acres remaining of the original treaty land base and the current membership numbers over 8,000." (MBQ 2023).

Alderville First Nation

Alderville First Nation, the second closest Treaty and Land Rights holder to the study area, is roughly 97 km to the northwest. The people who currently inhabit Alderville First Nation are Mississaugas historically resettled from the Bay of Quinte area. In 1763, British settlers entered that area, with settlement further increasing with the American Revolutionary war as British Loyalists entered British North America. In 1783 the British purchased land from "Eastern Ontario"

to Toronto, in what is now known as the Crawford purchase, from the Mississaugas of the Bay of Quinte to distribute to European settlers (Beaver 2020). With the area being surveyed for settlement by the British, it became difficult to continue traditional hunting and fishing subsistence strategies. In the early 1800s, approximately 15 families were present from Mississauga bands from Kingston and Gananoque, with most Indigenous populations being displaced off their traditional hunting territories by the 1820s (Clarke 1999). With the increase of farming and settlement in the region, traditional food and resources became scarcer, forcing many people to adopt a colonial lifestyle to survive (Beaver 2020).

One of the primary ways that Indigenous populations within the Bay of Quinte area were persuaded into adopting European lifeways was through their interactions with the Methodist church. In 1744, the Methodist church was founded by John Wesley in England, with the church holding the belief that the Mississaugas needed to discard their traditional language, religion, customs, and culture to become more “civilized”. Methodists in Canada West first preached in the Credit River in 1824 and later at Grape Island in 1827 (Copway 1847).

Initially, Methodism was introduced through missionaries, or “Black Coats”, known as “circuit riders” who would often have members who spoke Ojibwe languages to communicate better and become more trusted, allowing for more effective conversion (Beaver 2020; Copway 1850). One of the leaders of the Methodist movement, Reverend William Case, travelled as an itinerant minister and was later given the name “Father of Indian missions” (Clarke 1999). Reverend Case was transferred to the Bay of Quinte area as the elder of the Methodist church with the goal of converting all the Indigenous peoples of Canada (Beaver 2020).

Grape Island in the Bay of Quinte, Lake Ontario was chosen as the location to “relocate” Indigenous people to establish a Methodist mission (Clarke 1999). On Grape Island, they were promised that if their children learned English and abandoned their traditional teachings and culture, they could become educated and “prosperous like white settlers” (Clarke 1999). In his writing, George Copway noted that the Mississaugas converted to Christianity and sought colonial education to prepare a better future for their children. Copway noted that he saw the goals of education among the Mississauga were to become educated to become proficient in the laws that were being enforced on them to hold land on equal footing to white settlers and represent themselves as a nation (Copway 1847). With the goal of a more prosperous future 16 Ojibwe men, including Shawundais or John Sunday, became missionaries to “northern tribes” and afterwards groups within western Canada. John Sunday was a Bay of Quinte Mississauga who later in 1836 was ordained as a reverend and missionary (Beaver 2020).

The conversion of 16 Ojibwe men to the Methodist faith was completed on May 31, 1826, and with it, a Society of Methodist Indians was established on Grape Island (Clarke 1999). Grape Island, with a growing population of displaced Mississauga peoples, was deemed successful by the Methodist church (Beaver 2020; Clarke 1999). However, the increasing population would become problematic as over 200 individuals resided on the island leading to unhealthy and cramped conditions that often served as a vector for disease. Diseases within the Indigenous populations of Grape Island drastically reduced the population. John Sunday, who had travelled within the Rice Lake region as a missionary, suggested the south side of Rice Lake as the land surrounding the Bay of Quinte was taken up by settlers (Beaver 2020; Clarke 1999). The people of Curve Lake and Hiawatha sent encouraging letters stating that there was much game and rice in the area to share. George Copway’s description indicates that the Rice Lake area was heavy in wild rice, game such as waterfowl and muskrat, and fish such as eel, pike, and bass (Copway 1847). On December 15, 1835, “John Sunday, Jacob Payhegezhick, Jacob Sunday, James Sahgahnahquothoabe, Jacob

Pahbecoun, James Nahwahquashkum, sachems, and chief warriors" surrendered Grape Island for future sale (Beaver 2020).

In 1837, many of the residents of Grape Island along with others from the surrounding area moved to Alnwick Township. The land was originally owned by the New England Company and was later transferred to the Province of Canada. Some chose not to accompany them as they found the restrictions of the Methodist church too great. The community was originally called "Aldersville", named after a secretary of the Methodist church in London, England who had moved to the community. Reverend William Case, among other missionaries, also moved and remained there until his death in 1855. In 1837 the community's population was 208 individuals (Beaver 2020). At the time of the relocation to Alderville, the principal chiefs were listed by Mary Jane Muskrat Simpson: Pashageezhig (later Simpson), John Agewains, Jacob Manjequionchcan, Joseph Skunk (Marsden), James Indian, and James Crawford. The first chief of Alderville was John Sunday followed by John Simpson. Upon settling, the people of Alderville interacted with other Mississauga groups in the region: Hiawatha, Curve Lake, Scugog, and other first nations including Rama and Georgina Island.

The reservation originally consisted of 3,600 acres and is located approximately 1.25 km south and southwest of Rice Lake along the Oak Ridges moraine. A strip of land along Rice Lake was purchased in 1914 and named Vimy Ridge after the World War I Battle where three soldiers from Alderville fought and were buried. A church and barn funded by the Methodist Society were raised in 1837, with the church being replaced in 1870; it is in use today as a United Church. Alderville was divided into 50-acre lots with and 22 frame houses, 14 log cabins, six frame barns, and a schoolhouse erected by the government but funded by the residents. Additionally, upon their arrival a sawmill was "erected from the Indian annuities", it was later leased to European settlers and ultimately sold in the late 19th century. The township described the land of Alderville as some of the best in the township for cultivation, though its residents described it as having too much swamp and scrub. The annual Methodist report (1851-1852) reported that 500 acres of land were under cultivation producing spring and fall wheat, corn, peas, oats, potatoes, and hay (Beaver 2020).

Under the authorising of elected councillors by the 1876 *Indian Act*, Alderville elected two council members in 1882, which increased to four in 1993. The *Indian Act* also specified that the chief and council must be elected positions, though hereditary chiefs were allowed to keep their position until their death (Beaver 2020).

Hiawatha First Nation

Geographically, the third closest Treaty and Land Rights holder to the study area is Hiawatha First Nation, roughly 108 km to the northwest. The first Crown Treaty that the Hiawatha band was officially involved with was the Rice Lake Purchase (Treaty 20), which saw the 'surrender' of 1,951,000 acres of land on November 5, 1818. Despite Crown representative reassurance that the Islands of Rice Lake would not be surrendered in Treaty 20, they were assumed by the Crown. Chief George Paudash wrote consistently in protest. Due to the general confusion of ownership, Paudash was approached by several European settlers asking if the islands could be sold or leased (Shpuniarsky 2015).

Ten years later, on June 14, 1828, Richard Scott, a New England Company Agent, petitioned for a small town to be constructed on the north side of Rice Lake or Pemedashcoutayang (Lake of the Burning Plains) near the Otonabee River to instruct Indigenous peoples in farming and the Protestant

faith. This proposal was accepted by the Mississauga's of Chief Paudash and the band members under his leadership. In addition to the instruction of agriculture at Hiawatha, traditional seasonal activities were still observed. This included the gathering of turtle eggs, collection, and boiling of maple sap, trapping, and fishing in the spring, collecting birch bark and berries, hunting frogs, and acting as guides in the summer, trapping, hunting, and the collection of wild rice in autumn, and gathering lumber, hunting, and trapping in the winter (Shpuniarsky 2015).

Lumber harvesting in the winter was quite common and community members would often work at logging camps or seek logging grants. However, the community had a problem of grants being provided to European settlers for un-surrendered lands, which caused tension between Hiawatha and local European settlers (Shpuniarsky 2015).

Hiawatha was primarily concerned with hunting rights, rice rights, the sale of islands, Treaty violations, and the Trent Severn waterway which caused flooding. Johnson Paudash was seen as the keeper of Treaty documents and knowledge. To deal with the issues affecting all of the local Indigenous bands at Rice Lake, Mud Lake, and Scugog formed a united council, which was led by George Paudash (Cheeneebesh) for several years (Shpuniarsky 2015). In 1856, Hiawatha and neighbouring Mississauga communities sold the disputed Islands to the Crown. Due to flooding caused by the construction of the dam at Hastings at the east end of Rice Lake in 1836, they were not paid for the flooded land. However, a land claim was filed and settled in 2012, where the communities of Hiawatha, Curve Lake, and Scugog received compensation for the sold flooded land (Shpuniarsky 2015).

Land for the settlement of Hiawatha was initially granted to Captain Charles Anderson and a section of his land was later granted "to Trusties for the benefit of the Indian tribes of the province, and with a view to their conservation and civilization". Early trustees included Reverend Richard Scott, Reverend Mark Burnham, and Bishop Bethune. An early report by Reverend Scott noted that by July of 1829 approximately 400 acres had been cleared and fenced. In 1850, George Copway noted that the settlement consisted of 1,550 acres, the 1,120 acres that were granted for the village's creation, and another 430 acres purchased with the bands' funds. The village is recorded as having 114 people, 30 houses, three barns, a schoolhouse, and a chapel with a bell in 1850. On April 7, 1850, Chief Paudash recorded all of the residents of the village and noted four Chiefs: George Paudash (Gemoaghpenasse), John Crow (Kaagagi), John Coppaway (Crane Clan), and John Taunchy. Chief George Paudash was recognised as the traditional Head-Chief of Hiawatha, and the community operated with three to four other chiefs. Other chiefs that are recorded in the mid-1800s include "George", Monsang Paudash, Jacob Crane, and Peter Nogie (Shpuniarsky 2015).

Hiawatha has a long history with Methodist Christians, with relationships beginning in 1826. The first mission house was constructed in the 1830s. The first in Peterborough County, it was used until 1926 (Hiawatha First Nations n.d.). The village was initially visited by Methodist preachers travelling along Rice Lake in 1825 under the instruction of Peter Jones. Jones was instructed by the General Superintendent of Methodist Indian Missions, William Case, to bring the Methodist faith to the Indigenous communities of the Bay of Quinte area. Jones began his conversion of the Indigenous peoples surrounding the modern city of Bellville, which attracted the attention of George Paudash and others within the Hiawatha community. In 1826 the annual Methodist conference was held in Cobourg and many individuals including Paudash are recorded as attending and being baptised by Dr. Nathaniel Bangs. Jones saw great success in converting Indigenous peoples in the Rice Lake area to the Methodist faith by linking aspects of Christianity to traditional Anishinaabe beliefs and learning Indigenous languages (Shpuniarsky 2015). Peter Jones himself became a Chief of the Mississauga's of New Credit. Due to the early declaration of the community as Christian, a Methodist teacher was

assigned to begin instruction as quickly as possible. The early goals of education within Hiawatha were to make the population literate as soon as possible so they could read the Bible, and so the village could be established as a Methodist “training grounds” to train teachers and preachers. Similar Methodist “training grounds” were concurrently being established at Grape Island and the Credit River (Shpuniarsky 2015).

Education within Hiawatha saw success and was supported by both the Crown and by the local population as children were taught in both English and their traditional *Anishinaabemowin*. Additionally, lessons would occasionally be taught using traditional teaching methods and instruction was provided by local Mississauga teachers. The first school was established in 1827 and began instruction on December 1st of the same year. Sixty students were shortly in attendance. Due to illness during the school's first summer, the school was moved to Spook Island along with the “mission family” who were provided temporary lodgings (Shpuniarsky 2015).

The school was attended by residents of Hiawatha, Mud Lake (Curve Lake), and Scugog, and students were taught in both English and *Anishinaabemowin* to have the population literate in both languages. However, a traditional European curriculum was not used as the students were said to be taught to value individual experiences as not to force a foreign education method on the students. The Methodists initially attempted to provide higher education to the populations of Hiawatha, Mud Lake (Curve Lake), and Scugog than that provided to the average European settler (Shpuniarsky 2015).

However, after 1840 residential schools began to be promoted and two were constructed within the vicinity of Hiawatha, one at Alderville and one at “Muceytown”. Initially, the premise was supported by the local Indigenous population before the reality of the school’s operations was realised. Many children were sent to residential schools in Alderville and Brantford where the focus was on manual labour and the schools were rife with physical, sexual, and emotional abuse (Shpuniarsky 2015).

As a result of the passing of the *Gradual Enfranchisement Act* in 1869 and the *Indian Act* of 1876, the governmental structure of Hiawatha shifted away from its traditional system. The area was placed under the governance of the Rice Lake and Mud Lake Agency with an Indian Affairs officer sitting in on all Chief and Council meetings with the power to give the final vote or veto discussions. Additionally, despite an election process being imposed on the community, many people continued to vote for their hereditary chief continuing the traditional leadership roles within the community. Although Hiawatha generally had a good working relationship with their Indian Affairs officers, they were not exempt from officers who ignored their requests and engaged in corruption (Shpuniarsky 2015). The collection of wild rice was an important activity among the people of Hiawatha and was often traded/sold to European settlers in the winter, with Johnson Paudash gifting some wild rice to the then Prime Minister Sir Wilfrid Laurier in 1910. However, due to settlers clearing and harvesting wild rice in the mid-19th century the communities of Hiawatha, Curve Lake, and Scugog passed a motion that only Indigenous peoples from their communities may harvest rice, though Indigenous peoples from other areas could harvest rice if the local band granted permission. Despite pushback from local settlers, the motion was enforced by the Government (Shpuniarsky 2015).

2.2 Indigenous Knowledge

The statement below regarding Anishinaabeg presence in south-central Ontario amplifies Indigenous oral tradition and treaty history for the area. It was provided by Gitigaa Migizi-ban, a respected Knowledge Keeper and Elder for the Michi Saagiig Nation, relaying oral tradition provided to him by his Elders.

"The traditional homelands of the Michi Saagiig (Mississauga Anishinaabeg) encompass a vast area of what is now known as southern Ontario. The Michi Saagiig are known as "the people of the big river mouths" and were also known as the "Salmon People" who occupied and fished the north shore of Lake Ontario where the various tributaries emptied into the lake. Their territories extended north into and beyond the Kawarthas as winter hunting grounds on which they would break off into smaller social groups for the season, hunting and trapping on these lands, then returning to the lakeshore in spring for the summer months. The Michi Saagiig were a highly mobile people, travelling vast distances to procure subsistence for their people. They were also known as the "Peacekeepers" among Indigenous nations. The Michi Saagiig homelands were located directly between two very powerful Confederacies: The Three Fires Confederacy to the north and the Haudenosaunee Confederacy to the south. The Michi Saagiig were the negotiators, the messengers, the diplomats, and they successfully mediated peace throughout this area of Ontario for countless generations. Michi Saagiig oral histories speak to their people being in this area of Ontario for thousands of years. These stories recount the "Old Ones" who spoke an ancient Algonquian dialect. The histories explain that the current Ojibwa phonology is the 5th transformation of this language, demonstrating a linguistic connection that spans back into deep time. The Michi Saagiig of today are the descendants of the ancient peoples who lived in Ontario during the Archaic and Paleo-Indian periods. They are the original inhabitants of southern Ontario, and they are still here today.

The traditional territories of the Michi Saagiig span from Gananoque in the east, all along the north shore of Lake Ontario, west to the north shore of Lake Erie at Long Point. The territory spreads as far north as the tributaries that flow into these lakes, from Bancroft and north of the Haliburton highlands. This also includes all the tributaries that flow from the height of land north of Toronto like the Oak Ridges Moraine, and all of the rivers that flow into Lake Ontario (the Rideau, the Salmon, the Ganaraska, the Moira, the Trent, the Don, the Rouge, the Etobicoke, the Humber, and the Credit, as well as Wilmot and 16 Mile Creeks) through Burlington Bay and the Niagara region including the Welland and Niagara Rivers, and beyond. The western side of the Michi Saagiig Nation was located around the Grand River which was used as a portage route as the Niagara portage was too dangerous. The Michi Saagiig would portage from present-day Burlington to the Grand River and travel south to the open water on Lake Erie. Michi Saagiig oral histories also speak to the occurrence of people coming into their territories sometime between 800-1000 A.D. seeking to establish villages and a corn growing economy – these newcomers included peoples that would later be known as the Huron-Wendat, Neutral, Petun, and Tobacco Nations. The Michi Saagiig made Treaties with these newcomers and granted them permission to stay with the understanding that they were visitors in these lands. Wampum was made to record these contracts, ceremonies would have bound each nation to their respective responsibilities within the political relationship, and these contracts would have been renewed annually (see Gitiga Migizi and Kapyrka 2015). These visitors were extremely successful as their corn economy grew as well as their populations. However, it was understood by all nations involved that this area of Ontario were the homeland territories of the Michi Saagiig. The Odawa Nation worked with the Michi Saagiig to meet with the Huron-Wendat, the Petun, Neutral, and Tobacco Nations to continue the

amicable political and economic relationship that existed – a symbiotic relationship that was mainly policed and enforced by the Odawa people. Problems arose for the Michi Saagiig in the 1600s when the European way of life was introduced into southern Ontario. Also, around the same time, the Haudenosaunee were given firearms by the colonial governments in New York and Albany, which ultimately made an expansion possible for them into Michi Saagiig territories. There began skirmishes with the various nations living in Ontario at the time. The Haudenosaunee engaged in fighting with the Huron-Wendat and between that and the onslaught of European diseases, the Iroquoian speaking peoples in Ontario were decimated. The onset of colonial settlement and missionary involvement severely disrupted the original relationships between these Indigenous nations. Disease and warfare had a devastating impact upon the Indigenous peoples of Ontario, especially the large sedentary villages, which mostly included Iroquoian speaking peoples. The Michi Saagiig were largely able to avoid the devastation caused by these processes by retreating to their wintering grounds to the north, essentially waiting for the smoke to clear. Michi Saagiig Elder Gitiga Migizi (2017) recounts:

"We weren't affected as much as the larger villages because we learned to paddle away for several years until everything settled down. And we came back and tried to bury the bones of the Huron but it was overwhelming, it was all over, there were bones all over – that is our story. There is a misnomer here, that this area of Ontario is not our traditional territory and that we came in here after the Huron-Wendat left or were defeated, but that is not true. That is a big misconception of our history that needs to be corrected. We are the traditional people, we are the ones that signed treaties with the Crown. We are recognized as the ones who signed these treaties and we are the ones to be dealt with officially in any matters concerning territory in southern Ontario. We had peacemakers go to the Haudenosaunee and live amongst them in order to change their ways. We had also diplomatically dealt with some of the strong chiefs to the north and tried to make peace as much as possible. So we are very important in terms of keeping the balance of relationships in harmony. Some of the old leaders recognized that it became increasingly difficult to keep the peace after the Europeans introduced guns. But we still continued to meet, and we still continued to have some wampum, which doesn't mean we negated our territory or gave up our territory – we did not do that. We still consider ourselves a sovereign nation despite legal challenges against that. We still view ourselves as a nation and the government must negotiate from that basis."

Often times, southern Ontario is described as being "vacant" after the dispersal of the Huron-Wendat peoples in 1649 (who fled east to Quebec and south to the United States). This is misleading as these territories remained the homelands of the Michi Saagiig Nation. The Michi Saagiig participated in eighteen treaties from 1781 to 1923 to allow the growing number of European settlers to establish in Ontario. Pressures from increased settlement forced the Michi Saagiig to slowly move into small family groups around the present day communities: Curve Lake First Nation, Hiawatha First Nation, Alderville First Nation, Scugog Island First Nation, New Credit First Nation, and Mississauga First Nation.

The Michi Saagiig have been in Ontario for thousands of years, and they remain here to this day."

Post-Contact Euro-Canadian Settlement History

The study area is located on the north shore of Lake Ontario, south of the town of Napanee, in the geographic Township of South Fredericksburgh in the County of Lennox & Addington (now in the Town of Greater Napanee). Settlement by Euro-Canadians began in this area in 1784. Many of the earliest settlers of the townships along the shores of the Bay of Quinte of Lake Ontario were United Empire Loyalists who left the United States during the Revolutionary War (Meacham 1878) as well as discharged veterans of that war. The lands in this region were included in the Midland District until 1851 when they became part of Lennox County, which subsequently merged with Addington County in 1903.

The Township of Fredericksburgh was named after Prince Augustus Frederick, Duke of Sussex. The lots of this township were surveyed to be deep and narrow in order to maximise the number of lots with frontage on Lake Ontario. The township was separated into North and South Fredericksburgh in 1857 (sfredheritage.on.ca 2013).

The town of Napanee, which is situated about 13 km north of Lake Ontario, was the original County Seat of Lennox & Addington County and had one of the oldest established mills in Ontario. In fact, the name “Napanee” is an aboriginal word that means “the place of the mill” (Saturday Globe 1893). Napanee also had a station on the Grand Trunk Railway line, built in 1856, with a smaller rural stop to the south in Fredericksburgh Station. On the south side of the Napanee River is the Napanee Golf and Country Club, which is the second-oldest 9-hole golf course in Canada, being established in 1897. The study area, which is south of Napanee in geographic South Fredericksburgh Township, is close to the villages of Sandhurst and Hawley. A major roadway (Highway 33 or Loyalist Parkway) runs just south of the study area and it was the earliest land route along the shore of the Bay of Quinte through Bath and Adolphustown to the ferry across the Bay to Prince Edward County; it was also an important transportation corridor between Napanee and the surrounding farms and settlements like Sandhurst and Hawley. In 1998, the town of Napanee was amalgamated with the townships of Adolphustown, Richmond, North Fredericksburgh, and South Fredericksburgh, to form the Town of Greater Napanee. Therefore, this area has a lengthy history of Euro-Canadian settlement, including agricultural, industrial, and residential use of this area, dating back to the late 1700s.

The 1878 *Meacham* historical atlas map for South Fredericksburgh Township shows the location of the lots and concessions as well as historical roads, buildings, and other features, if present, at that time. The study area is located on parts of Lots 18, 19, and 20 in Concession 1 of South Fredericksburgh Township (see Map 5). In the years after the time of the original Crown Patents on these roughly 200-acre lots (which were granted between 1797 and 1803), they were divided into parcels of different sizes and shapes, as described below.

As shown on the 1878 Meacham map (see Map 5), Lot 18 was split in half, with each parcel being 100 acres in size. The south parcel was owned then by “Belfour & Armstrong” while the north parcel, on which Zones 1, 2, and 3 of the study area are located, was owned at that time by a “Mrs. Johnson”. There is a symbol representing the presence of a house on each parcel, but neither of them was on the study area; however, the house on Mrs. Johnson’s land appears to have fronted on a road that later became Highway 33/Loyalist Parkway, just south of Zone 3.

The Meacham map (see Map 5) shows that Lot 19 was divided into two sections in 1878, namely a 150-acre parcel on the south side of the lot (which was owned at that time by “Hugh McCaugherty”) and a 50-acre parcel along the north edge of the lot (owned then by “Stewart

Craven"). Zones 4, 5, and 7 are located on McCaugherty's south parcel of Lot 19 while Zone 6 spans part of both the north and south parcels of that lot. Two houses are shown on this map at the south end of McCaugherty's parcel, just north of Zone 7 of the study area, and one house at the south end of Craven's parcel, all three of which fronted on the road that later became Highway 33/Loyalist Parkway.

The northern tip of Zone 6 extends onto the southern edge of Lot 20, which was divided in 1878 into a southern parcel of 150 acres (also owned at that time by "Stewart Craven"), a northwestern parcel of 33 acres (owned by "George Clapper"), and a northeastern parcel of 70 acres (owned by "Lewis Grant"). The only house shown on Lot 20 is at the south end of Grant's land, fronting on Highway 33/Loyalist Parkway.

In summary, as of 1878 there were five houses in total on Lots 18, 19, and 20 although none of them were located on any of the seven zones of the study area. The closest houses were the one on Mrs. Johnson's half of Lot 18, just south of Zone 3, and one of the houses on McCaugherty's portion of Lot 19. The other three houses were several hundred metres away from the study area. All five of these houses fronted on the north side of the main lakeshore road (now Highway 33/Loyalist Parkway). However, in the 1990s, the alignment of this road was shifted to the north, originally because shoreline erosion was threatening the stability of the road, and then it was redesigned to go even further to the north because a significant archaeological site (the Upper Gap site/BaGe-2) was discovered and the Ministry of Transportation wished to protect it. Consequently, two of the houses listed above would have been to the south of where Highway 33/Loyalist Parkway currently passes, including the house on Craven's part of Lot 19 and the house on Grant's land on the east half of Lot 20. The two houses on McCaugherty's part of Lot 19, as well as the house on Mrs. Johnson's land, would likely have been located on or abutting what is now the shoulder of Highway 33/Loyalist Parkway and were likely destroyed during the re-routing of Highway 33/Loyalist Parkway and/or during construction of the LGS.

Even though there are no houses currently standing at these locations there could still be sub-surface remnants of foundations and other structural remains, as well as artifacts relating to the occupation of these houses, on part of the study area. Also, these houses are the houses that existed when the 1878 map was made, so it is possible that earlier houses and cabins were located on the southern parts of all three lots, as well, given the early date of settlement in this area (late 1700s). Consequently, structural remains and associated artifact assemblages from such earlier buildings could also be buried on the study area.

In terms of early structures, there were once two known houses, but no other buildings or features such as schools, churches, or mills, shown in close proximity to Zone 3 and Zone 7 of the study area on the 1878 Meacham map. In terms of 19th-century transportation corridors, there was the original road that ran along the lakefront (now Highway 33/Loyalist Parkway), which the east edges of Zone 3 and Zone 7 of the study area abut. Also nearby are the villages of Sandhurst and Hawley, which had numerous industries, shops, and services such as post offices. Therefore, this area has a lengthy history of Euro-Canadian settlement, including agricultural and residential use of the study area and adjacent lands dating back to at least the late 1700s.

2.3 Land Use History of the Study Area

In general, the local area is a combination of agricultural, residential, and industrial zones spanning part of the north shore of the Bay of Quinte on Lake Ontario. There is a mix of cultivated agricultural fields, wooded areas, wetlands, streams, and ponds in the area in addition to the two existing generating stations and the transformer station (see Maps 1 and 2).

The proposed NGS Expansion project will involve lands currently owned by OPG. As parts of former farmsteads, the lands that make up the study area were first cleared of trees, rocks, and/or other objects in order to prepare them for agricultural use sometime during the late 1700s or early 1800s after the Crown Patents were granted for Lots 18, 19, and 20 in Concession 1 of South Fredericksburgh Township. These types of early clearing and farming activities are considered to cause relatively low levels of soil disturbance, compared to the high levels of deep and extensive soil disturbance caused during construction of roads or buildings, for example, and therefore would not necessarily affect or reduce the archaeological potential of the subject lands, as per Section 1.3.2 of the *Standards & Guidelines* (Ministry of Tourism and Culture [MTC] 2011).

However, parts of the study area have been subject to extensive and deep prior soil disturbances during the last several decades resulting from the construction of the two generating stations and other related buildings and features. There has also been large-scale excavation relating to the installation of gas and sewage mains and other buried infrastructure, as well as construction of a railway line, internal access roads, and large compacted-gravel laydown and storage or staging yards. Drainage ditches have also been constructed in many areas on and adjacent to the study area. Parts of the generating station complex have also been scarified, *i.e.*, they had the upper soils scraped away using machinery, in order to remove all vegetation, and many areas have expanses of limestone bedrock that were exposed during construction activities.

As seen in satellite views taken over the past two or three decades, many parts of the study area have been repurposed over the years as the design of the generating stations has evolved and been updated. New buildings and roadways have been constructed, while other areas have undergone landscaping and planting in order to naturalise them and create new types of environmental zones and habitats for local fauna.

Access to the study area is via an existing paved entrance that extends off the west side of Highway 33. Inside the compound, asphalt and gravel internal access roads also connect the various parts of the study area. In terms of existing buildings, there currently is one large warehouse in Zone 5 (that will be removed prior to OPG transferring lands to Atura Power), and previously there was a large warehouse in Zone 1. Further details about the existing conditions in each Zone are provided in Section 6.1 (“Stage 2 Test-Pit Survey”) and Section 7 (“Record of Finds”) of this report. The present conditions on the study area are shown on Map 2 in Section 12 of this report and in the photographs provided in Section 13.

3. Archaeological Context

3.1 Physiographic Setting of the Study Area

The study area falls within the Napanee Plain physiographic region of southern Ontario (Chapman and Putnam 1984). This region is a flat-to-undulating plain of limestone (of both the Gull River and Bobcaygeon Formations) stripped of most of the overburden during the last period of glaciation (Chapman and Putnam 1984:186). With the town of Napanee at its geographic centre, this region is roughly 1,100 square km in size, with soils generally only a few inches deep (Chapman and Putnam 1984).

The study area is located within a drumlinised clay plain, with three drumlins located between 1 and 3 km to the west. The closest edge of the study area (in Zone 7) is roughly 40 metres (m) west of the shoreline of Lake Ontario. This part of the lake is also called the North Channel of the Bay of Quinte and it separates Amherst Island from the mainland. Zones 1 to 7 are in a generally flat to gently sloping area adjacent to both the LGS and NGS, with sparse secondary growth of scrub vegetation (mostly short weeds and juniper bushes) as well as highly disturbed lands with gravel and asphalt access roads, parking lots, and compacted gravel laydown and storage yards. In some areas, there are very steep sections of limestone bedrock that were exposed or created during various phases of construction relating to the two generating stations.

In terms of water sources (in addition to Lake Ontario), there is a small secondary watercourse about 350 m north of Zone 6 of the study area. It flows southeastward through the surrounding wetlands into Lake Ontario.

3.2 Pre-Contact Period

Archaeological evidence demonstrates that people were in Southern Ontario approximately 12,000 years ago (Karrow & Warner 1990). The era since that time, which follows the last glaciation, is commonly divided into three time periods, as follows:

Palaeo Period (12,000-10,000 BP) - The Palaeo period was characterised by people who lived in small family groups, using a highly distinctive stone tool technology (fluted and lanceolate points) to hunt large Late Pleistocene and other fauna associated with the cooler environments of the period (Ellis and Deller 1990; Jackson 1998, 2019). Small-group mobility is believed to have ranged up to 200 km annually.

Archaic Period (10,000-3,000 BP) - As the climate in southern Ontario warmed, Indigenous populations adapted to these new environments. New technologies and subsistence strategies were introduced and developed. Woodworking implements such as groundstone axes, adzes and gouges began to appear, as did net-sinkers (for fishing), numerous types of spear points and items made from native copper, which was mined from the Lake Superior region. The presence of native copper on archaeological sites in southern Ontario and adjacent areas suggests that Archaic groups were involved in long distance exchange and interaction. The trade networks established at this time were to persist between Indigenous groups until European contact. Archaic peoples

became seasonal hunters and gatherers to exploit seasonably available resources in differing geographic areas. As the seasons changed, these bands split into smaller groups and moved inland to exploit other resources that were available during the fall and winter such as deer, rabbit, squirrel and bear, which thrived in the forested margins of these areas (Ellis *et al* 1990).

Woodland Period (3,000 BP to European contact) – This period saw the gradual establishment of important technological and subsistence changes, initially the appearance of clay pots (Jackson 1982; Spence *et al* 1990) in the Early Woodland period among Algonkian speaking populations. Population increases also led to the establishment of larger camps and villages during the Middle Woodland. Elaborate burial rituals and the interment of numerous exotic grave goods with the deceased distinguish the Early and Middle Woodland. Increased trade and interaction between southern Ontario populations and groups as far away as the Atlantic coast and the Ohio Valley was taking place. During the late Middle Woodland, there were two major subsistence innovations: the harvesting of wild rice throughout south-central and northern Ontario and the introduction of maize agriculture, which prelude the archaeological Late Woodland period (Jackson *et al* 2022). Algonkian speaking (Anishinabek) peoples relied heavily on wild rice and Iroquoian speaking peoples on maize (Jackson n.d.). Algonquins also had seasonal fishing villages with up to 500 peoples living in them for six to eight months of the year (Hickerson 1960; Migizi 2018). The Late Woodland is known for large sedentary villages in south-central and southwestern Ontario after about A.D. 1000 and increasing development of trade and warfare just prior to European contact. Both Algonkian and Iroquoian speaking peoples occupied the landscape of southern Ontario during this period. Beginning about A.D. 1400, Sioui and Labelle (2014) recognize the “Algonquian Wendat Alliance”, which persisted to at least A.D. 1660. Although it is widely assumed that Iroquoian speaking peoples were sedentary in southern Ontario, populations did shift regionally, for unknown and likely socio-political reasons, and locally due to soil depletion from maize horticulture requiring regular relocation of villages. Anishinabek peoples had extensive hunting and gathering territories throughout south-central Ontario and have been described as strategic sedentarists (Thoms 2014).

A general timeline of archaeological periods and associated cultural groups in Central Ontario is provided in **Table 1** below.

Table 1: General Archaeological Timeline of Central Ontario

Period	Group(s)	Date Range	Culture/Technology
Palaeo			
	Fluted Point	11800-10500 B.P.	Seasonal Hunters
	Holcombe, Hi-Lo	10500-9800 B.P.	Paleo Point Technology
Archaic			
Early	Side Notched Corner Notched Bifurcate Point	9800-9500 B.P. 9500-8900 B.P. 8900-8000 B.P.	Hunters and Gatherers
Middle	Early Middle Archaic Laurentian	8000-5500 B.P. 5500-4000 B.P.	Focused Seasonal Resource Areas

Period	Group(s)	Date Range	Culture/Technology
Late	Narrow Point Broad Point Small Point Glacial Kame	4500-3000 B.P. 4000-3500 B.P. 3500-2800 B.P. ca. 3000 B.P.	Polished and Groundstone Tools, River/Lakeshore Settlement, Burial Ceremonialism
Woodland			
Early	Meadowood Middlesex	2800-2300 B.P. 2300-2000 B.P.	Introduction of Pottery, Elaborate Burials
Middle	Point Peninsula Sandbanks/Princess Point	2000-1250 B.P. 1250-950 B.P.	Long-Distance Trade, Burial Mounds, Agriculture
Late	Pickering[1], Uren, Middleport (Anishinabek/Iroquois) Algonquin and Huron Alliance[2],[3],[4]	950-550 B.P. B.P. . 550-300 B.P.	Transition to Fortified Villages, Horticulture, Large Village Sites, Alliances, Trade/Warfare
Historic			
	Mississauga	350 B.P. - present	Mission Villages and Reserves
	Euro-Canadian		European Settlement

3.3 Known Archaeological Sites in the Vicinity

A search of MCM's *Ontario Archaeological Sites Database* was conducted in July of 2024. The results of this database search determined that there are no registered archaeological sites on the study area. However, within a radius of 1 km of the study area there are four known archaeological sites, all of which were registered following an archaeological survey of Highway 33 that was conducted by the Ministry of Transportation of Ontario in 1995, prior to a road realignment project for this part of Highway 33 (Murphy 1997). Three of the registered sites were Euro-Canadian homestead sites dating to the late 1700s and early 1800s; these include the Grant Site (BaGf-18), the Craven Site (BaGf-19), and the Church Site (BaGf-20). Artifact assemblages for these three sites included domestic materials such as fragments of ceramic tableware, glass bottles, metal, and animal bones (Murphy 1997; Heritage Quest 2003; Ground Truth Archaeology 2015).

The fourth site (called the "Upper Gap" site/BaGe-2) also had a disturbed Euro-Canadian homestead component from the same time period as the other three nearby sites; however, there were also three Late Woodland aboriginal components in two separate habitation areas that included ceramic, botanical and faunal artifacts, burial features, and what the original researchers

[1] *Smith 2021*
[2] *Sioui and Labelle 2014*
[3] *Migizi 2018*
[4] *Jackson 2023*

described as lines of subsoil post moulds from the walls of longhouses (Murphy 1997) or possibly from "short-houses" or another type of structure. The earliest component at the site dated to the transitional period between the late Middle Woodland period and the early Late Woodland period, around roughly A.D. 700 to 800 (Ferris 1999; Spence, Pihl, and Murphy 1990; Wright 1966). Another component had indications of multiple occupations of the site during the middle Late Woodland time period between A.D. 900 and 1200. The latest occupation of the site was near the end of the Late Woodland time period, circa A.D. 1300 to 1400. This site has experienced a great deal of disturbance over the years, during the early construction of homes and other farm buildings, during their subsequent demolition in the late 1960s, and during the construction of the original road and subsequent highway upgrades (Murphy 1997, 1999, 2000, 2001; Heritage Quest 2003). The realignment of Highway 33 to the north of this site has served to protect it from further damage. The Ontario Heritage Foundation installed an historic plaque commemorating the Upper Gap site near its location on the south side of Highway 33 about 1.2 km east of County Rd. 21 (Ontario Heritage Trust 2025; Loyalist Parkway Association 2025), with the following inscription:

"*First Nations peoples lived in this area thousands of years before the arrival of Europeans. In 1995, archaeological evidence of Iroquoian settlement was discovered nearby. The artifacts found reflected several periods of habitation dating from A.D. 700 to A.D. 1400 and included the remains of decorated ceramic pots, vessels for cooking and storage, and stone tools. Hundreds of years ago, the Iroquois lived in longhouses and practised an agricultural way of life, cultivating primarily corn, beans and squash. This site was likely chosen for its strategic location overlooking the open channel or Upper Gap between Amherst Island and Cressy Point. It provided access to Lake Ontario for fishing, hunting, gathering, ceremonial purposes and for other Aboriginal peoples.*"

There are two additional registered archaeological sites that are located roughly 2.5 km west of the study area, including another post-contact Euro-Canadian homestead site that fronts on the north side of Highway 33 (site BaGf-22) and a pre-contact aboriginal hunting site (BaGf-23).

Based on a search of MCM's reports database and on a literature search of other relevant known archaeological research and reports, there is only one known report that includes previous archaeological fieldwork conducted for part the study area, which is a Stage 1 & 2 archaeological assessment that was conducted for the NGS under PIF# P121-0117-2013 in 2013 (Advance Archaeology 2014). That 2013 assessment included the lands that make up Zone 6 of the current study area, but Zones 1, 2, 3, 4, 5, and 7 of the study area are outside of the 2013 study area limits. The 2013 Stage 1 assessment recommended that a Stage 2 assessment be conducted on all undisturbed lands that would be affected by the construction of the NGS (lands which were determined to have high archaeological potential due to their proximity to the known archaeological sites described above and to areas of historic development, existing water sources, and historic transportation corridors). However, the lands where extensive soil disturbance had previously taken place (such as the large storage yards and roads at the existing LGS, including Zone 6 of the current project's study area) as well as areas with exposed limestone bedrock or standing water were considered to have low archaeological potential and therefore it was recommended that those areas be exempt from Stage 2 assessment. The Stage 2 fieldwork consisted of pedestrian survey of the ploughed agricultural lands and test-pit survey of unploughable lands, all conducted at 5 m transect intervals. As recommended, engagement and consultation with the Indigenous

community continued to take place and MBQ Mohawk Nation sent an archaeological liaison to monitor part of the Stage 2 fieldwork. A single, isolated artifact was discovered during Stage 2 testing, in a ploughed field near the northeast corner of the assessed area (about 700 m north of Zone 6). This find was an Indigenous pre-contact projectile point that possibly dates to the Middle Woodland time period, circa 330 B.C. to A.D. 700. Despite the use of intensified pedestrian survey at 1 m intervals in this area, no other artifacts were recovered and the projectile point is considered to be an isolated “find spot” (possibly lost during hunting), according to MCM standards. No other artifacts of any kind were recovered during the remainder of the pedestrian survey or during the test-pit survey. Given these results, it was recommended that the findspot did not require any further assessment, as per Standard 1.c, Section 2.2 of the Standards & Guidelines (MTC 2011) and that there was no further cultural heritage value or interest on the subject property for that project. It was also recommended that monitoring of earth-moving activities in the eastern section of the subject property immediately bordering on the north side of Highway 33 might be considered as a possible extra measure of due diligence, given its proximity to the nearby Upper Gap archaeological site.

There are no known reports or documentation of archaeological sites within 50 m of the study area, although the 2013 Stage 2 assessment mentioned above recorded an isolated findspot (a single pre-contact projectile point) that was recovered in a field approximately 700 m north of the study area. It resembled a point type known as “Jack’s Reef Corner-Notched”, which has been found at other sites of the Point Peninsula Complex of the Middle Woodland time period, circa 300 B.P. to A.D. 700 (Advance Archaeology 2014). No other artifacts of any kind were recovered during that assessment. There are several reports that document the Upper Gap site/BaGe-2 (Murphy 1997, 1999, 2000, 2001; Heritage Quest 2003), which is about 300 m or more to the northeast of the study area, on the opposite side of Highway 33.

4. Stage 1 Analysis and Conclusions

The Stage 1 assessment indicated that there is a high level of prior soil disturbance on many parts of the study area, such as all of Zones 4 and 6 and parts of Zones 1 and 5, that was caused during construction of the existing LGS and NGS and associated features like access roads, drainage ditches, and buried infrastructure. Other parts of the study area, however, are covered in vegetation, such as the grassy fields in Zones 2, 3, and 7 or the rocky sections of scrubby juniper and red cedar in Zones 1 and 5, which potentially could have moderate or high archaeological potential, based on several factors:

- proximity to a primary water source (Lake Ontario);
- proximity to a significant 19th-century transportation corridor (now called Highway 33/Loyalist Parkway)
- proximity to four registered archaeological sites within a 2 km radius, including three 19th-century Euro-Canadian homestead sites and the Upper Gap site, which is a pre-contact Aboriginal habitation and burial site;
- there is a well-documented history of late-18th-century and 19th-century Euro-Canadian settlement in the surrounding area (including Sandhurst, Hawley, and Bath);
- the study area includes or abuts features that would have made it suitable for aboriginal use and habitation, such as flat, well-drained topography that is close to wetlands and watercourses.

As stated in Section 1.3, Standard 1 of the *Standards & Guidelines*, if the Stage 1 evaluation indicates that there is archaeological potential anywhere on the study area then a Stage 2 assessment will be required.

5. Stage 1 Recommendations

Based on the results of this Stage 1 assessment, the following two recommendations are made:

(1) That a Stage 2 archaeological assessment be conducted for the study area, as per Standard 1 of Section 1.3 in the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011); and

(2) That the Stage 2 fieldwork consist of pedestrian survey for any ploughable agricultural fields and test-pit survey of any unploughable lands, to be conducted at 5 m testing intervals as per Section 2.1 of the *Standards and Guidelines* (MTC 2011) or at other appropriate testing intervals (depending on professional judgment) as per Section 2.1.6 (MTC 2011), to be determined during the Stage 2 fieldwork based on what the existing ground conditions will permit.

6. Stage 2 Field Methods

The Stage 2 assessment was conducted under excellent lighting conditions and average to above-average summer temperatures between May 7 and July 17 of 2024. It consisted of two different components: (1) the test-pit survey that took place on May 7, May 10, and June 3, and (2) the archaeological monitoring of the drilling of 15 boreholes on June 3, 4, 5, and 6 and July 8, 9, 10, 11, 12, 15, 16, and 17. Further details on these two fieldwork components are provided below. Map 6 in Section 12 of this report shows the degrees of archaeological potential encountered on the study area and the types of Stage 2 fieldwork methodology that were used in each Zone. Maps 9 and 11 show the locations of the boreholes that were monitored during drilling. Images 1 to 68 in Section 13 of this report show the conditions on the study area and the Stage 2 fieldwork in progress. The numbered arrow symbols on Maps 7, 9, and 11 show the locations from which these photographic images were taken and the direction that the photographer was facing.

6.1 Stage 2 Test-Pit Survey

Zone 1 of the study area includes large compacted-gravel yards, a large asphalt parking lot, and a large concrete pad from a large former warehouse, all of which show signs of deep and extensive prior soil disturbance that are obvious from a visual inspection. There is also a drainage ditch along two sides of Zone 1 that was excavated well into the limestone bedrock. These disturbed areas likely had High Archaeological Potential originally, as it is known that Indigenous peoples lived in the vicinity for thousands of years before European settlement. However, the construction activities related to building the various components of the NGS and earlier features of the LGS would have greatly decreased or possibly eliminated any archaeological potential in those locations due to extensive soil disturbance from earth-moving, grading, infilling, paving, and blasting of bedrock, for example. As a result, they are currently considered to be areas of Low Archaeological Potential and make up about 80% of Zone 1, whereas the remaining 20% consists of sections of grass, scrub vegetation, and small trees that had an undetermined amount of prior soil disturbance and were considered to be areas of High Archaeological Potential. It was not possible to plough the high-potential areas of Zone 1 in preparation for assessment by pedestrian survey due to these ground conditions so, as per Standard 1(e) of Section 2.1.2 in the *Standards and Guidelines* (MTC 2011), Zone 1 of the study area was assessed by test-pit survey at 5 m intervals instead. The low potential areas were exempt from Stage 2 testing as per Section 1.3.2 of the *Standards and Guidelines* (MTC 2011). Images 1 to 10 in Section 13 of this report show the conditions encountered during Stage 2 test-pit survey conducted in Zone 1.

Zone 2 of the study area is a large field primarily covered in long grass and weeds with scrub vegetation such as red cedar or juniper bushes, although there is a very small section in the northwest corner that is part of an asphalt access road. The sections with vegetation/ground cover made up about 95% of Zone 2 and they were considered to be areas of High Archaeological Potential, while only about 5% (the asphalt area) was considered to have Low Archaeological Potential due to extensive prior soil disturbance. None of Zone 2 would be possible to plough in preparation for assessment by pedestrian survey due to these ground conditions so, as per Standard 1(e) of Section 2.1.2 in the *Standards and Guidelines* (MTC 2011), the high-potential areas were assessed by test-pit survey at 5 m intervals instead. The small section of asphalt

access road was exempt from Stage 2 test-pit survey as per Section 1.3.2 of the *Standards and Guidelines* (MTC 2011). Images 11 to 16 in Section 13 of this report show the conditions encountered during Stage 2 test-pit survey conducted in Zone 2.

Zone 3 of the study area has a large field primarily covered in long grass and weeds with small amounts of scrub vegetation such as juniper bushes, which makes up about 75% of this Zone; this area is considered to be of High Archaeological Potential. There is also an elevated area in the centre of this field that was covered in long grass. Examination of satellite views of the property show that this part of this area was previously subject to large-scale grading operations and that this feature is a berm that was constructed and then re-naturalised with grasses and other vegetation. It makes up about 20% of Zone 3 and was considered to be of Moderate Archaeological Potential. In addition, there is part of an asphalt parking lot that is next to one of the main entrances to the LGS, which makes up about 5% of Zone 1 and is of Low Archaeological Potential due to the high degree of prior soil disturbance. It was exempt from the Stage 2 test-pit survey as per Section 1.3.2 of the *Standards and Guidelines* (MTC 2011). While most of Zone 3 was considered to be of High or Moderate Potential, none of it would be possible to plough in preparation for assessment by pedestrian survey due to the ground conditions so, as per Standard 1(e) of Section 2.1.2 in the *Standards and Guidelines* (MTC 2011), Zone 3 was assessed by test-pit survey instead. Survey grid intervals of 5 m were used for what the Stage 1 assessment had identified as the High-Potential sections but, as per as per Standard 1 of Section 2.1.6 of the *Standards and Guidelines* (MTC 2011), professional judgement was used to employ 10 m intervals in the Moderate-Potential central section of this zone, which had been impacted to varying degrees by grading and other construction activities when this zone was heavily altered during the building of the berm. Images 17 to 25 in Section 13 of this report show the conditions encountered during Stage 2 test-pit survey conducted in Zone 3. Image 21 shows the disturbed nature of the soils encountered in the Moderate-Potential section, which had a mottled mixture of clay, gravel, sand, rocks, and topsoil.

Zone 4 of the study area consists entirely of a large compacted-gravel laydown and storage yard with abundant evidence of deep and extensive prior soil disturbance that is obvious from a visual inspection. Only a small amount of weedy or scrubby vegetation has managed to cling to the upper 2 or 3 centimetres (cm) of this Zone. Attempts at digging test-pits in this Zone were unsuccessful due to the high degree of compaction of the gravel in this yard so, following thorough examination and documentation of the ground conditions, it was determined to be of Low Archaeological Potential and was therefore exempt from Stage 2 fieldwork as per Section 1.3.2 of the *Standards and Guidelines* (MTC 2011). Images 26 to 31 in Section 13 of this report show the conditions encountered during Stage 2 assessment conducted in Zone 4.

Zone 5 of the study area consists primarily of large compacted-gravel laydown and storage yards, a large asphalt parking lot and access road, and a complex of existing warehouse buildings. The limestone bedrock had been exposed in some sections of this Zone during construction of the yards and access road. The compacted gravel yards and access road make up about 60% of this Zone, while the existing warehouse makes up roughly 25% of it. These areas were considered to be of Low Archaeological Potential and were exempt from Stage 2 fieldwork due to the high degree of prior disturbance, as per Section 1.3.2 of the *Standards and Guidelines* (MTC 2011). Along the

east edge of Zone 5 is a narrow strip of land that makes up about 15% of Zone 5. It is covered in vegetation but had been previously disturbed and has some sections of bedrock exposed on a short slope next to a recently created drainage feature. This strip of land was considered to be of Moderate Archaeological Potential, based on Stage 1 findings, but it would have been impossible to plough it in preparation for assessment by pedestrian survey due to these ground conditions so it was assessed by test-pit survey instead. As per Standard 1 of Section 2.1.6 in the *Standards and Guidelines* (MTC 2011), test-pit survey grid intervals of 10 m were employed here, based on professional judgement relating to the steepness of the rocky slope and soil disturbance encountered near the drainage ditch. Images 32 to 41 in Section 13 of this report show the conditions encountered during Stage 2 assessment conducted in Zone 5.

The lands that make up Zone 6 were previously assessed in 2013 prior to construction of the NGS (Advance Archaeology 2014) and they were considered at that time to be of Low Archaeological Potential, with abundant evidence of deep and extensive prior soil disturbance that was obvious from the visual inspection carried out at that time. This Zone was part of a large compacted-gravel laydown and storage yard in 2013, but now consists of asphalt access roads, some of which are bordered by extensive drainage ditches. Since the lands in this Zone had previously been exempt from Stage 2 fieldwork due to low potential and would be evaluated as such today as well, they were exempt from Stage 2 fieldwork as per Section 1.3.2 of the *Standards and Guidelines* (MTC 2011). Images 42 to 44 in Section 13 of this report show the conditions encountered in Zone 6.

Zone 7 of the study area is a relatively small section of a field primarily covered in long grass and weeds with some scrub vegetation such as juniper bushes. The section with vegetation/ground cover made up about 90% of Zone 7 and it was considered to be of High Archaeological Potential, while a deep drainage ditch through a section of bedrock at its eastern end (making up about 10% of Zone 7) was considered to have Low Archaeological Potential. None of Zone 7 would be possible to plough in preparation for assessment by pedestrian survey due to these ground conditions so, as per Standard 1(e) of Section 2.1.2 in the *Standards and Guidelines* (MTC 2011), the high-potential area was assessed by test-pit survey at 5 m intervals instead. The small section of the drainage ditch was exempt from Stage 2 test-pit survey as per Section 1.3.2 of the *Standards and Guidelines* (MTC 2011). Images 45 to 47 in Section 13 of this report show the conditions encountered during Stage 2 test-pit survey conducted in Zone 7.

The areas with High Archaeological Potential that were assessed by test-pit survey at 5 m intervals are shaded in dark green on Map 7, and the areas of Moderate Archaeological Potential that were test-pitted at 10 m intervals are shaded in light green. The five different types of Low Archaeological Potential that were exempt from Stage 2 testing are also shown on Map 7. Test-pit survey was conducted in accordance with Standards 1 through 9 of Section 2.1.2 of the *Standards and Guidelines* (MTC 2011). All test pits were a minimum of 30 cm in diameter, and were excavated into the upper 5 cm of subsoil. All test-pits were examined for evidence of cultural features, stratigraphy, or evidence of disturbance, and all test-pit fill was processed using 6-millimetre (mm) mesh rocker screens. All test-pits were backfilled.

6.2 Stage 2 Monitoring of Borehole Drilling

As part of the NGS Expansion project, the proponent needed to use a track-mounted drill rig equipped with a hollow-stemmed auger to drill a series of boreholes in Zones 1, 4, and 5 of the study area, none of which were located on lands that had been subject to prior Stage 1 and 2 assessments in either 2013 (Advance Archaeology 2014) or 2023 (Northeastern Archaeological Associates 2024). The borehole locations are primarily within areas that the Stage 1 part of this assessment had characterised as likely having undergone prior soil disturbance; examination of these zones during Stage 2 fieldwork confirmed that the 15 boreholes were to be located in areas of Low Archaeological Potential. Nothing of archaeological or cultural heritage significance had been found in these three zones or anywhere else in the study area; however, the drilling needed to be conducted before it would be possible to write the Stage 1 and 2 assessment report and have it reviewed and accepted by the MCM. For infrastructure projects like the NGS Expansion, the drilling of boreholes is permitted by MCM prior to assessment reports being accepted into the Register, as long as the Stage 2 test-pitting has been completed (which it had, in this case) and no archaeological materials had been found there, and as long as the borehole drilling is monitored by a licensed archaeologist.

As per MCM's recent instructions regarding the monitoring of borehole drilling on the property owned by Atura Power, to the east of the existing NGS (a copy of which is provided in the Supplementary Documentation Package), the monitoring of five boreholes in Zone 1 took place from June 3 to June 6, 2024, under excellent lighting and warm weather. Monitoring of two boreholes in Zone 4 and eight boreholes in Zone 5 took place between July 8 and July 17, 2024, also under excellent lighting and warm weather.

Soils brought to the surface by the drill's auger from roughly the upper 50 cm of each borehole were examined and screened through 6 mm mesh to check for the presence of archaeological resources. The soil samples or cores that were recovered from within the hollow auger from the upper 30-40 cm or so were also opened and examined in the field for the presence or indication of archaeological resources.

Map 8 in this report shows the locations of the five boreholes that were monitored in Zone 1. Images 48 to 58 in this report show the conditions at these five borehole locations and the work in progress. The numbered arrow symbols on Map 9 show the locations from which these photographic images were taken and the direction that the photographer was facing.

Map 10 in this report shows the locations of the ten boreholes that were monitored in Zones 4 and 5. Images 59 to 68 in this report show the conditions at these ten borehole locations and the work in progress. The numbered arrow symbols on Map 11 show the locations from which these photographic images were taken and the direction that the photographer was facing.

7. Record of Finds

The test-pit survey indicated that the high potential parts of Zone 1 of the study area had a variety of soil types and conditions, ranging from 10-20 cm of dark brown loamy topsoil over grey clay subsoil, to only 5 cm or less of clay-loam topsoil over limestone bedrock, to completely exposed limestone bedrock. Evidence of prior soil disturbances and infilling related to prior construction and/or demolition activities presented as mottled soil stratigraphy in some of the test pits, with varying amounts of clay, gravel and other fill materials especially in areas adjacent to the low potential zones like the asphalt parking lot and the concrete pad from a former warehouse.

The topsoil in Zone 2 ranged from dark brown loam to grey-brown clayey loam and varied in depth from about 10-25 cm over a grey or tan subsoil layer. Most of the test pits beside the access roads had mottled soil stratigraphy and contained clay and fill materials like gravel. However, some of the test pits in the middle part of the overgrown field had fewer signs of soil disturbance in the topsoil and subsoil horizons.

The topsoil in Zone 3 was similar to that in Section 2, with mostly dark brown loam to grey-brown clayey loam and varied in depth from about 15-25 cm over a grey or tan subsoil layer. The test pits closest to the adjacent parking lot and entryway contained higher amounts of clay and gravel, as well as mottled soil stratigraphy. However, many of the test pits in the overgrown field and the wooded areas had fairly regular topsoil and subsoil horizons. The more elevated berm area showed more signs of soil disturbance and higher amounts of sand, clay, and gravel mixed in with topsoil.

Topsoil in Zone 4 was virtually non-existent as this area was made up exclusively of highly compacted gravel and had been used for years as a laydown and storage yard for very large pieces of equipment and components used in the NGS and LGS.

Similar conditions were found in Zone 5's laydown and storage yards, which were constructed in the same manner of highly compacted gravel. There were also asphalt access roads and parking areas around an existing warehouse complex in this Zone. Only one narrow strip of partially-disturbed grassy land was found in Zone 5, and the soils in it were a combination of brown loamy soil and fill materials such as gravel, sand, and clay.

Zone 6 consisted solely of asphalt access roads bordered by large drainage ditches and existing parts of the NGS facilities, with no soil in which to dig test pits.

The soils in Zone 7 were similar to those in Zones 2 and 3, with about 15-25 cm of dark brown topsoil over a light-coloured grey or tan subsoil layer. The closer the test-pits were to an adjacent drainage ditch to the north or to the drainage ditch beside Highway 33, the more disturbed they were, having larger amounts of clay, gravel, and sand.

Despite the use of 5 m transect intervals during the test-pit survey of all the high potential areas and 10 m transect intervals in all of the moderate potential areas, no artifacts and no archaeological resources or cultural heritage features were recovered or observed.

During the monitoring of the five boreholes in Zone 1 and the ten boreholes in Zones 4 and 5, the upper layers of soil were generally found to contain large amounts of rock fragments, sand, and gravel from previous infilling and grading operations in the area. For 13 of the 15 boreholes drilled, the upper 80 cm to 220 cm was composed of fill materials including sand, clay, gravel, and rock fragments, over top of native or reworked native soils like silty sand or silty clay. Limestone bedrock was encountered at varying depths, ranging from about 2.7 m to 6.2 m. No artifacts, archaeological resources, or cultural heritage features were recovered or observed.

The Stage 2 assessment generated a total of 84 photographs, four pages of field notes, and two hand-modified aerial photos/maps. All of these records are on file at the offices of Northeastern Archaeological Associates Ltd.

8. Stage 2 Analysis and Conclusions

The Stage 2 archaeological assessment for the study area was conducted in accordance with the *Standards and Guidelines* (MTC 2011) and as recommended by the Stage 1 assessment, which stated that, despite the presence of highly-disturbed soils in some sections, the study area had other sections that appeared to be either undisturbed or to have undetermined amounts of prior soil disturbance and therefore would require Stage 2 assessment due to possible high or moderate archaeological potential.

The Stage 2 assessment consisted of test-pit survey in five of the seven Zones of the study area, while two of the Zones were determined to be completely disturbed, making test-pit survey impossible. Specifically, Zones 1, 2, 3, 5, and 7 included both low-potential zones (that were exempt from Stage 2 assessment due to extensive and deep prior soil disturbance) and high or moderate potential zones, whereas Zones 4 and 6 consisted of only low potential zones.

Despite the use of 5 m and 10 m transect intervals during the test-pit survey, no artifacts or cultural heritage resources were recovered from, or observed on, the study area.

During the archaeological monitoring portion of the Stage 2 assessment, nothing of archaeological or cultural heritage significance was found or observed in any of the 15 boreholes that were drilled in Zones 1, 4, or 5. In fact, almost all of the boreholes showed signs of extensive and deep prior soil disturbance and/or infilling events that had taken place on the study area at various times over the last several decades.

9. Stage 2 Recommendations

Based on the results of the Stage 2 archaeological assessment conducted for the proposed NGS Expansion project in the Town of Greater Napanee, the following three recommendations are made:

(1) Since no archaeological artifacts or cultural heritage resources were found during either the test-pit survey or the monitoring of borehole drilling phases of the Stage 2 archaeological assessment, no further archaeological assessment of the study area is recommended, as per Section 7.8.4 Standard 3 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011).

(2) Only the lands outlined in red on Map 2 of this report (referred to throughout this report as the "study area") have been assessed during this Stage 1 & 2 archaeological assessment. Any of the unassessed surrounding lands will require assessment should future development be considered.

(3) As an extra measure of caution and due diligence, especially given the proximity of the culturally significant Upper Gap archaeological site, archaeological construction monitoring during project development is recommended by Alderville First Nation, in areas of high archaeological potential, due to the potential for artifacts and/or ancestral remains to be present in deeply buried or deeply disturbed contexts.

10. Advice on Compliance with Legislation

a. This report is submitted to MCM as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of MCM, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

b. It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

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

d. The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

e. Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered or have artifacts removed from them, except by a person holding an archaeological licence.

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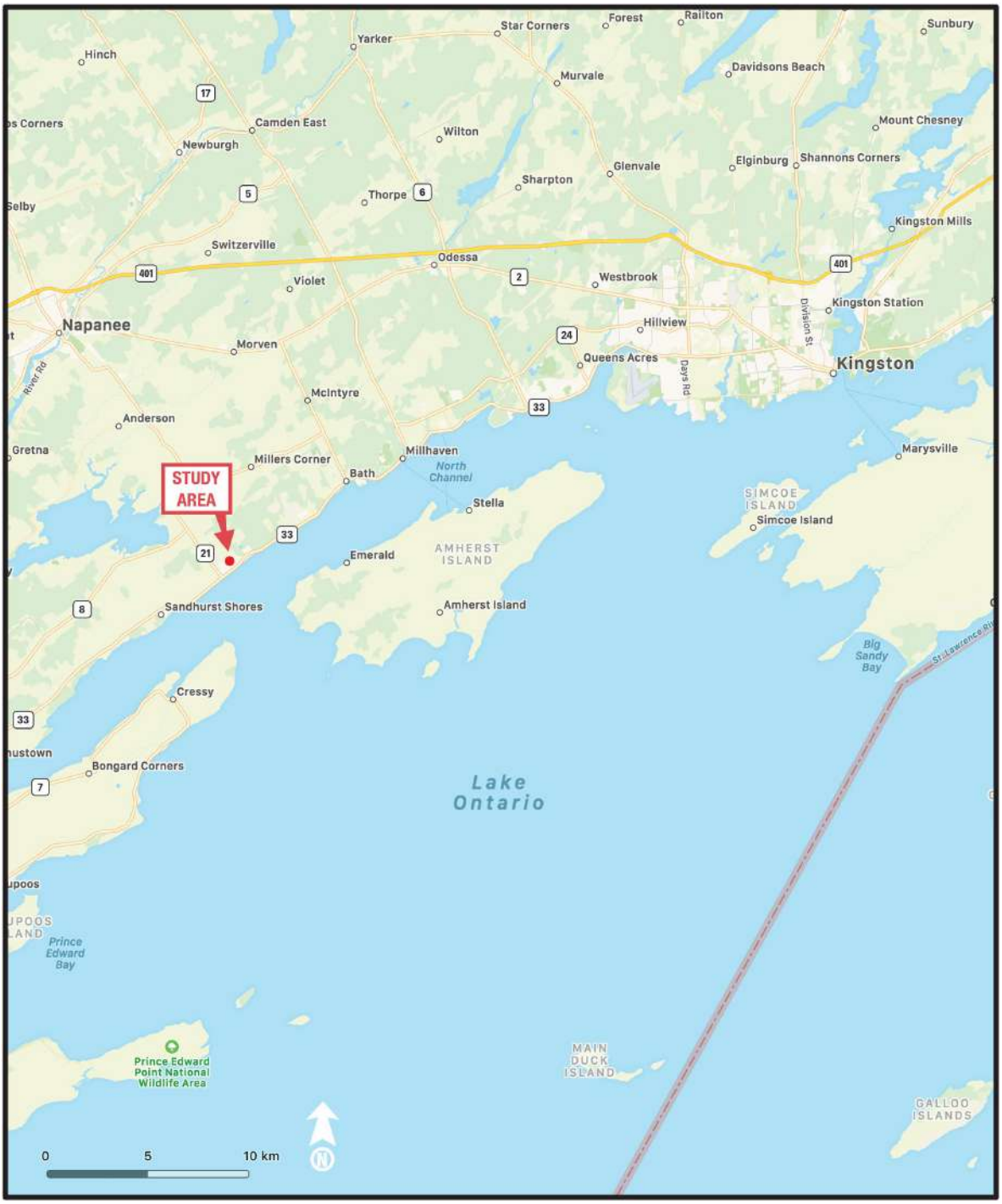
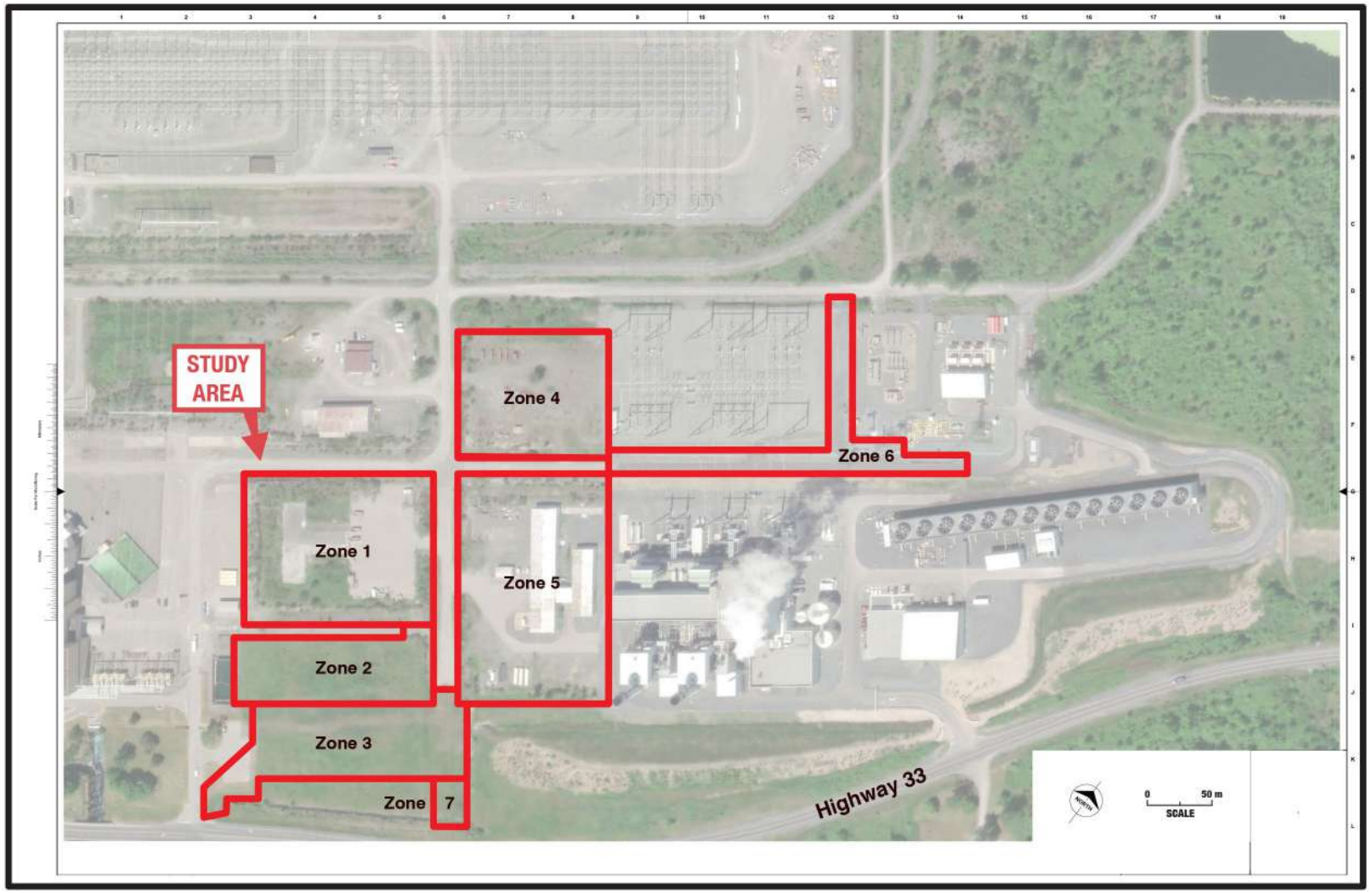
1966 *The Ontario Iroquois Tradition*. National Museum of Canada, Bulletin No. 210. Ottawa.

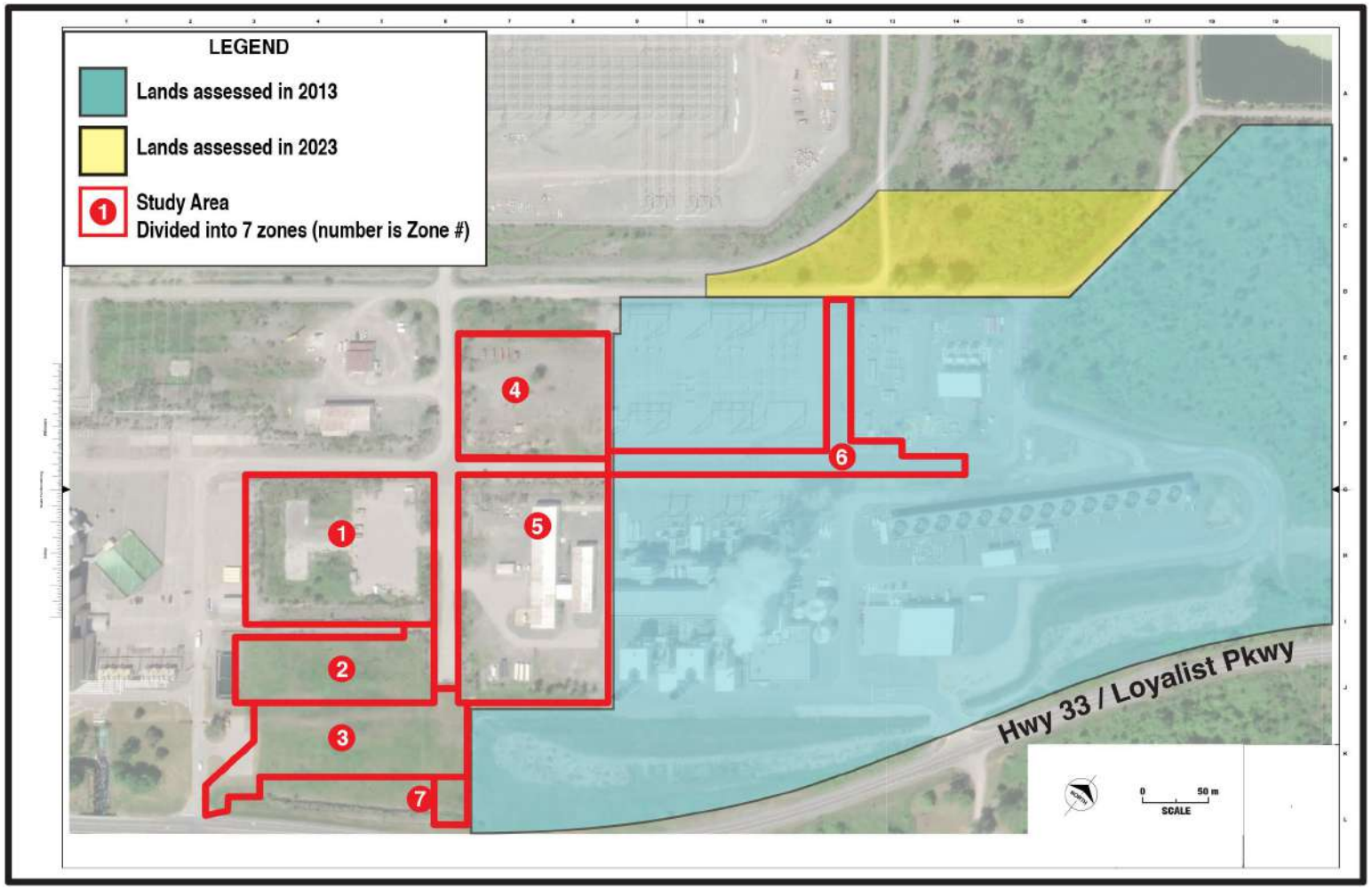
12. Maps



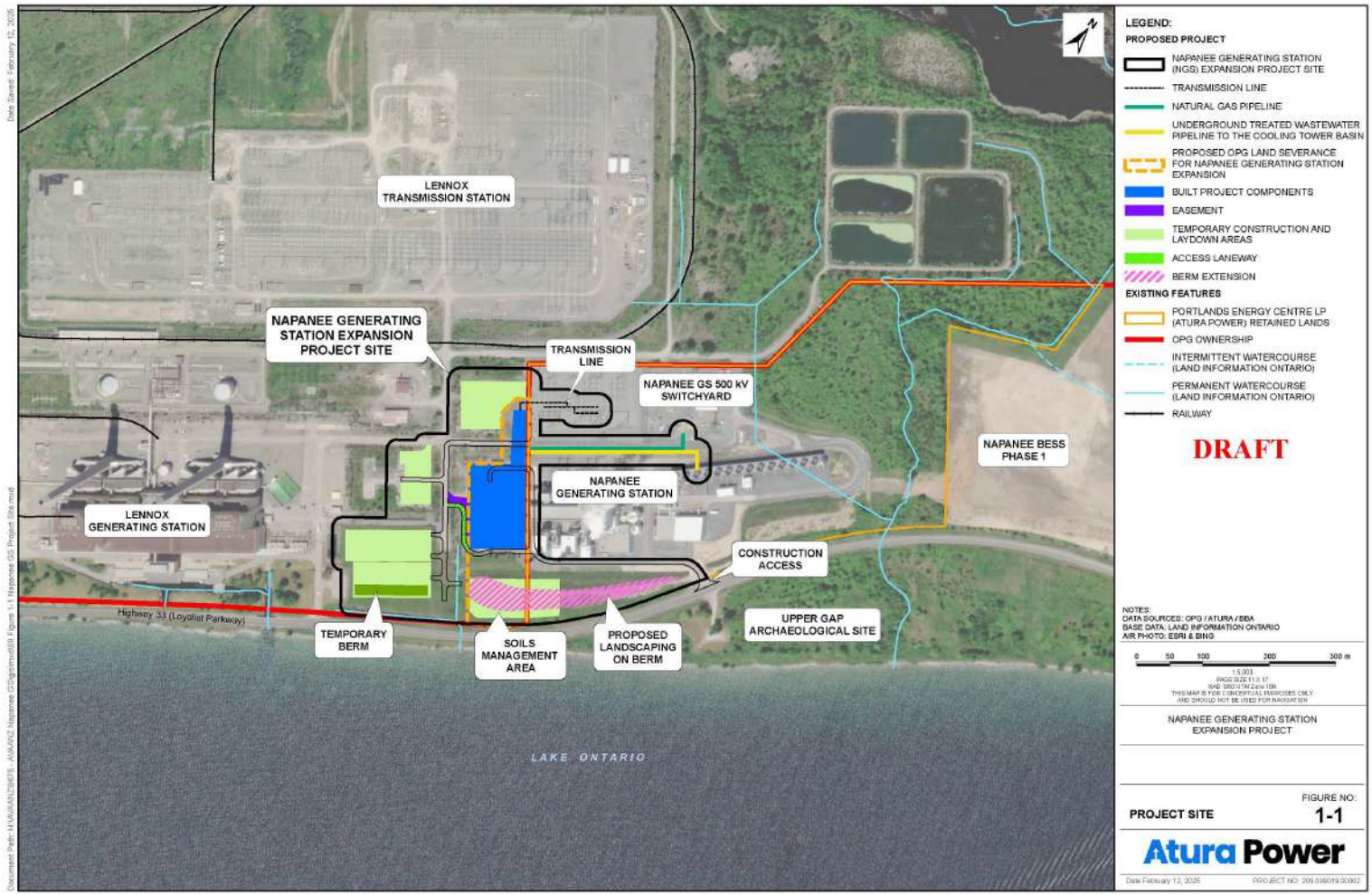
Map 1: Location of study area (red dot) near Bath in the Town of Greater Napanee in Lennox & Addington County.



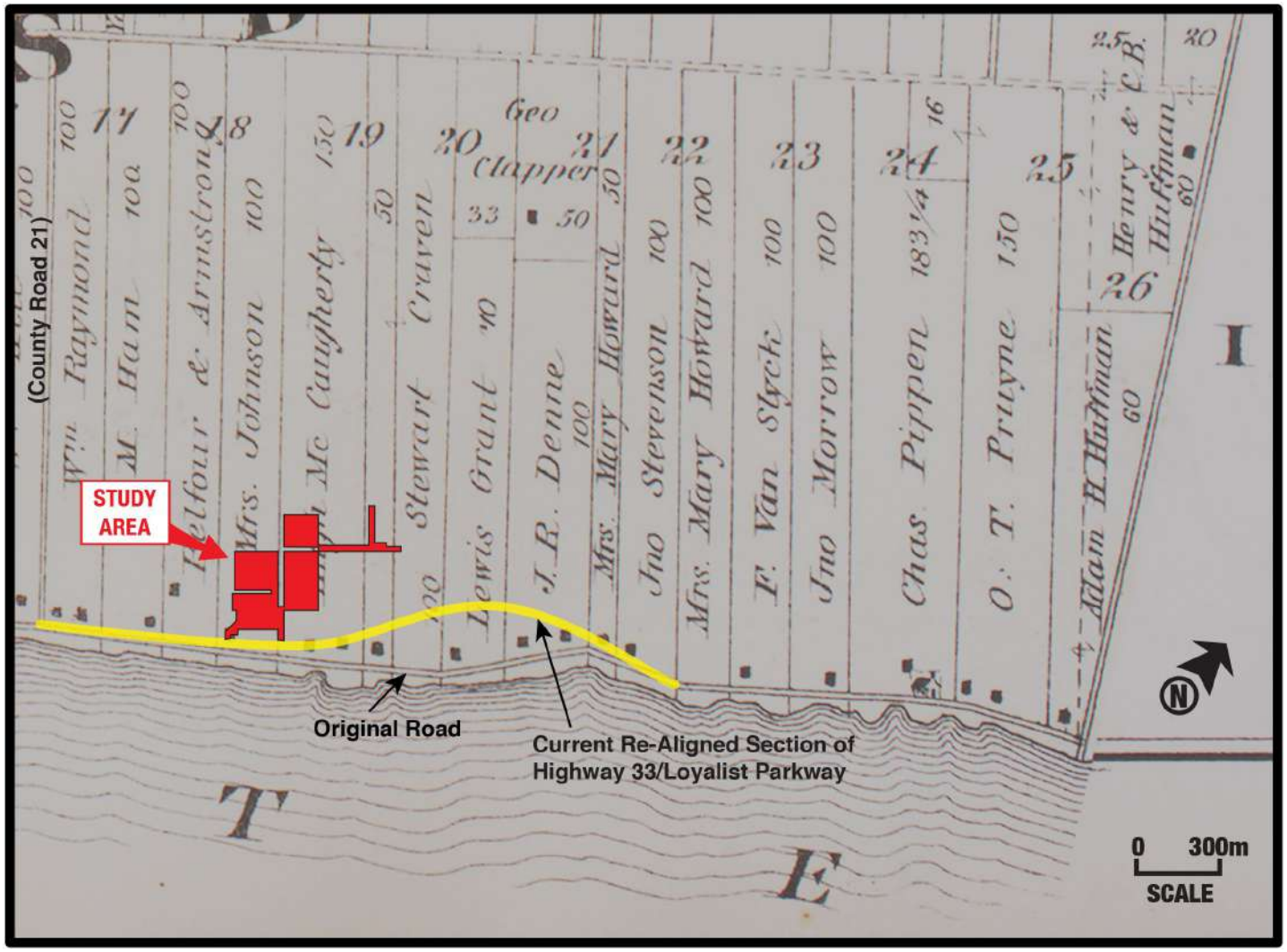
Map 2: Satellite View of the proposed NGS Expansion project location, with the seven zones of the study area outlined in red. The study area for this Stage 1 & 2 archaeological assessment, in relation to assessments for earlier adjacent projects, is shown on Map 3.



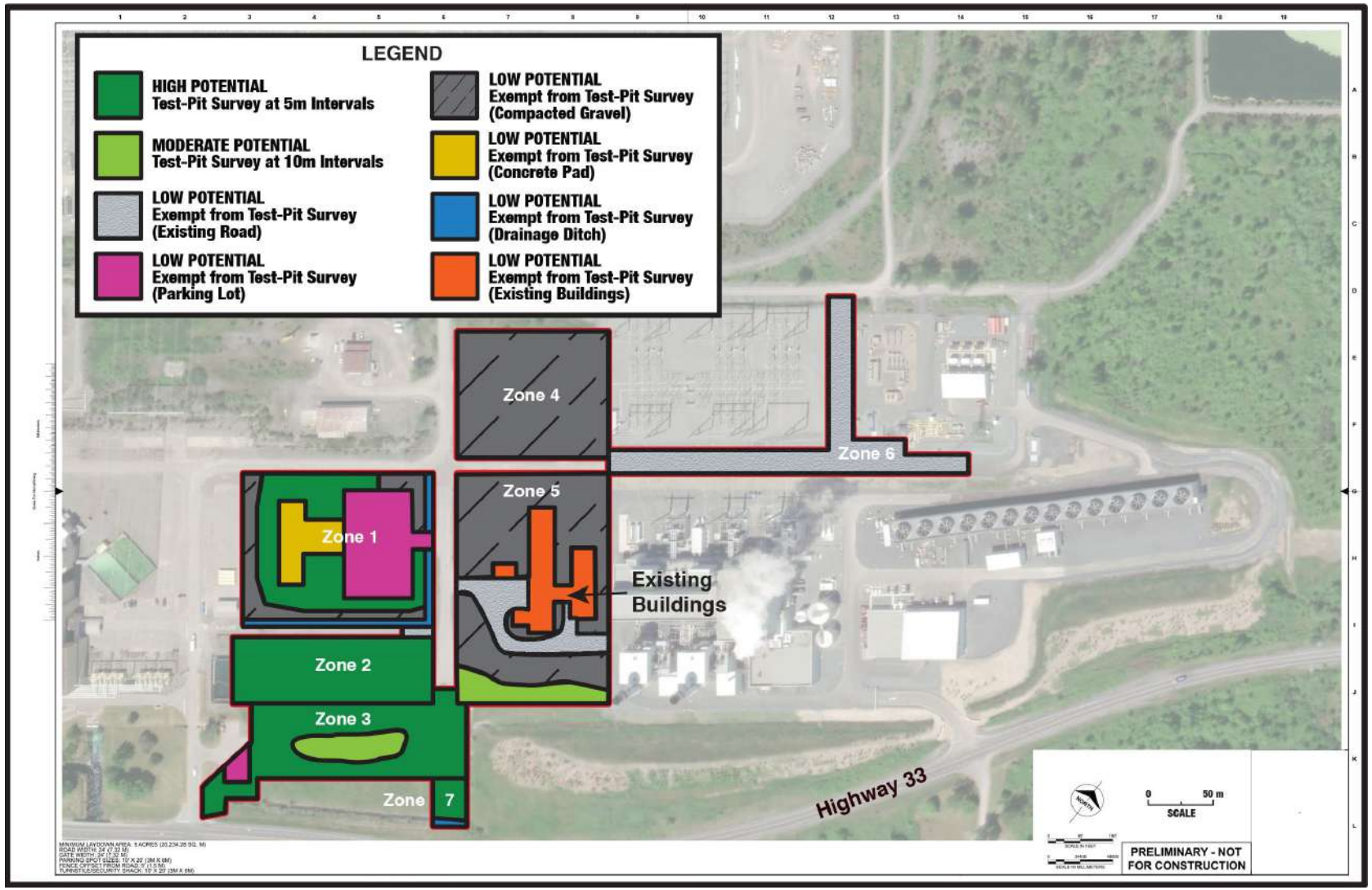
Map 3: Location of the proposed NGS Expansion project in relation to the lands that previously underwent Stage 1 & 2 archaeological assessment in 2013 (the area shaded in light blue) and in 2023 (the area shaded in yellow). The NGS Expansion project lands are outlined in red and are labelled “Zone 1” through “Zone 7”; they are referred to throughout this report as the “study area”, although Zone 6 was previously assessed during the 2013 assessment. The unassessed zones underwent Stage 1 & 2 archaeological assessment in May, June, and July of 2024.



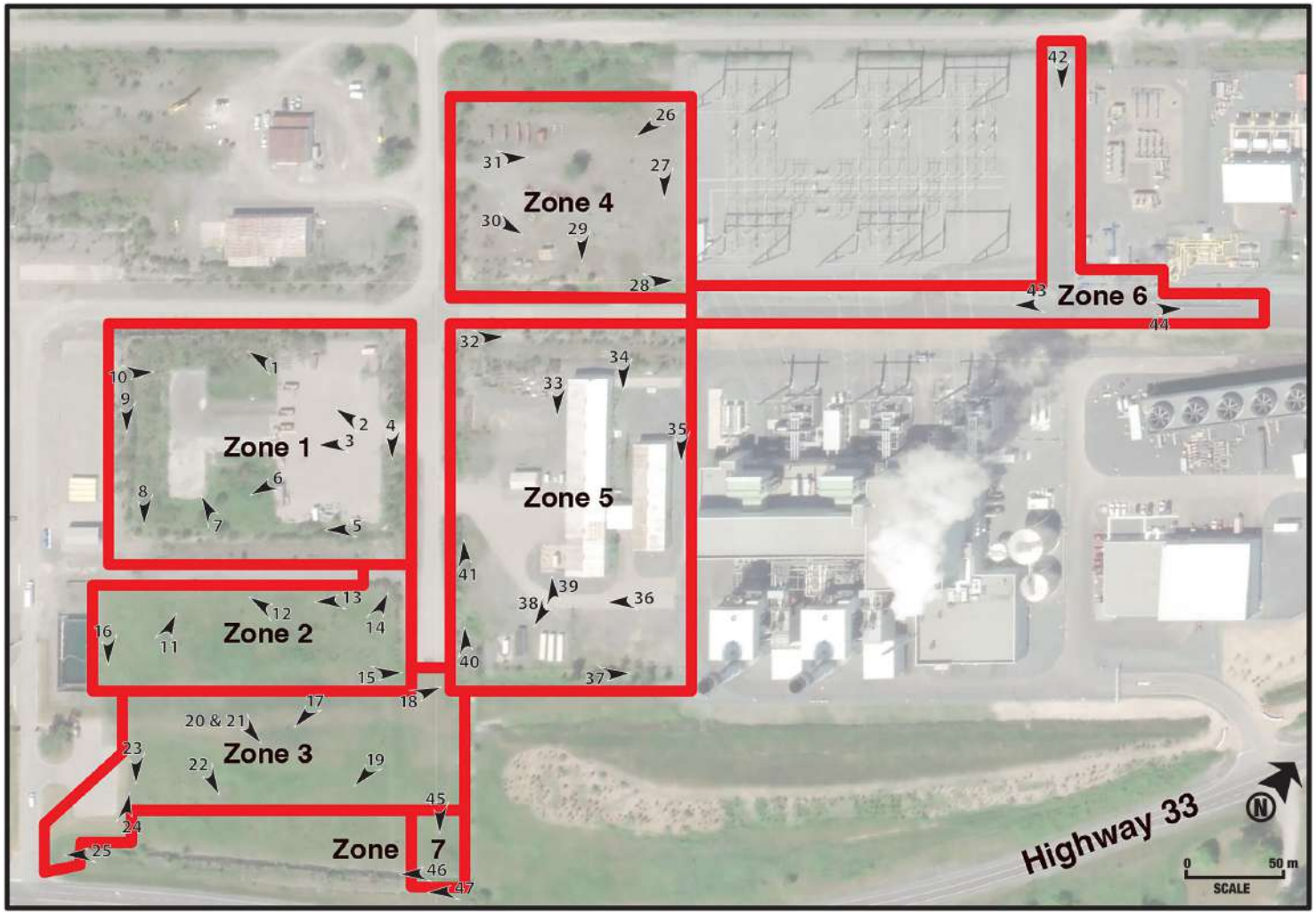
Map 4: Project site map showing the general location of the proposed Napanee Generating Station (NGS) Expansion project.



Map 5: 1878 Historical Atlas Map of part of geographic South Fredericksburgh Township, showing approximate location of study area (the areas shaded in red) on parts of Lots 18, 19, & 20 of Concession 1 (*after* Meacham 1878). The yellow line shows the approximate current location of Highway 33/Loyalist Parkway, which was re-aligned north of the original road in the 1990s in order to avoid and protect the Upper Gap archaeological site.



Map 6: Degrees of Archaeological Potential and Stage 2 Fieldwork Methodology used in the study area. The locations of the borehole drilling that was monitored in June and July of 2024 are shown on Maps 8, 9, 10, & 11,



Map 7: Locations of Photographic Images 1 to 47 presented in Section 13, which were taken during the Stage 2 Test-Pit Survey portion of this archaeological assessment. Photo locations from the monitoring of borehole drilling are provided in Maps 10 and 12.

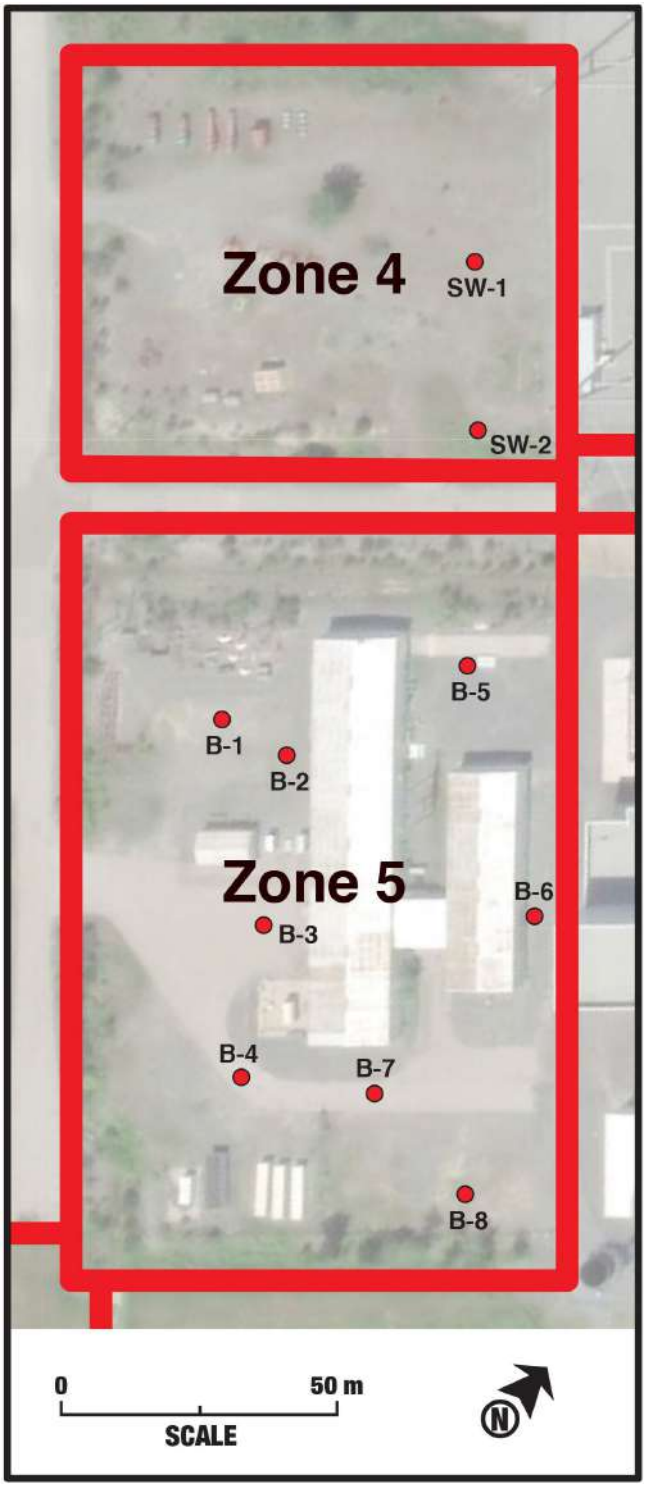
Numbers = Photographic Image Numbers; Arrows indicate direction photographer was facing.

Map 8: Locations of the five boreholes that were drilled in Zone 1 of the study area in June of 2024, shown as red dots labelled “WH-1” through “WH-5”. Fieldwork photos taken during monitoring of the Zone 1 drilling are provided as Images 48 to 58 in Section13.

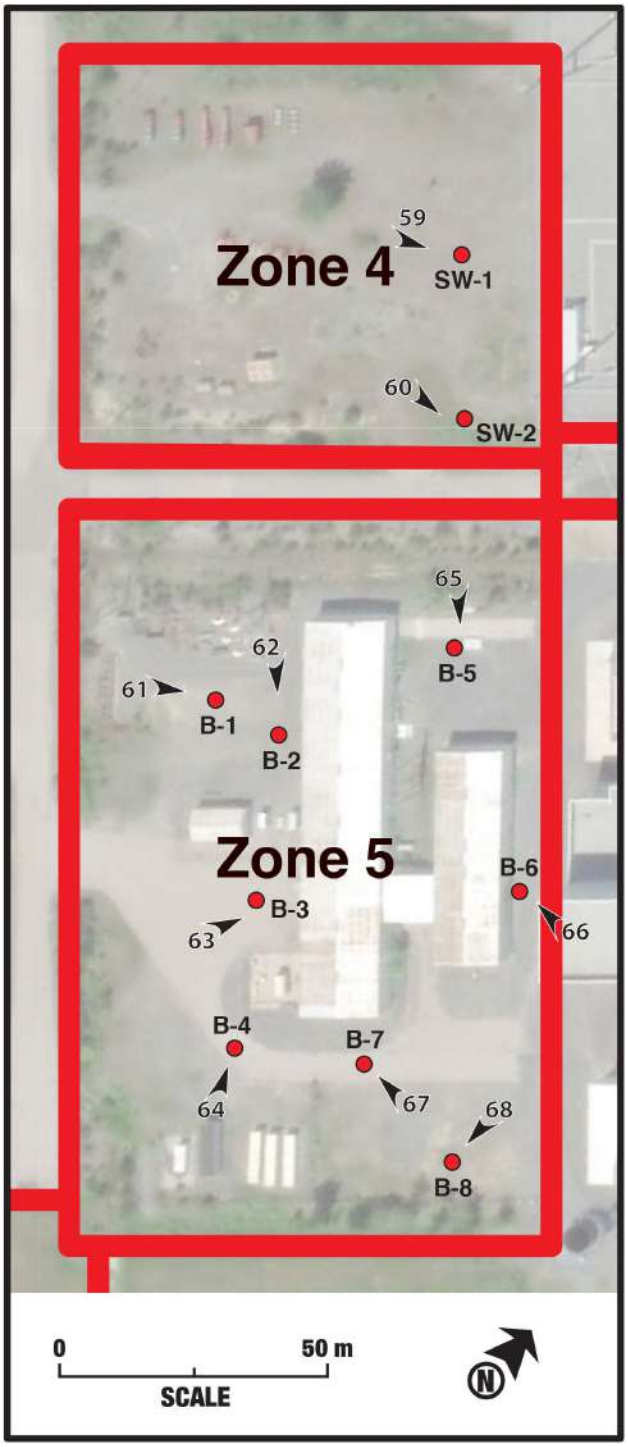
Map 9: Locations of Photographic Images 48 to 58 presented in Section 13, which were taken during monitoring of borehole drilling in Zone 1 of the study area.

Numbers = Photographic Image Numbers;

Arrows indicate the direction the photographer was facing.



Map 10: Locations of the ten boreholes that were drilled in Zones 4 and 5 of the study area in July of 2024, shown as red dots labelled “SW-1” and “SW-2” in Zone 4 and “B-1” through “B-8” in Zone 5. Fieldwork photos taken during monitoring of the Zones 4 and 5 drilling are provided as Images 59 to 68 in Section 13.



Map 11: Locations of Photographic Images 59 to 68 presented in Section 13, which were taken during monitoring of borehole drilling in Zones 4 and 5 of the study area.

Numbers = Photographic Image Numbers;

Arrows indicate the direction the photographer was facing.

13. Images

Image 1: View to west of Stage 2 test-pit survey in progress in Zone 1.

Image 2: View to west of asphalt parking lot in Zone 1.

Image 3: View to southwest of asphalt parking lot in Zone 1. Note the two large stacks and the yellow building in background, which are part of the Lennox Generating Station.

Image 4: View to southeast of drainage ditch on perimeter of Zone 1 as well as access road on left, which separates Zone 1 from Zone 5. Note Lake Ontario in background.

Image 5: View to southwest of deep drainage ditch on perimeter of Zone 1. Note access road on left, which separates Zone 1 from Zone 2, and yellow buildings on Lennox Generating Station property in background.

Image 6: View to south of centre of Zone 1. Note Lake Ontario in background.

Image 7: View to northwest of concrete pad from demolished former warehouse.

Image 8: View to southeast of Stage 2 test-pit survey in progress in wooded area on southeast corner of Zone 1.

Image 9: View to southeast of gravel area, cedar trees, and exposed limestone ledge on southwest perimeter of Zone 1.

Image 10: View to northeast of staircase on steep limestone drop-off in southwest corner of Zone 1.

Image 11: View to north of Stage 2 test-pit survey in progress in overgrown field portion of Zone 2.

Image 12: View to west of Stage 2 test-pit survey in progress in Zone 2. Note large stacks and yellow buildings at Lennox Generating Station, in background.

Image 13: View to southwest of ground conditions in Zone 2.

Image 14: View to north of Stage 2 test-pit survey in progress in Zone 2.

Image 15: View to northeast of Stage 2 test-pit survey in progress in Zone 2.

Note Napanee Generating Station in background.

Image 16: View to southeast of Stage 2 test-pit survey in progress in Zone 2 near entrance to the generating stations. Note Lake Ontario in background.

Image 17: View to south of Stage 2 test-pit survey in progress in Zone 3. Highway 33 and Lake Ontario are in the background. Also note large grass-covered berm behind furthest field technician.

Image 18: View to north of Stage 2 test-pit survey in progress in northwest corner of Zone 3. Note Napanee Generating Station in background.

Image 19: View to south of Stage 2 test-pit survey in progress in Zone 3. Note Highway 33 and Lake Ontario in background.

Image 20: View to east of Stage 3 test-pit survey in progress at 10 m intervals, in area of moderate archaeological potential on top of large berm in Zone 3.

Image 21: View to east of typical soils found on the large grass-covered berm in Zone 3.

Image 22: View to east of Stage 2 test-pit survey in progress in Zone 3. Note Highway 33 and Lake Ontario in background.

Image 23: View to southeast of Stage 2 test-pit survey in progress in Zone 3 beside asphalt parking lot at entrance to the generating stations.

Image 24: View to northwest of asphalt parking lot at south end of Zone 3.

Image 25: View to southwest of Stage 2 test-pit survey in progress on lawn at south end of Zone 3. Note entrance to the generating stations off Highway 33 in background.

Image 26: View to south of weedy, compacted gravel laydown and storage yard in Zone 4.

Image 27: View to southeast of compacted gravel laydown and storage yard with sparse weed growth in Zone 4.

Image 28: View to northeast of drainage ditch and asphalt access road adjacent to Zone 4. Note Napanee Generating Station in background.

Image 29: View to southeast of compacted gravel with sparse growth of weeds on surface in Zone 4.

Image 30: View to east of compacted gravel laydown and storage yard in Zone 4. Note Napanee Generating Station in background.

Image 31: View to northeast of compacted gravel yard in Zone 4.

Image 32: View to northeast of gravel drainage ditch and limestone bank on west perimeter of Zone 5.

Image 33: View to southeast of compacted gravel laydown and storage yard on south side of Zone 5 beside existing warehouse.

Image 34: View to southeast of compacted gravel yard on north side of existing warehouse (to be removed by OPG prior to transferring lands to Atura Power) in Zone 5.

Image 35: View to southeast of gravel access road running along north side of Zone 5. Note Napanee Generating Station behind fence on left.

Image 36: View to southwest of asphalt and gravel access road in Zone 5. Note Lennox Generating Station (yellow buildings and large stacks) in background.

Image 37: View to northeast of Stage 2 test-pit survey in progress along eastern perimeter of Zone 5. Note drainage ditch (reedy area) in background and exposed limestone slope on left.

Image 38: View to south of compacted gravel laydown and storage yard on east side of Zone 5. Note Lake Ontario in background.

Image 39: View to northwest of asphalt access road and compacted gravel storage yard on south side of existing warehouse (to be removed by OPG prior to transferring lands to Atura Power) in Zone 5.

Image 40: View to northwest of exposed limestone bedrock and steep slope in southeast corner of Zone 5.

Image 41: View to northwest of compacted gravel with sparse weed growth on surface near south entrance to Zone 5.

Image 42: View to southeast of compacted gravel access road in Zone 6. Note Napanee Generating Station buildings in background.

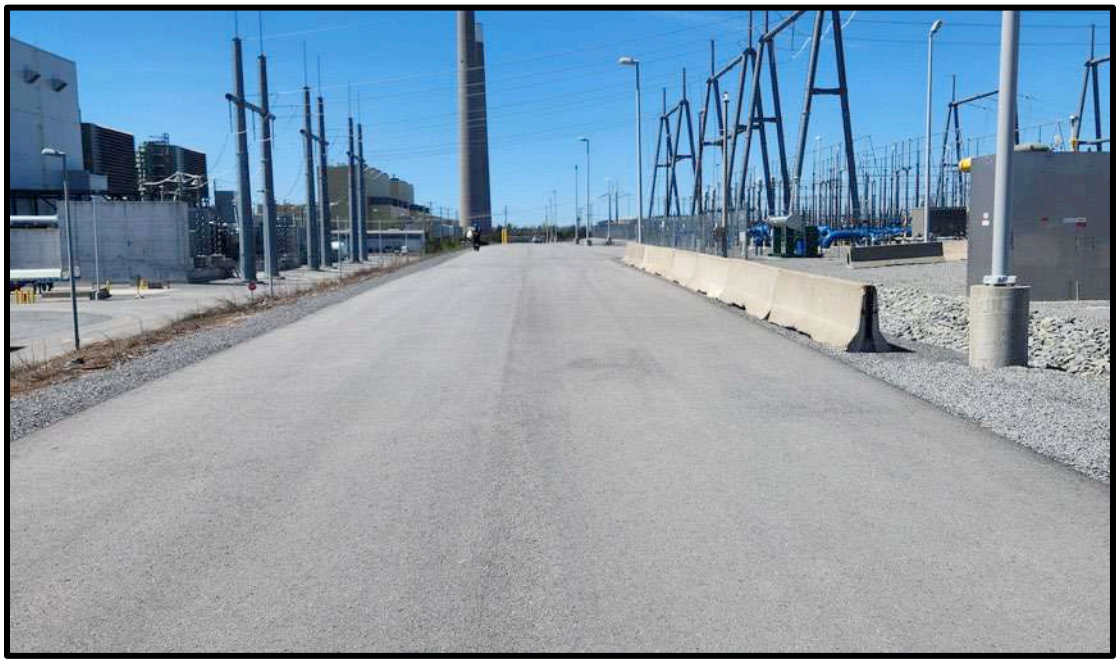


Image 43: View to southwest of asphalt access road that forms the bulk of Zone 6. Note large stacks at Lennox Generating Station in background.

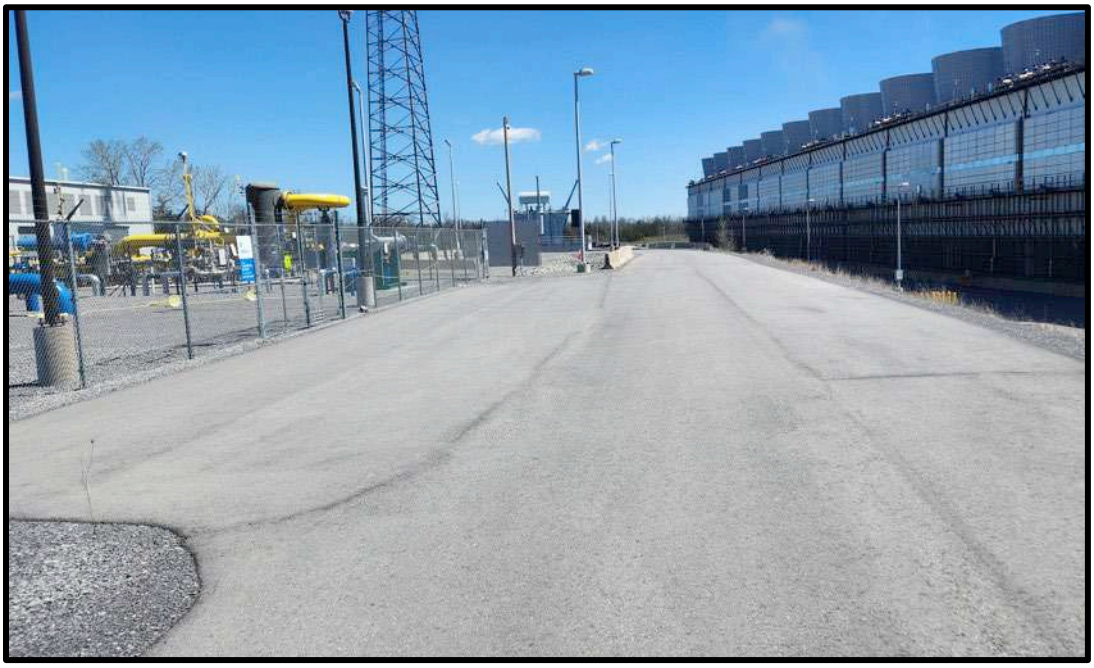


Image 44: View to northeast of asphalt access road at north end of Zone 6. Note Napanee Generating Station and associated facilities on left and right.

Image 45: View to southeast of Stage 2 test-pit survey in progress at west end of Zone 7. Note Highway 33 and Lake Ontario in background.

Image 46: View to southwest of Stage 2 test-pit survey in progress beside deep drainage ditch at east end of Zone 7. Note Highway 33 guardrails in upper left.

Image 47: View to southwest of deep drainage ditch at east end of Zone 7. Note limestone bedrock on right and Highway 33 guardrails in upper left.

Image 48: View to southwest of drill rig set up at borehole WH-1 in Zone 1. Note Lennox Generating Station in background.

Image 49: View to north of auger bringing soils to the surface during the drilling of borehole WH-1 in Zone 1.

Image 50: View to west of drill rig set up to excavate borehole WH-2 in Zone 1.

Image 51: View to northeast of core sample from the upper 50 cm of borehole WH-2, showing presence of topsoil mixed with fill materials such as sand and silty clay.

Image 52: View to west of drill rig set up to excavate borehole WH-3 in Zone 1.

Image 53: View to northwest of soils brought to surface from upper 50 cm of borehole WH-3 in Zone 1. Note predominance of sand and gravel fill.

Image 54: View to northeast of core sample from the upper 30 cm of borehole WH-3, showing presence of fill materials such as sand and silty clay.

Image 55: View to south of drill rig set up to excavate borehole WH-4 in Zone 1.

Image 56: View to north of auger and soils brought up from the upper 100 cm of borehole WH-4 in Zone 1. Note mix of topsoil with sand and gravel fill.

Image 57: View to southeast of drilling borehole WH-5 in Zone 1.

Image 58: View to south of archaeological screen ready to sift soils from borehole WH-5 in Zone 1 and then to be examined for the presence of archaeological materials remaining in the screen.

Image 59: View to northeast of the drilling of borehole SW-1 in Zone 4 of the study area.

Image 60: View to east of borehole SW-2 in Zone 4 of the study area.

Image 61: View to northeast of sifted soil sample from borehole B-1 in Zone 5, showing abundance of fill (gravel and rock fragments) present in the upper 40 cm.

Image 62: View to southeast of the drilling of borehole B-2 in Zone 5.

Image 63: View to northeast of soil core from borehole B-3's upper 30 cm, showing presence of concrete, gravel, and sandy fill materials.

Image 64: View to north of soils and fill material brought to surface during drilling of borehole B-4 in Zone 5.

Image 65: View to southeast of the drilling of borehole B-5 in Zone 5.

Image 66: View to northwest of gravel and other fill materials brought to surface during the drilling of borehole B-5 in Zone 5.

Image 67: View to northwest of the drilling of borehole B-7 in Zone 5. Note presence of sand, gravel, and rock fragments from the upper 120 cm.

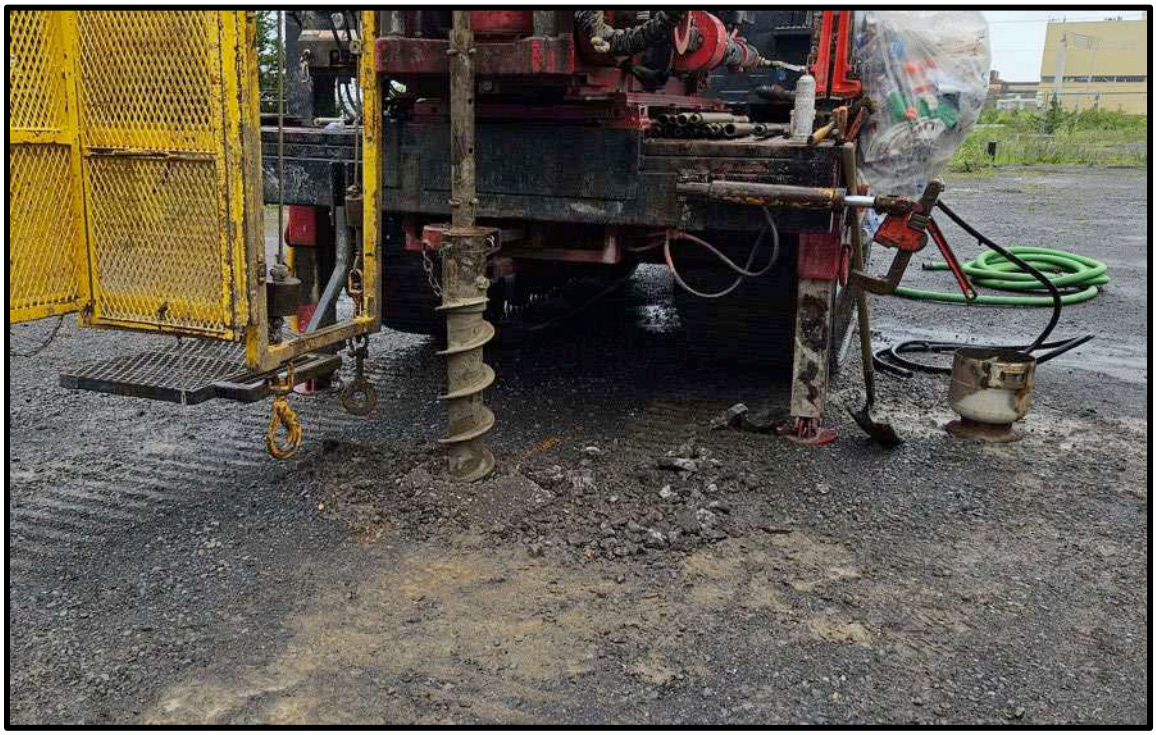


Image 68: View to south of the drilling of borehole B-8 in Zone 5.