

**STAGE 1 ARCHAEOLOGICAL ASSESSMENT
FOR PROPOSED WATER TREATMENT
DIGESTER IMPROVEMENTS
560 ABBIE LANE
PART OF LOT 17, CONCESSION LAKE RANGE
GEOGRAPHIC TOWNSHIP OF PETAWAWA
NOW TOWN OF PETAWAWA
COUNTY OF RENFREW, ONTARIO**



Past Recovery
Archaeological Services Inc.

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Original Report

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EXECUTIVE SUMMARY

Past Recovery Archaeological Services Inc. was retained by the Town of Petawawa to undertake a Stage 1 archaeological assessment in support of proposed improvements to the digester system at the Petawawa Wastewater Treatment Facility. The subject property was located on part of Lot 17, Concession Lake Range in the geographic Township of Petawawa, now the Town of Petawawa, County of Renfrew (see Maps 1 and 2). The study area associated with the proposed improvements consisted of two locations within the facility which were approximately 50 m² and 380 m² in size (see Maps 3 and 4).

The purpose of the Stage 1 investigation was to evaluate the archaeological potential of the study area and present recommendations for the mitigation of any significant known or potential archaeological resources. To this end, historical, environmental and archaeological research was conducted in order to make a determination of archaeological potential. A property inspection was completed on August 24th, 2022, to determine current conditions and to record factors that could affect the assessment of archaeological potential within the study area. The results of this study indicated that both proposed construction locations had been deeply and extensively disturbed by modern construction and landscaping. The study area no longer retained potential for pre-Contact or post-Contact archaeological resources (see Map 9).

The results of the Stage 1 archaeological assessment documented in this report form the basis for the following recommendations:

- 1) There are no further archaeological concerns for the study area as illustrated on Map 2.
- 2) In the event that future planning results in the identification of additional areas of impact beyond the limits of the present study area, further Stage 1 archaeological assessment may be required. It should be noted that impacts requiring

consideration include all aspects of proposed development causing soil disturbances, soil impacts, or other alterations, including temporary property needs (i.e. access roads, staging/lay down areas, associated works etc.).

- 3) Any future Stage 1 archaeological assessment should be undertaken by a licensed consultant archaeologist, in compliance with *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011).

The following recommendation has been included as per a request from the Algonquins of Ontario:

- 4) Since the potential always exists to miss important information in archaeological surveys, if any artifacts of Indigenous interest or human remains are encountered during the development of the subject property, please contact: Algonquins of Ontario Consultation Office, 31 Riverside Drive, Suite 101, Pembroke, ON, K8A 8R6; Tel: 613-735-3759; Fax: 613-735-6307; Email: algonquins@tanakiwin.com.

The reader is also referred to Section 6.0 below to ensure compliance with relevant provincial legislation and regulations as may relate to this project.

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1.0 INTRODUCTION

Past Recovery Archaeological Services Inc. was retained by the Town of Petawawa to undertake a Stage 1 archaeological assessment in support of proposed improvements to the digester system at the Petawawa Wastewater Treatment Facility. The subject property was located on part of Lot 17, Concession Lake Range in the geographic Township of Petawawa, now the Town of Petawawa, County of Renfrew (Maps 1 and 2). The study area associated with the proposed improvements consisted of two locations within the facility which were approximately 50 m² and 380 m² in size (Maps 3 and 4). Within the following report, the term 'study area' refers to both locations.

The objectives of the Stage 1 archaeological assessment were as follows:

- To provide information concerning the geography, history, previous archaeological fieldwork and current land condition of the study area;
- To evaluate the potential for the subject property to contain significant archaeological resources; and,
- To recommend appropriate strategies for Stage 2 archaeological assessment in the event further assessment is warranted.

2.0 PROJECT CONTEXT

This section of the report provides the context for the archaeological work undertaken, including a description of the study area, the related legislation or directives triggering the assessment, any additional development-related information, and the confirmation of permission to access the study area as required for the purposes of the assessment, and an acknowledgement of Indigenous territorial rights and interests.

2.1 Property Description

The subject property is located on part of Lot 17, Concession Lake Range in the geographic Township of Petawawa, now part of the Town of Petawawa (see Map 1). The proposed development is within the Town of Petawawa Wastewater Treatment Facility and consists of two discrete areas – a small rectangle adjacent to the west side of the extant digester mixers and covers (50 m² or 0.012 acres in size), and a larger 'L'-shaped area north of the extant main control building (380 m² or 0.095 acres in size; see Maps 2 to 4). The smaller area consists of flat maintained lawn and is bordered by digesters to the east and maintained lawn or dirt road on all other sides. The larger area also consists mostly of flat maintained lawn and is bordered by a dirt road to the east and open lawn or mixed forest in all other directions. The subject property lies approximately 350 m west of the Ottawa River.

2.2 Development Context

The Town of Petawawa will be completing rehabilitation work to the existing digesters at the Wastewater Treatment Facility, installing two new H₂S removal systems and new CHP and Digester Gas Equipment. The project will require the pouring of two concrete pads, the areas for which, as noted above, will respectively consist of approximately 50 m² and 380 m² (see Maps 2 to 4). The planned work has triggered the *Renewable Energy Approval* process in advance of construction mandated by the Ontario Ministry of the Environment, Conservation and Parks (MECP), which, as a result of consultation with the Algonquins of Ontario (AOO), has required the completion of a Stage 1 archaeological assessment. Past Recovery was retained to complete this work.

2.3 Access Permission

Permission to access the subject property and complete all aspects of the archaeological assessment, including photography, was granted by the Town of Petawawa.

2.4 Territorial Acknowledgement

The study area falls within the traditional territory of the Anishinaabeg and forms part of the Algonquins of Ontario (AOO) Settlement Area set out by the current Agreement-in-

Principle between the AOO and the federal and provincial governments, signed in 2016.¹ The study area also lies within lands identified as the shared traditional territories of the Mississauga signatories to the 1923 Williams Treaties,² as well as within an area of interest of the Huron Wendat Nation.

¹ The Algonquins of Ontario are composed of ten communities: The Algonquins of Pikwakanagan First Nation, Antoine, Kijicho Manito Madaouskarini (Bancroft), Bonnechere, Greater Golden Lake, Mattawa/North Bay, Ottawa, Shabot Obaadjiwan (Sharbot Lake), Snimikobi (Ardoch), Whitney and Area. Federally unrecognized Algonquin communities, including Ardoch First Nation, also live in the territory but do not form part of the AOO (see Lawrence 2012). The Agreement-In-Principle is between the Algonquins of Ontario and the Governments of Ontario and Canada. Algonquins have sought recognition and protection of their traditional territory dating back to 1772 and in 1983 the Algonquins of Pikwàkanagàn First Nation (previously Algonquins of Golden Lake) formally submitted a petition to the Government of Canada, and in 1985 to the Government of Ontario. The claim was accepted for negotiations in 1991 and 1992, an Agreement-In-Principle was signed in 2016, and negotiations are on-going. For further information see www.tanakiwin.com.

² The Williams Treaties First Nations include the Chippewas of Beausoleil, Georgina Island, and Rama, as well as the Mississaugas of Alderville, Curve Lake, Hiawatha, and Scugog Island. These seven First Nations are signatories to various 18th and 19th century treaties that covered lands in different parts of south-central Ontario. Owing to poorly defined boundaries, disagreements over the interpretation of the wording of these agreements, and concerns over Crown title to large tracts of unceded lands, the governments of Ontario and Canada sought to broker two new treaties in 1923 known as the Williams Treaties. Continued disagreements over the terms of the treaties and off-reserve harvesting rights led to a number of legal disputes. In 2018, the Williams Treaties First Nations and the Governments of Ontario and Canada came to a final agreement involving a formal apology, recognition of treaty harvesting rights, and financial compensation.

3.0 HISTORICAL CONTEXT

This section of the report is comprised of an overview of human settlement in the region using information derived from background historical research. The purpose of this research is to describe the known settlement history of the local area, with the intention of providing a context for the evaluation of known and potential archaeological sites, as well as a review of property-specific information presenting a record of settlement and land use history.

3.1 Regional Pre-Contact Cultural Overview

While our understanding of the pre-Contact sequence of human activity in the region is limited, it is possible to provide a general outline of pre-Contact occupation based on archaeological, historical, and environmental research conducted across what is now eastern Ontario.³ Archaeologists divide the long sequence of Indigenous occupation into both temporal periods and regional groups based primarily on the presence and/or style of various artifact types. While this provides a means of discussing the past, it is an archaeological construct and interpretation based only on a few surviving artifact types; it does not reflect the generally gradual nature of change over time, nor the complexities of interactions between different Indigenous groups. It also does not reflect Indigenous world views and histories as detailed in the oral traditions of Indigenous communities who have long-standing relationships with the land. The following summary uses the generally accepted archaeological chronology for the pre-Contact period while recognizing its limitations.

Across the region, glaciers began to retreat around 15,000 years ago (Munson 2013:1). The earliest human occupation of Ontario began approximately 13,500 before present (B.P.) with the arrival of small groups of hunter-gatherers referred to by archaeologists as Palaeo-Indians (Ellis 2013:35). These groups gradually moved northward as the glaciers and glacial lakes retreated. While very little is known about their lifestyle, it is likely that Palaeo-Indian groups travelled widely relying on the seasonal migration of caribou as well as small animals and wild plants for subsistence in a sub-arctic environment. They produced a variety of distinctive stone tools including fluted projectile points, scrapers, burins and graters. Their sites are rare, and most are quite small (Ellis 2013:35-36). Palaeo-Indian peoples tended to camp along shorelines, and because of the changing environment, many of these areas are now inland. Indigenous settlement of much of eastern Ontario was late in comparison to other parts of Ontario as a result of the high-water levels associated with glacial Lake Algonquin, the early stages of glacial Lake Iroquois and the St. Lawrence Marine Embayment of the post-glacial Champlain Sea (Hough 1958:204). In eastern Ontario, the old shoreline ridges of Lake Algonquin, Lake

³ Current common place names are used throughout this report while recognizing that the many Indigenous peoples who have lived in the region for thousands of years had, and often maintain, their own names for these places and natural features.

Iroquois, the Champlain Sea and of the emergent St. Lawrence and Ottawa river channels and their tributaries would be the most likely areas to find evidence of Palaeo-Indian occupation (see AOO 2017; Ellis 2013; Ellis and Deller 1990; Watson 1999).

During the succeeding Archaic period (c. 10,000 to c. 3,000 B.P.), the environment of the region approached modern conditions and more land became available for occupation as water levels in the glacial lakes dropped. Populations continued to follow a mobile hunter-gatherer subsistence strategy, although there appears to have been a greater reliance on fishing and gathered food (e.g. plants and nuts) and more diversity between regional groups. The tool kit also became increasingly diversified, reflecting an adaptation to environmental conditions more similar to those of today. This included the presence of adzes, gouges and other ground stone tools believed to have been used for heavy woodworking activities such as the construction of dug-out canoes, grinding stones for processing nuts and seeds, specialized fishing gear including net sinkers, and a general reduction in the size of projectile points. The middle and late portions of the Archaic period saw the development of trading networks spanning the Great Lakes, and by 6,000 years ago copper was being mined in the Upper Great Lakes and traded into southern Ontario. There was increasing evidence of ceremonialism and elaborate burial practices and a wide variety of non-utilitarian items such as gorgets, pipes and 'birdstones' were being manufactured. By the end of this period populations had increased substantially over the preceding Palaeo-Indian occupation (Ellis 2013; Ellis et al. 1990).

More extensive Indigenous settlement of the region began during this period, sometime between 7,500 and 6,500 B.P. Artifacts from Archaic sites suggest a close relationship between these communities and what archaeologists refer to as the Laurentian Archaic stage peoples who occupied the Canadian biotic province transition zone between the deciduous forests to the south and the boreal forests to the north. This region included northern New York State, the upper St. Lawrence Valley across southern Ontario and Quebec, and the state of Vermont (Richie 1969; Clermont et al. 2003). The 'tradition' associated with this period is characterized by a more or less systematic sharing of several technological features, including large, broad bladed, chipped stone and ground slate projectile points, and heavy ground stone tools. This stage is also known for the extensive use of cold-hammered copper tools including "*bevelled spear points, bracelets, pendants, axes, fishhooks and knives*" (Kennedy 1970:59). The sharing of this set of features is generally perceived as a marker of historical relatedness and inclusion in the same interaction network (Clermont et al. 2003). Cemeteries also appear for the first time during the Late Archaic. Evidence of Archaic occupation has been found across eastern Ontario (see Clermont 1999; Clermont et al. 2003; Ellis 2013; Kennedy 1962, 1970; Laliberté 2000; Watson 1990).

Archaeologists use the appearance of ceramics in the archaeological record to mark the beginning of the Woodland period (c. 3,000 B.P. to c. 350 B.P.). Ceramic styles and decorations suggest the continued differentiation between regional populations and are

commonly used to distinguish between three periods: Early Woodland (2,900 to 2,300 B.P.), Middle Woodland (2,300 to 1,200 B.P.), and Late Woodland (1,200 to 400 B.P.). The introduction of ceramics to southern Ontario does not appear to have been associated with significant changes to lifeways, as hunting and gathering remained the primary subsistence strategy throughout the Early Woodland and well into the Middle Woodland. It does, however, appear that regional populations continued to grow in size, and communities continued to participate in extensive trade networks that, at their zenith c. 1,750 B.P., spanned much of the continent and included the movement of conch shell, fossilized shark teeth, mica, copper and silver; a large number of other items that rarely survive in the archaeological record would also have been exchanged, as well as knowledge.⁴ Social structure appears to have become increasingly complex, with some status differentiation evident in burials. In southeastern Ontario, the first peoples to adopt ceramics are identified by archaeologists as belonging to the Meadowood Complex, characterized by distinctive biface preforms, side-notched points, and Vinette I ceramics which are typically crude, thick, cone-shaped vessels made with coils of clay shaped by cord-wrapped paddles. Meadowood material has been found on sites across southern Ontario extending into southern Quebec and New York State (Fox 1990; Spence et al. 1990).

In the Middle Woodland period, increasingly distinctive trends or 'traditions' continued to evolve in different parts of Ontario (Spence et al. 1990). Although regional patterns are poorly understood and there may be distinctive traditions associated with different watersheds, the appearance of better-made (thinner-walled and containing finer grit temper) ceramic vessels decorated with dentate or pseudo-scallop impressions have been used by archaeologists to distinguish the Point Peninsula Complex. These ceramics are identified as Vinette II and are typically found in association with evidence of distinct bone and stone tool industries. Sites exhibiting these traits are known from throughout south-central and eastern Ontario, northern New York, and northwestern Vermont, and are often found overlying earlier occupations. Some groups appear to have practiced elaborate burial ceremonialism that involved the construction of large earthen mortuary mounds and the inclusion of numerous and often exotic materials in burials, construed as evidence of influences from northern Ontario and the Hopewell area to the south in the Ohio River valley. Investigations of sites with occupations dating to this time period have allowed archaeologists to develop a better picture of the seasonal round followed in order to harvest a variety of resources within a home territory. Through the late fall and winter, small groups would occupy an inland 'family' hunting area. In the spring, these dispersed families congregated at specific lakeshore sites to fish, hunt in the surrounding forest and socialize. This gathering would last through to the late summer

⁴ For example, the recent discovery of a cache of charred quinoa seeds, dating to 3,000 B.P. at a site in Brantford, Ontario, indicates that crops were part of this extensive exchange network, which in this case travelled from the Kentucky-Tennessee region of the United States. Thus far, there is no indication that these seeds were locally grown (Crawford et al. 2019).

when large quantities of food would be stored up for the approaching winter (Spence et al. 1990).

Towards the end of the Middle Woodland period (1200 B.P.), groups living in southern Ontario included horticulture in their subsistence strategy. Available archaeological evidence, which comes primarily from the vicinity of the Grand and Credit rivers, suggests that this development was not initially widespread. The adoption of maize horticulture instead appears to be linked to the emergence of the Princess Point Complex which is characterized by decorated ceramics combining cord roughening, impressed lines, and punctate designs; triangular projectile points; T-based drills; steatite and ceramic pipes; and ground stone chisels and adzes (Fox 1990). The distinctive artifacts and horticultural practices have led to the suggestion that these populations were ancestral to the Iroquoian-speaking peoples who later inhabited southern Ontario (Warrick 2000:427).⁵

Archaeologists have distinguished the Late Woodland period by the widespread adoption of maize horticulture by some Indigenous groups primarily across much of southern Ontario and portions of the southeast with favourable soils. The cultivation of corn, beans, squash, sunflowers and tobacco radically altered subsistence strategies and gained economic importance in the region over time. This change is associated with increased sedentarism, and with larger and more dense settlements focused on areas of easily tillable farmland. In some areas, semi-permanent villages, with communal 'longhouse' dwellings, appeared for the first time. These villages were occupied year-round for 12 to 20 years until local firewood and soil fertility had been exhausted. Many were surrounded by defensive palisades, evidence of growing hostilities between neighbouring groups. Associated with these sites is a burial pattern of individual graves occurring within the village. Upon abandonment, the people of one or more villages often exhumed the remains of their dead for reburial in a large communal burial pit or ossuary outside of the village(s) (Birch and Williamson 2013; Wright 1966). More temporary habitations such as small hamlets, agricultural cabin sites, and hunting and fishing camps were also used. Throughout much of eastern Ontario, however, the shield-like terrain limited horticulture and Indigenous groups continued to move frequently across this territory hunting, fishing, and gathering (Pilon 1999)

⁵ There have been several studies, however, that indicate assigning ethnicity to archaeological sites based on ceramic typologies and other kinds of artifacts is problematic (see Hart and Englebrecht 2012; Kapyrka 2017). For instance, Iroquoian-style pottery is found on sites within traditional Anishinaabe territories in eastern New York and Ontario (Hart and Englebrecht 2012: 335, 345). Further, artifact traits associated with particular ethnicities are not always agreed upon by archaeologists and in many cases these traits indicate the presence of more than one group (Fox and Garrad 2004). Though valuable "*in terms of the history of archaeological thought*," equating an Indigenous artifact trait with ethnicity is overly simplistic and lacking any means for evaluation, exemplifying the importance of other lines of evidence, including oral histories, in an interpretive historical framework (Kapyrka 2017).

At the end of the Late Woodland period several Indigenous groups were living within eastern Ontario, although the territories associated with each and the relationships between them were complex and are not fully understood. Anishinaabe oral histories suggest a broad homeland extending far to the west of Ontario and include references to a migration from the Atlantic seaboard, as well as a subsequent return via the St. Lawrence River to the Great Lakes region, with the latter having occurred around 500 B.P. (Hessel 1993; Sherman 2015:27). Those who became known as the Algonquin⁶ settled along the Ottawa River or Kichi-Sibi⁷ and its tributaries in eastern Ontario and western Quebec; the Ojibwa and Nipissing were located further to the north and west. Living on and around the Canadian Shield, all Anishinaabeg maintained a more nomadic lifestyle than their agricultural neighbours to the south, and accordingly their presence is less visible in the archaeological record (Morrison 2005; Sherman 2015:28).

The so-called St. Lawrence Iroquoians occupied the St. Lawrence River valley from the east end of Lake Ontario to the Quebec City region and beyond, and have been identified archaeologically based on a distinctive material culture, a horticulture-based subsistence supplemented with fishing, hunting and gathering, and the presence of large semi-permanent villages as well as smaller camps. Numerous discrete settlement clusters have been identified across this large territory; however, the political and social relationships between these populations is unclear (Tremblay 2006). In eastern Ontario, significant St. Lawrence Iroquoian site clusters have been identified near the Spencerville/Prescott area, and just north of Lake St. Francis (sometimes referred to as the 'Cornwall Cluster'; Tremblay 2006). The material culture and settlement patterns of the fourteenth and fifteenth century Iroquoian sites found along the upper St. Lawrence in Ontario are directly related to the Iroquoian-speaking groups that Jacques Cartier and his crew encountered in A.D. 1535 at Stadacona (Quebec City) and Hochelaga (Montreal Island; Jamieson 1990:386; Tremblay 2006). By the late sixteenth century, however, all of the St. Lawrence Iroquoian settlements appear to have been abandoned. Long characterized by archaeologists as a 'mysterious disappearance,' recent scholarship instead highlights several lines of evidence that suggest a series of planned migrations by St. Lawrence Iroquoian groups to other Indigenous populations, including the Huron-Wendat, during a period of coalescence and social realignment (Micon et al. 2021; Lesage and Williamson 2020).⁸ These population movements are also reflected in the oral histories of the Michi

⁶ The Algonquin of eastern Ontario increasingly use the Anishinaabemowin word Omàmiwinini to refer to themselves. Omàmiwinini describes the relationship with the land in the language, and though it was largely replaced by 'Algonquin' for many years, efforts are underway to reintroduce the term (Sherman 2008:77).

⁷ The Algonquin have various names specific to each part of the Ottawa River. The lower part of the river from Mattawa down to Lake of Two Mountains is traditionally known as the Kichi-Sibi, also spelled Kiji Sibi, Kichisipi, Kichissippi, and Kichissippi (AOO 2020; Morrison 2005:9; Sherman 2015:27).

⁸ This period also saw the coalescence of ancestral Huron-Wendat villages associated with a northward territorial expansion and a concomitant abandonment of the north shore of Lake Ontario, changes that have been suggested to have been driven, in large part, by an increase in conflict with the Haudenosaunee over control of trade routes and access to European trade goods.

Saagig (Mississauga Anishinaabeg), which recall St. Lawrence Iroquois moving westwards into their territory around 1000 A.D. (Gidigaa Migizi 2019:121).

Agricultural villages of ancestral Huron-Wendat have been recorded along the north shore of Lake Ontario and up the Trent River dating to c. 550 B.P. By c. 450 B.P., the easternmost settlements of the ancestral Huron-Wendat were located between Balsam Lake and Lake Simcoe in the region that would become historic Huronia. This population movement is not fully understood, and undoubtedly involved complex interactions between different cultural groups including the Anishinaabeg and, as noted above, may also have included St. Lawrence Iroquoians. As such, there are conflicting interpretations of the archaeological and historical records related to this period (see Gaudreau and Lesage 2016; Gidigaa Migizi 2018; Gidigaa and Kapyrka 2015; Lainey 2006; Richard 2016; Pendergast 1972).

Finally, while the Iroquois or Haudenosaunee⁹ homeland was initially south of Ontario in New York state, their oral histories suggest their hunting grounds extended along the north shore of Lake Ontario and the St. Lawrence River into southeastern Ontario and Quebec (Hill 2017). Archaeological data indicates some Haudenosaunee were living year-round in Ontario by the early seventeenth century (Konrad 1981).

The Indigenous population shifts and relationships of the late sixteenth and early seventeenth centuries through the period of initial contact with Europeans were complex and are not fully understood. They were certainly in part a result of the disruption of traditional trade and exchange patterns among all Indigenous peoples brought about by the arrival of the French, Dutch and British along the Atlantic seaboard the subsequent emergence of the lucrative St. Lawrence River trade route.

3.2 Regional Post-Contact Cultural Overview

The first Europeans to travel into eastern Ontario arrived in the early seventeenth century; predominantly French, they included explorers, fur traders and missionaries. While exploring eastern Ontario and the Ottawa River watershed between c. 1610 and 1613,¹⁰ Samuel de Champlain and others documented encounters with different Indigenous groups speaking Anishinaabemowin, including the Matouweskarini along the Madawaska River, the Kichespirini at Morrison Island on the Ottawa River, the Otaguottouemin along the river northwest of Morrison Island, the Weskarini in the Petite

⁹ Sometime between A.D. 1142 and A.D. 1451 the Mohawk, Oneida, Onondaga, Cayuga, and Seneca united to form the Haudenosaunee Confederacy, also known as the League of Five Nations, and called the Iroquois by the French. When the Tuscarora Nation joined the confederacy in 1722, it became the League of Six Nations.

¹⁰ From this section onwards all dates are presented as A.D.

Nation River basin,¹¹ and the Onontchataron¹² living in the South Nation River basin as far west as the Gananoque River basin (Hanewich 2009; Hessel 1993; Sherman 2015:29). These extended family communities subsisted by hunting, fishing, and gathering, and undertook some horticulture (see also Pendergast 1999; Trigger 1987). The Anishinaabeg living in the Upper Ottawa Valley and northeastward towards the headwaters of the Ottawa River included the Nipissing, Timiskaming, Abitibi (Wahgoshig), and others; however, as the French moved inland, they referred to all these groups who spoke different dialects of Anishinaabemowin as Algonquin (Morrison 2005:18).

At the time of Champlain's travels, the Algonquin were already acting as brokers in the fur trade and exacting tolls from those using the Ottawa River waterway which served as a significant trade route connecting the Upper Great Lakes via Lake Nipissing and Georgian Bay to the west and the St. Maurice and Saguenay via the Rivières des Outaouais (the portion of the Ottawa River extending eastward into Quebec from Lake Timiskaming). These northern routes avoided the St. Lawrence River and Lower Great Lakes route and, therefore, potential conflict with the Haudenosaunee (Joan Holmes & Associates Inc. 1993:2-3). Access to this southern route and the extent of settlement in the region fluctuated with the state of hostilities (Joan Holmes & Associates Inc. 1993:3). As the fur trade in New France was Montreal-based, Ottawa River navigation routes were of strategic importance in the movement of goods inland and furs down to Montreal and, in the wake of Champlain's travels, the Ottawa River became the principal route to the interior for the French. The recovery of European trade goods (e.g., iron axes, copper kettle pieces, glass beads, etc.) from sites throughout the Ottawa River drainage basin provides some evidence of the extent of interaction between Indigenous groups and the French during this period (Kennedy 1970).

With Contact, major population disruptions were brought about by the introduction of European diseases against which Indigenous populations had little resistance; severe smallpox epidemics in 1623-24 and again between 1634 and 1640 resulted in drastic population decline among all Indigenous peoples living in the Great Lakes region (Konrad 1981). The expansion of hunting for trade with Europeans also accelerated decline in the beaver population, such that by the middle of the seventeenth century the centre of the fur trade had shifted northward from what became the northeastern states into southern Ontario. The French, allied with the Huron-Wendat, the Petun, and the Anishinaabeg, refused advances by the Haudenosaunee to trade with them directly. Seeking to expand their territory and disrupt the French fur trade, the Haudenosaunee

¹¹ The Petite Nation River is in Quebec, with its mouth on the north side of the Ottawa River between Ottawa and Hawkesbury. It is sometimes confused with the South Nation River in eastern Ontario which empties into the south side Ottawa River opposite the Petite Nation River. Consequently, the Weskarini territory is sometimes associated with the South Nation River, but this appears to be an error (*cf.* Hessel 1993).

¹² This is a Haudenosaunee term and is, therefore, thought to be an Algonquin community that adopted Iroquoians who had been displaced from their territory along the St. Lawrence River near Montreal (Fox and Pilon 2016).

launched raids into the region and established a series of winter hunting bases and trading settlements near the mouths of the major rivers flowing into the north shore of Lake Ontario and the St. Lawrence River.¹³ The first recorded Haudenosaunee settlements were two Cayuga villages established at the northeastern end of Lake Ontario (Konrad 1981). Between 1640 and 1650 conflict with the Haudenosaunee Confederacy culminated in the near complete abandonment of what is now southern Ontario by Anishinaabeg and Huron-Wendat groups. In the face of continued harassment, resident Indigenous communities appear to have opted to disperse further afield or to join other communities, settling to the north and west of the Ottawa Valley,¹⁴ and at the French posts of Montreal, Quebec City, Sillery, and Trois Rivières (Joan Holmes & Associates Inc. 1993:3; Trigger 1987:610, 637-638).¹⁵ It should be noted, however, that available evidence suggests that segments of these groups either remained in their traditional territories or returned seasonally to hunt, fish and trap.

Fort Frontenac was established by the French at the present site of Kingston in 1673, and another fort was constructed at La Presentation (Ogdensburg, New York) in 1700. These forts served to solidify control of the fur trade and to enhance French ties with local Indigenous populations. To this end, the French also encouraged the establishment of Indigenous villages near their settlements (Adams 1986). The full extent of Indigenous settlement in eastern Ontario through to the end of the seventeenth century, however, is uncertain. The Odawa appear to have been using the Ottawa River for trade from c. 1654 onward and some Algonquin remained within the area under French influence, possibly having withdrawn to the headwaters of various tributaries in the watershed. In 1677 the Sulpician Mission of the Mountain was established near Montreal where the Ottawa River empties into the St. Lawrence River. While it was mostly a Mohawk community that became known as Kahnawake, some Algonquin who had converted to Christianity settled at the mission for part of the year and were known as the Oka Algonquin (Joan Holmes & Associates Inc. 1993).

As a result of increased tensions between the Haudenosaunee and the French, and declining population from disease and warfare, the Cayuga villages were abandoned in 1680 (Edwards 1984:17). Around this time, Anishinaabeg began to mount an organized counter-offensive against the Haudenosaunee who were pushed back to their traditional lands further south, resulting in a Mississauga presence in southern and south-eastern Ontario. This change saw Anishinaabeg gain wider access to European trade goods and

¹³ These settlements included: Quinaouatoua near present day Hamilton, Teiaiaagon on the Humber River, Ganatswekwyagon on the Rouge River, Ganaraske on the Ganaraska River, Kentsio on Rice Lake, Kente on the Bay of Quinte, and Ganneious, near Napanee (Adams 1986).

¹⁴ Some Nipissing, for example, re-located to the Lake Nipigon region (Joan Holmes & Associates Inc. 1993:3).

¹⁵ In the case of the 1649-1650 move of a group of Huron-Wendat from Gahoendoe (Christian) Island to the area of Quebec City, the relocation was the result of careful consideration and was planned well in advance, with a diplomatic mission having been sent in advance to discuss the move with their French allies (see Lesage and Williamson 2020).

allowed them to use their strategic position to act as intermediaries in trade between the British and Indigenous communities to the north (Edwards 1984:10,17; Ripmeester 1995; Surtees 1982).

Following almost a century of warfare, the Great Peace was signed in Montreal in 1701 between New France and 39 Indigenous Nations, including the Anishinaabeg, Huron-Wendat and Haudenosaunee. This led to a period of relative peace and stability. During the first half of the eighteenth century, the Haudenosaunee occupation appears to have been largely restricted to south of the St. Lawrence River, while Mississauga and Ojibwa were living in southern and central Ontario, generally beyond the Ottawa River watershed (Joan Holmes & Associates Inc. 1993:3). Algonquin were residing along the Ottawa River and its tributaries, as well as outside the Ottawa River watershed at Trois-Rivières; Nipissing were located around Lake Nipissing and at Lake Nipigon. Reports from c. 1752 suggest that some non-resident Algonquin and Nipissing were trading at the mission at Lake of Two Mountains during the summer but returning to their hunting grounds “*far up the Ottawa River*” for the winter, and there is some indication that they may have permitted Haudenosaunee residents of the mission to hunt in their territory (Joan Holmes & Associates Inc. 1993:3; Heidenreich and Noël 1993:Plate 40).

In 1754, hostilities over trade and the territorial ambitions of the French and British led to the Seven Years’ War, in which many Anishinaabeg fought on behalf of the French. With the French surrender in 1760, Britain gained control over New France, though in recognition of Indigenous title to the land the British government issued the Royal Proclamation of 1763. This created a boundary line between the British colonies on the Atlantic coast and the ‘Indian Reserve’ west of the Appalachian Mountains. This line then extended from where the 45th parallel of latitude crossed the St. Lawrence River near present day Cornwall northwestward to the southeast shore of Lake Nipissing and then northeastward to Lac St. Jean. The proclamation specified that “*Indians should not be molested on their hunting grounds*” (Joan Holmes & Associates Inc. 1993:4) and outlawed the private purchase of Indigenous land, instead requiring all future land purchases to be made by Crown officials “*at some public Meeting or Assembly of the said Indians*” occupying the land in question (cited in Surtees 1982: 9). In 1764, the post at Carillon on the Ottawa River was identified as the point beyond which traders could only pass with a specific licence to trade in “*Indian Territory*.” Petitions in 1772 and again in 1791 described Algonquin and Nipissing territory as the lands on both sides of the Ottawa River from Long Sault to Lake Nipissing. Settlers continued to trespass into this territory, however, cutting trees and driving away game vital to Indigenous lifeways (Joan Holmes & Associates Inc. 1993:5). Akwesasne, within the Haudenosaunee hunting territory, became a permanent settlement towards the middle of the eighteenth century.¹⁶

At first, the end of the French Regime brought little change to eastern Ontario. Between 1763 and 1776 some British traders traveled to the Kingston area, but the British presence

¹⁶ www.firstbatuibs.info/akwesasne.html

remained sporadic until 1783 when Fort Frontenac was officially re-occupied. With the conclusion of the American Revolutionary War (1775 to 1783), however, the British sought additional lands on which to settle United Empire Loyalists fleeing the United States, disbanded soldiers, and the Mohawk who had fought with the British under Thayendanegea (Joseph Brant) and Chief Deserontyon and were, therefore, displaced from their lands in New York State. To this end, the British government undertook hasty negotiations with Indigenous groups to acquire rights to lands; however, these negotiations did not include Algonquin and Nipissing who were continuously ignored, despite much of the area being their traditional territory (Lanark County Neighbours for Truth and Reconciliation 2019). Initially the focus for settlement was the north shore of Lake Ontario and the St. Lawrence River, resulting in a series of 'purchases' and treaties beginning with the Crawford Purchases of 1783. As noted, these treaties did not include all of the Indigenous groups who lived and hunted in the region and the recording of the purchases – including the boundaries – and their execution were problematic; they also did not extinguish Indigenous rights and title to the land (Joan Holmes & Associates Inc. 1993:5; Royal Commission on Aboriginal Peoples 1996). The *Crown Grant to the Mohawks of the Bay of Quinte* was issued in 1784 in recognition of the Six Nations' support during the American Revolutionary War. It included lands on the Bay of Quinte, originally part of the Crawford Purchases, on which Chief Deserontyon and other Haudenosaunee settled.¹⁷

Major Samuel Holland, Surveyor General for Canada, began laying out the land within the Crawford Purchases in 1784 with such haste that the newly established townships were assigned numbers instead of names. Euro-Canadian settlement along the north shore of the St. Lawrence River and the eastern end of Lake Ontario began in earnest about this time. By the late 1780s the waterfront townships were full and more land was required to meet both an increase in the size of grants to all Loyalists and grant obligations to the children of Loyalists who were now entitled to 200 acres in their own right upon reaching the age of 21 (H. Belden & Co. 1880:16). In 1792 John Graves Simcoe, Lieutenant Governor of the Province of Upper Canada, offered free land grants to anyone who would swear loyalty to the King, a policy aimed at attracting more American settlers. As government policy also dictated the setting aside of one seventh of all land for the Protestant Clergy and another seventh as Crown reserves, pressure mounted to open up more of the interior. As a result, between 1790 and 1800 most of the remainder of the Crawford Purchases was divided into townships (H. Belden & Co. 1880:16).

A number of other purchases during the late eighteenth century between representatives of the Crown and certain Anishinaabe covered lands immediately west of the Crawford Purchases, from the north shore of Lake Ontario northward to Lake Simcoe and Georgian Bay/Lake Huron. These included the John Collins Purchase of 1785, the Johnson-Butler

¹⁷ <https://www.ontario.ca/page/map-ontario-treaties-and-reserves>

Purchase¹⁸ of 1787-88, and the 1798 Penetanguishene Purchase (Treaty 5) aimed at acquiring a harbour on Lake Huron for British vessels.¹⁹ The lands purportedly covered by these purchases were often poorly defined and were thus included in the later Williams Treaties of 1923 (see below).

The *Constitution Act* of 1791, which created the provinces of Upper and Lower Canada (later Ontario and Quebec) used the Ottawa River as the boundary between the two. This effectively divided the Algonquin and Nipissing territories, both of which straddled the river. The Algonquin and Nipissing sent a letter to the Governor General of the Province of Canada in 1798, requesting that settlers be restricted to the banks of the Ottawa River and detailing the difficulties caused by encroaching settlement (Joan Holmes & Associates Inc. 1993:5; see also Lanark County Neighbours for Truth and Reconciliation 2019). In this letter the Chiefs noted the belt of wampum and map of their lands that was given to Governor Carleton some years earlier, pleading for no more of the encroachment that was driving away game and pushing them into infertile lands; however, there was no response. In the early 1800s, a few Algonquin and Nipissing settled on the shores of Golden Lake, known to them as ‘Peguakonagang,’ they called themselves ‘Ininwezi,’ which they translated as ‘we people here along’ (Johnson 1928; MacKay 2016).²⁰ The Golden Lake band, as they initially came to be known, resided in this area for at least part of the year, with various band members maintaining traplines, hunting territories, and sugar bushes.

The War of 1812 between the United States and Great Britain (along with its colonies in North America and its Indigenous allies) brought another period of conflict to the region. In 1815, at the conclusion of the war, the British government issued a proclamation in Edinburgh to further encourage settlement in British North America. The offer included free passage and 100 acres of land for each head of family, with each male child to receive his own 100 acre parcel upon reaching the age of 21 (H. Belden & Co. 1880:16). At the same time, the government was seeking additional land on which to resettle disbanded soldiers from the War of 1812. Demobilized forces could thereby act as a ‘force-in-being’ to oppose any possible future incursions from the United States. Veterans were encouraged to take up residence within a series of newly created ‘military settlements’ including those at Perth (1816) and Richmond (1818). The pressure to find more land was exacerbated by the sheer number of settlers moving into the region as a result of these

¹⁸ Sometimes referred to as the ‘Gunshot Treaty’ as it reportedly covered the land as far back from the lake shore as a person could hear a gunshot (<https://www.ontario.ca/page/map-ontario-treaties-and-reserves>).

¹⁹ <https://www.ontario.ca/page/map-ontario-treaties-and-reserves>

²⁰ The Algonquin of River Desert identified The Golden Lake Band using the name “Nozebi'wininiwag,” translated as “Pike-Water People” (Speck in Johnson 1928:174).

initiatives, which began to push settlement beyond the acquired territory into what had formally been protected as 'Indian Land.'²¹

Additional 'purchases' were signed in the early nineteenth century between the Crown and certain Anishinaabe communities including the Lake Simcoe Purchase (Treaty 16) signed in 1815 and covering lands between Lake Simcoe and Georgian Bay, the Nottawasaga Purchase (Treaty 18) of 1818 to the south and west of the Lake Simcoe Purchase, and the Rice Lake Purchase or Treaty 20 of 1818 which covered a large area around Rice Lake.²²

Further east, with the settlement of the region underway, Lieutenant Governor Gore ordered Captain Ferguson, the Resident Agent of Indian Affairs at Kingston, to arrange the purchase of additional lands from the chiefs of the Ojibwa and Mississauga or Michi Saagiig Nishnaabeg. The resulting Rideau Purchase (Treaty 27 and 27¹/₄) extended from the rear of the earlier Crawford Purchases to the Ottawa River and was signed by the Michi Saagiig Nishnaabeg or Mississauga in 1819 and confirmed in 1822. This 'purchase' was also problematic and excluded the Algonquin whose traditional territory it covered (Canada 1891:62; Surtees 1994:115). As this purchase included lands within the Ottawa River watershed, the Algonquin and Nipissing protested in 1836 when they became aware of its terms (Joan Holmes & Associates Inc. 1993:6).

As Euro-Canadian settlement spread, Indigenous groups were increasingly pushed out of southern and eastern Ontario, generally moving further to the north and west, although some families remained in their traditional lands, at least seasonally. Records relating to the Hudson's Bay Company, the diaries of provincial land surveyors, the reports of geologists sent in by the Geological Survey of Canada, census returns,²³ store account books and settler's diaries all provide indications of the continued Indigenous settlement in the region, as does Indigenous oral history. In addition to their interactions with the Algonquin who remained in the area, the nineteenth century settlers found evidence of the former extent of Indigenous occupation, particularly as they began to clear the land. In 1819, Andrew Bell wrote from Perth:

All the country hereabouts has evidently been once inhabited by the Indians, and for a vast number of years too. The remains of fires, with the bones and horns of deers (sic) round them, have often been found under the black mound... A large pot made of burnt clay and highly ornamented was lately found near the banks of the

²¹ Between 1815 and 1850 over an estimated 800,000 Euro-Canadian settlers moved into the region (<https://www.lanarkcountyneighbours.ca/the-petitions-of-chief-shawinipinessi.html>).

²² <https://www.ontario.ca/page/map-ontario-treaties-and-reserves>

²³ While Indigenous peoples were clearly still residing in the area and making use of the land, they often do not appear in the 1851 to 1871 census records. Huitema (2001:129) notes that Algonquin were sometimes listed in these records as 'Frenchmen' or 'halfbreeds' because they had utilized the mission at Lake of Two Mountains as their summer gathering place and, therefore, were thought of as being French.

*Mississippi, under a large maple tree, probably two or three hundred years old.
Stone axes have been found in different parts of the settlement.*

(cited in Brown 1984:8)

While some Algonquin and Nipissing continued to spend part of the summer at Lake of Two Mountains through this period, most of the year appears to have been spent on their traditional hunting grounds, and by the 1830s there were specific claims for land by individuals such as Mackwa on the Bonnechere River and Constant Pennecy on the Rideau waterway. In 1842, Chief Pierre Shawinipinessi,²⁴ an Algonquin leader, petitioned the Crown for a land tract of 2,000 acres between the townships of Oso, Bedford and South Sherbrooke to enable his people to sustain themselves (Huitema 2001; Ripmeester 1995:164-166; Sherman 2008:32-33).²⁵ A licence of occupation for the 'Bedford Algonquin' was granted in 1844, with Mississauga (Michi Saagiig Nishnaabeg) from Alnwick reportedly also living at Bedford (Joan Holmes & Associates Inc. 1993:7-8). Illegal logging operations, however, interfered with life on the reserve, and despite protests from Chief Shawinipinessi and legislation passed in 1838 and then later in 1850 to protect Indigenous lands,²⁶ it was allowed to continue, depleting the local food resources. In response to an 1861 petition to address the trespassing of settlers, the existence of the Bedford tract was denied (LAC microfilm reel C-13419). At this time some of the community moved to nearby lands while others joined the Algonquin at Kitigan Zibi, and at Pikwàkanagàn where the 'Golden Lake Reserve' was created in 1873 (Hanewich 2009; Joan Holmes & Associates Inc. 1993:9). Around 1836 some consideration was given to facilitating Algonquin and Nipissing settlement in the Grand Calumet Portage and Allumette Island area, but this was not pursued (Joan Holmes & Associates Inc. 1993).

Other treaties signed in the mid-nineteenth century included the St. Regis Purchase (Treaty 57) signed in 1847 between the Crown and the Mohawk and covering a narrow parcel of land, known as the 'Nutfield Tract' extending north of the St. Lawrence River at Cornwall towards the Ottawa River, and the Robson-Huron Treaty (Treaty 61) of 1850 between the Crown and certain Anishinaabeg for lands east of Georgian Bay and the northern shore of Lake Huron eastward to the Ottawa River.²⁷

²⁴ There are numerous variations in the spelling of Chief Shawinipinessi's name; he is also known by the name of Peter Stephens or Stevens).

²⁵ July 17, 1842 petition 115 addressed to Sir Charles Bagot, Governor General, Library and Archives Canada RG10, V186 part 2, as transcribed in Joan Holmes & Associates Inc. (1993) *Report on the Algonquins of Golden Lake Claim* Vol. 10-12:101.

²⁶ Chapter XV. An Act for the protection of the Lands of the Crown in this Province, from Trespass and Injury. Thirteenth Parliament, 2nd Victoria, A.D. 1839. An Act for the Protection of the Indians in Upper Canada from Imposition and the Property Occupied or Enjoyed by Them from Trespass and Injury; passed by the government of Upper Canada on August 10, 1850. Available from <https://bnald.lib.unb.ca/node/5342>; United Canadas (1841-1857) 13 & 14 Victoria - Chapter 74:1409.

²⁷ <https://www.ontario.ca/page/map-ontario-treaties-and-reserves>

Through the early twentieth century, off-reserve Algonquin and Nipissing were told to move to established reserves at Golden Lake (Pikwàkanagàn), Maniwaki (Desert River) and at Gibson on Georgian Bay (which had been established for the re-settlement of both Algonquin and Mohawk from Lake of Two Mountains), but many remained in their traditional hunting territories. There is also evidence to suggest that Akwesasne Mohawk trapped and hunted north of their reserve as far as Smiths Falls and Rideau Ferry between c. 1924 and 1948 (Joan Holmes & Associates Inc. 1993:10-11; Sherman 2008:33).

The Williams Treaties of 1923 were signed between the Crown and seven Anishinaabe First Nations to address lands that had not been surrendered via a formal treaty process (see above).²⁸ These lands covered a large area from the north shore of Lake Ontario to Lake Nipissing and overlapped with a number of other treaties and ‘purchases.’ The Williams Treaties First Nations include the Chippewas of Beausoleil, Georgina Island and Rama, and the Mississaugas of Alderville, Curve Lake, Hiawatha and Scugog Island. To address further issues with a number of the pre-confederation purchases and treaties, the Williams Treaties First Nations ratified the Williams Treaties Settlement Agreement with Canada and Ontario in June, 2018. This agreement recognized harvesting rights in Treaties 5, 16, 18, 20, 27 and 27¼.²⁹

As noted above, lands considered traditional Algonquin territory were included in various nineteenth century purchases that did not involve the Algonquin. Algonquin claims to these lands include a series of petitions to the Crown going back to 1772 that asserted Algonquin rights to land and resources. An official land claim was made in the 1980s and, in 2016, an Agreement-in-Principle was signed by Ontario, Canada and the Algonquins of Ontario, a step towards a treaty recognizing Algonquin rights across much of eastern Ontario.³⁰

Geographic Township of Petawawa, the Town of Petawawa, Renfrew County

Settlement in the Renfrew County area began circa 1820 when land was cleared by Joseph Brunette at the second chute of the Bonnechere, now within the town of the same name. The county’s progression towards independent status took 14 years. In 1850 it became a county in conjunction with Lanark, but in 1861 the United Counties of Lanark and Renfrew were separated and Renfrew became a provisional county, declared fully independent three years later (Price and Kennedy 1961).

Although the land was generally of poor quality for agriculture, the need to supply the numerous lumber camps with fresh food and hay in particular undoubtedly contributed to the clearing and settlement of Renfrew County (Belden 1881). The townships back from the Ottawa River, however, remained scarcely opened by 1850. Settlement along

²⁸ <https://www.ontario.ca/page/map-ontario-treaties-and-reserves>

²⁹ www.williamstreatiesfirstnations.ca

³⁰ <https://www.ontario.ca/page/map-ontario-treaties-and-reserves>

the Ottawa River above Pembroke had begun in 1840, principally by Irish settlers. The Petawawa area was first surveyed in 1857, when it was still united with Rolph, Buchanan, Wylie, McKay and Alice Townships. When Robert Hamilton was completing the survey of Petawawa Township, he noted several settlers living between Black Bay and the Ottawa River: Joseph Brindle, L. Clothier, F. Clothier, L. Savien, M. Prevost, J. Brindle, Charles Montgomery and S. Brennan. Another group of settlers resided in the Black Bay area near the junction of the Petawawa and Barron Rivers: F. Chartre (Chartrand), L. Lamothe, and L. Gariepy (Kennedy 1970:202). Petawawa was officially incorporated as a township in 1865 (Belden 1881:48-49).

By 1885, Marcell Charett was keeping a stopping place at Black Bay where clergy were always welcome. The Black Bay community at that time consisted of 14 families (Charette, Paquette, Clouthier, Turcotte, Chartrand, Sylvestre, Ignace, Wickworth, Murphy and Egan). In 1899 Reverend E.A. Latulippe, rector of the Pembroke Cathedral and in charge of the Black Bay parish, erected a chapel named “Notre Dame de la Baie” in the vicinity. In 1920 the missions of Black Bay and Petawawa were united and seven years later Alex Paquette, Edward Charette and Tom Clouthier dismantled the church at Black Bay and reconstructed it with added length in Petawawa (Our Lady of Sorrows Parish 2010).

Growth at the village of Petawawa was very slow. Eugene Giesebrecht opened a general store and tavern in the fledgling town where his business grew to include the post office, where he manufactured ice cream, soft drinks and cement blocks (Town of Petawawa 2010). The early settlement served mainly lumbermen as there were relatively few settlers or travellers on the Pembroke-Mattawan Road. In 1871 the population was only 50 people, while the total population for McKay and Petawawa Townships was 370. The greatest spur to growth in this area came with the establishment of the neighbouring Petawawa military camp between 1904 and 1905, when the properties of 150 settlers, totalling 22,430 acres, and 52,000 acres of Crown land were acquired to create a 116 square mile military base (Kennedy 1970:207). During World Wars I and II, the base was used as an internment camp for German prisoners-of-war. Later it became home to the Canadian Airborne Regiment before it was disbanded in 1995. Today it is one of Canada’s largest ground forces bases.

As the camp developed so did local services. In 1961, the urban area of Petawawa was incorporated as a separate village. In 1997 the village and the township were re-amalgamated to form the Town of Petawawa.

3.3 Property History

The following detailed review of archival research was conducted in order to develop a picture of the land-use history of the study area through the nineteenth and twentieth centuries, particularly as it relates to the archaeological potential of the property. Information was compiled from a variety of sources, including the 1879 Miles & Co. map

of Renfrew County Northwest, as well as twentieth-century topographic maps and aerial photographs, directories, and survey plans. Records at the Renfrew County Land Registry Office (or RCLRO) were also consulted.

Lot 17, Concession Lake Range

The study area is centrally located within Lot 17, Concession Lake Range of the geographic Township of Petawawa. Gabriel Bellefeuille was granted the patent to the lot by the Crown in 1873 (RCLRO). Prior to Mr. Bellefeuille's acquisition, however, a patent plan dating to 1854 lists 'C. McAuley' as the occupant or owner of the lot (Map 5; SR 1878 C14). Twenty-three years after being awarded the patent to Lot 17, Mr. Bellefeuille sold a portion of the property to Sciserea McLean and Henry Allen, who later provided a quit claim to Mrs. McLean (RCLRO Instruments B557 and B595). Upon his death in 1897, the remainder of Lot 17 was bequeathed to Mrs. McLean who was the wife of John W. McLean (RCLRO Instrument B596). Unfortunately, other historical maps dating to the second half of the nineteenth century do not provide additional information about the occupation of the lot (see Map 5).

In 1906 James McLaughlin purchased seventy-three acres of Lot 17 from the McLeans (RCLRO Instrument B925). Upon his death in 1926, Mr. McLaughlin bequeathed this land to Sarah J. McLaughlin "*during her life and after her death to [...] H. J. McLaughlin, son*" (RCLRO Instrument G.R.2988). Between 1958 and 1960 the various portions of the lot held by members of the McLaughlin family were acquired by the Department of National Defence, on behalf of Her Majesty the Queen, to use as a sewage disposal plant (RCLRO Instruments 40263, GR.41009, GR41420 and 46225). Effective January 1st, 1961, Lot 17 was incorporated into the Village of Petawawa (RCLRO Instrument 48089). In the following years, 1963 and 64, an easement was provided to the Hydro Electric Power Commission of Ontario to install the hydro lines which run along the west edge of Lot 17 (Map 6; 31F14 1975; RCLRO Instrument 68508).

The sewage holding reservoirs, documented on topographic maps dating to 1975 and 1986 (see Map 6), have since been filled in and a modern water treatment facility currently operates on Lot 17 (Map 7). An aerial photograph taken in 1987 shows that the sewage reservoirs had been filled in by that time and that the treatment facility consisted of a garage built in 1984 – the most northerly structure; a main control building with attached settling tanks, grit removal tanks, and an influent building – the central structures; as well as digester tanks 1 and 2 with a gallery, connected by an underground pipe tunnel to the main control building – the cylindrical structures to the south. The water treatment facility was expanded in 1997 which caused extensive and deep disturbance in the immediate vicinity of the current study area and elsewhere on Lot 17 (Images 1 to 5). Some time after 1994 and prior to the 1997 expansion the garage was removed, likely in preparation for the expansion project. The 1997 expansion included the addition of a garage and office building to the west of the main control building and digesters; a blower building with sequencing batch reactors to the northeast of the main control building;

two new digesters (numbers 3 and 4) with a gallery, located south of digester tanks 1 and 2; and two sludge holding tanks and a gallery south of the digester tanks 3 and 4 (see Map 7, panel 3). The 'L-shaped' portion of the study area is located north of the main control building and the smaller rectangular portion of the study area is adjacent to the west side of digester tank 4.

4.0 ARCHAEOLOGICAL CONTEXT

This section describes the archaeological context of the study area, including known archaeological research, known cultural heritage resources (including archaeological sites), and environmental conditions. In combination with the historical context outlined above, this provides the necessary background information to evaluate the archaeological potential of the property.

4.1 Previous Archaeological Research

In order to determine whether any previous archaeological fieldwork has been conducted within or in the immediate vicinity of the present study area, a search of the titles of reports in the *Public Register of Archaeological Reports* maintained by the Ministry of Tourism, Culture and Sport (MTCS) was undertaken. To augment these results, a search of the Past Recovery corporate library was also conducted.³¹

A prime source for unregistered archaeological finds is the initial series of *Annual Archaeological Reports for Ontario* (AARO), which were published as appendices to the report of the Minister of Education in the *Ontario Sessional Papers*. In these reports, dating between 1887 and 1928, staff of the provincial museum (which eventually became the Royal Ontario Museum) published articles by several of Ontario's most prominent collectors, amateur archaeologists, and museum staff. The articles provide a record of some of the earliest archaeological fieldwork to have taken place in the province, as well as documentation of the private collections that were donated to the museum. These articles report on extensive artifact collecting in Lanark County in the late nineteenth and early twentieth centuries, especially around the Rideau Lakes (cf. Beeman 1894).

To the knowledge of Past Recovery staff, no previous archaeological assessment has occurred within the study area. Known cultural resource management assessments in the immediate vicinity include the following:

- Wood Environment & Infrastructure Solutions (Wood) undertook a Stage 1 archaeological assessment for Circuit D6 Line refurbishment (Des Joachims TS x Pembroke TS) within the Towns of Laurentian Hills, Deep River, Petawawa, and the Township of Laurentian Valley in the Upper Ottawa River Valley. Wood was

³¹ In compiling the results, it should be noted that archaeological fieldwork conducted for research purposes should be distinguished from systematic property surveys conducted during archaeological assessments associated with land use development planning (generally after the introduction of the *Ontario Heritage Act* in 1974 and the *Environmental Assessment Act* in 1975), in that only those studies undertaken to current standards can be considered to have adequately assessed properties for the presence of archaeological sites with cultural heritage value or interest. In addition, it should be noted that the majority of the research work undertaken in the area has been focused on the identification of pre-Contact Indigenous sites, while current MTCS requirements minimally require the evaluation of the material remains of occupations and or land uses pre-dating 1900.

retained by Hydro One Networks Inc. to carry out the assessment in advance of line refurbishment work on the Hydro One 115 kilovolt circuit D6. The study area was a 30-metre-wide corridor which ran for 89.3 km. The Stage 1 assessment identified that most of the study area retained archaeological potential, excluding areas disturbed by recent land alterations. Stage 2 assessment was recommended for all portions of the study area which retained potential prior to new ground disturbance (Wood 2018; P066-0306-2018).

- Wood also undertook a Stage 2 archaeological assessment for the Circuit D6 Line refurbishment, during which portions of the study area within 10 m of an existing Hydro One structure to be refurbished were visually inspected and tested via shovel test pit survey at 5 m intervals. A total of 340 structures were tested using this strategy. The remaining portions of the study area were not investigated as it was understood they would not be impacted by the refurbishments. It was recommended that the portions of the study areas which were tested required no further archaeological assessment (Wood 2019; PIF: P066-0316-2019).
- Heritage Quest Inc. undertook an archaeological study for CFB Petawawa, *Archaeological Inventory and Management Guidelines for CFB Petawawa*. The goals of the study was to determine the condition of known archaeological sites, to assess the archaeological potential of the study area, and to provide management guidelines for the known sites and areas of archaeological potential. The study area consisted of the training area on the Base, roughly 19,650 hectares. Four previously identified archaeological sites were investigated and tested. Cultural material was recovered from three of the four sites. Eight additional sites or find spots were identified during the survey work, consisting of both Indigenous and nineteenth century cultural resources. The assessment recommended that 1) the Base follow the recommendations for the management of identified sites put forth in the assessment, 2) a protocol for consultation with Algonquins of Pikwakanagan First Nation be maintained, 3) the *Archaeological Site Predictive Model* resulting from the assessment be tested and refined as archaeological work progresses, 4) more extensive historical research be undertaken to identify nineteenth century structures, 5) areas of ongoing training activities with high or medium archaeological potential be systematically tested, 6) a standard assessment process be used on the Base, 7) Base personnel should receive a brief orientation to archaeological resources with emphasis on archaeological directive in the Environmental Chapter of the *Range Standing Orders*, and 8) an agreement of curation be established with an appropriate facility for the artifact collections and documents from past and future archaeological activities (Heritage Quest 1999; Arch. Lic. 98-022).
- Ken Swayze undertook Stage 1 and 2 archaeological assessments in Petawawa Terrace Provincial Park on Lot 14, Concession Lake Range C in the geographic township of Petawawa. Mr. Swayze was retained by the Friends of Bonnechere Provincial Park to carry out the assessment. The Stage 2 assessment produced twenty-one positive test pits containing Euro-Canadian material, totalling 368

artifacts and resulting in the registration of archaeological site BlGh-1. No specific recommendations were given for future archaeological assessment (Swayze 2003; CIF: P039-020; PIF: P039-020-2003).

- Kinickinick Heritage Consulting undertook a Stage 1 archaeological assessment of Petawawa Terrace Provincial Park on Lots 12, 13, 14, 15, Concession Lake Range C in the geographic Township of Petawawa. The assessment was conducted for use by a working group established by Ontario Parks and the Algonquins of Ontario. Four areas of pre-Contact and three areas of historical period archaeological interest were indicated. Stage 2 archaeological assessment was recommended for areas of archaeological potential where warranted. The assessment also recommended that the working group of park planners explore archaeological research and training opportunities through field schools or public archaeology (KHC 2015; PIF: P039-0225-2015).

4.2 Previously Recorded Archaeological Sites

The primary source for information regarding known archaeological sites in Ontario is the *Archaeological Sites Database* maintained by the Ontario Ministry of Tourism, Culture and Sport. The database largely consists of archaeological sites discovered by professional archaeologists conducting archaeological assessments required by legislated processes under land use development planning (largely since the late 1980s). A search of the *Sites Database* on 12th of August 2022, indicated that there is one registered archaeological site located at the margins of a one-kilometre radius of the study area (Table 1).

Table 1. Summary of Registered Archaeological Sites within a One-Kilometre Radius of the Study Area.

Borden Number	Site Name	Time Period	Inferred Agency	Inferred Function	Review Status
BlGh-1	Patzwald-Silke-Woermke Homestead	Post-Contact		Farmstead	Further CHVI

CHVI – Cultural Heritage Value or Interest

4.3 Cultural Heritage Resources

The recognition or designation of cultural heritage resources (here referring only to built heritage features and cultural heritage landscapes) may provide valuable insight into aspects of local heritage, whether identified at the local, provincial, national, or international level. As some of these cultural heritage resources may be associated with significant archaeological features or deposits, the background research conducted for this assessment included the compilation of a list of cultural heritage resources that have

previously been identified within or immediately adjacent to the current study area. The following sources were consulted:

- Federal Heritage Buildings Review Office online Directory of Heritage Designations (<http://www.pc.gc.ca/eng/progs/beefp-fhbro/index.aspx>);
- Canada's Historic Places website (<http://www.historicplaces.ca/en/homeaccueil.aspx>);
- Ontario Heritage Properties Database (<http://www.hpd.mcl.gov.on.ca/scripts/hpdsearch/english/default.asp>);
- Ministry of Tourism, Culture and Sport's List of Heritage Conservation Districts (http://www.mtc.gov.on.ca/en/heritage/heritage_conserving_list.shtml); and,
- Ontario Heritage Trust website (<https://www.heritagetrust.on.ca/en/index.php/online-plaque-guide>).

No designated cultural heritage sites were found within a three-kilometre radius from the study area.

4.4 Heritage Plaques and Monuments

The recognition of a place, person, or event through the erection of a plaque or monument may also provide valuable insight into aspects of local history, given that these markers typically indicate some level of heritage recognition. As with cultural heritage resources (built heritage features and/or cultural heritage landscapes), some of these places, persons, or events may be associated with significant archaeological features or deposits. Accordingly, this study included the compilation of a list of heritage plaques and/or markers in the vicinity of the study area. The following sources were consulted:

- The Ontario Heritage Trust Online Plaque Guide (<https://www.heritagetrust.on.ca/en/index.php/online-plaque-guide>);
- A listing of plaques transcribed at www.readtheplaque.com;
- Parks Canada Directory of Federal Heritage Designations (https://www.pc.gc.ca/apps/dfhd/default_eng.aspx); and,
- A listing of historical plaques of Ontario maintained by Sarah J. McCabe (<https://ontarioplaques.omeka.net/>).

No plaques were found within a three-hundred-metre radius from the study area.

4.5 Cemeteries

The presence of historical cemeteries in proximity to a parcel undergoing archaeological assessment can pose archaeological concerns in two respects. First, cemeteries may be associated with related structures or activities that may have become part of the archaeological record, and thus may be considered features indicating archaeological potential. Second, the boundaries of historical cemeteries may have been altered over

time, as all or portions may have fallen out of use and been forgotten, leaving potential for the presence of unmarked graves. For these reasons, the background research conducted for this assessment included a search of available sources of information regarding historical cemeteries. For this study, the following sources were consulted:

- A complete listing of all registered cemeteries in the province of Ontario maintained by the Consumer Protection Branch of the Ministry of Consumer Services (last updated 06/07/2011);
- Field of Stones website (<http://freepages.history.rootsweb.ancestry.com/~clifford/>);
- Ontario Cemetery Locator website maintained by the Ontario Genealogical Society (<https://vitacollections.ca/ogscollections/2818487/data?g=d>);
- Ontario Headstones Photo Project website (<https://canadianheadstones.ca/wp/cemetery-lookup/>); and,
- Available historical mapping and aerial photography.

No known cemeteries were located within or adjacent to the study area.³² The closest registered cemetery is All Saints Anglican Cemetery (New), 1175 Victoria Street, Petawawa, Ontario, Lot 22, Concession 8, approximately 1.8 kilometres west of the study area.

4.6 Mineral Resources

The presence of scarce mineral resources on or near to a property may indicate potential for archaeological resources associated with both pre-Contact and post-Contact exploration and exploitation. For this reason, the background research conducted for the assessment includes a search of available sources of information on the locations of outcrops of rare and highly valued minerals, such as quartz, chert, ochre, copper, and soapstone, as well as minerals sought out by post-Contact prospectors and miners for more industrial-scale exploitation (i.e. gold, copper, iron, mica, etc.). Useful tools in this search are provided by databases maintained by the Ontario Geological Survey and the Ministry of Northern Development and Mines, including:

- *Abandoned Mines Information System* which contains a list of all known abandoned and inactive mine sites and associated features in the Province;
- *Mining Claims* which contains a list of all active claims, alienations, and dispositions;
- *Mineral Deposits Inventory* which contains a list of known mineral occurrences of economic value in the Province; and,

³²It should be noted that the research undertaken as part of this Stage 1 archaeological assessment is unlikely to identify the potential for the presence of unrecorded burial plots, such as those of individual families on rural properties. See Section 6.0 of this report for information regarding compliance with provincial legislation in the event that human remains are identified during future development.

- *Bedrock Geology Data Set*, which shows the distribution of bedrock units and illustrates geologic rock types, major faults, iron formations, kimberlite intrusions, and dike swarms.

A review of the above-mentioned databases revealed no mineral deposits within one kilometre of the study area. The entirety of the property stands upon a fluvial sand deposit identified on the 2020 *Aggregate Resources of Ontario* inventory. Additionally, there are two mining Alienations for islands in the Ottawa River within one kilometre of the property.

4.7 Local Environment

The assessment of present and past environmental conditions in the region containing the study area is a necessary component in determining the potential for past occupation as well as providing a context for the analysis of archaeological resources discovered during an assessment. Factors such as local water sources, soil types, vegetation associations and topography all contribute to the suitability of the land for human exploitation and/or settlement. For the purposes of this assessment, information from local physiographic, geological and soils research has been compiled to create a picture of the environmental context for both past and present land uses.

The physiography and distribution of surficial material in this area are largely the result of glacial activity that took place in the Late Wisconsinan and Holocene periods. The Late Wisconsinan, which lasted from approximately 23,000 to 10,000 years before present, was marked by the repeated advance and retreat of the massive Laurentide Ice Sheet (Barnett 1992 in Lee 2013). As the ice advanced, debris from the underlying sediments and bedrock accumulated within and beneath the ice. The debris, a mixture of stones, sand, silt, and clay, was deposited over large areas as till and associated stratified deposits. During deglaciation, as the Late Wisconsinan ice margin receded to the north, glacial lake waters in the Lake Ontario basin expanded into the Ottawa River valley, almost as far north as Ottawa, creating Glacial Lake Iroquois. With much of the region isostatically depressed below sea level, proglacial freshwater lakes developed at the ice margin. The uncovering of the St. Lawrence River valley, which occurred between 12,100 and 11,100 years ago, caused water levels to drop in the Lake Ontario basin and allowed seawater to inundate the depressed Ottawa and upper St. Lawrence River valley areas, forming the Champlain Sea (Lee 2013). This inland sea has left numerous traces of its existence, in the form of beaches, deltas, and plains. In the latter case, the locations of what were formerly deep marine basins became the collection points for a thick succession of clays and silts. By 9,600 BP, the salinity of the Champlain Sea is thought to have dropped to the point that these waters could support a variety of freshwater species (during a period where this body of water is referred to as Lampsilis Lake), before continued isostatic uplift resulted in the establishment of the present drainage pattern by about 4,700 BP (ASI and GII 1999:41).

The study area is situated within the Petawawa Sand Plains physiographic region which originated as a delta formed in the Champlain Sea by the Petawawa, Barrow, Indian, and Ottawa Rivers during the Fossmill stage of Lake Algonquin (Chapman and Putnam 1984:210). Surficial geological mapping indicates that the study area is underlain by old alluvial deposits of clay, silt, sand, gravel, and possible organic remains. To the west are numerous fluvial terraces, some of which are within 300 metres of the study area (Map 8).

The soil survey of Renfrew County shows the survey property consists of the Uplands sand or sand loam complex which are characterized as good draining non-calcareous podzol soils with a gentle to moderate slope. Topographic mapping at 2 m contours shows the study area consists of generally flat terrain which stands at 114 meters above sea level (Hoffman et al. 1967; see Map 8).

The study area lies within the Île aux Alumettes - Ottawa River quaternary watershed which is a member of the Bonnechere River - Central Ottawa River, Central Ottawa River, Great Lakes - St. Lawrence River primary watershed. As noted above, the study area was also associated with the progress and recession of Champlain Sea shorelines which suggest increased potential for areas of shoreline habitat of cultural heritage value and interest.

The study area is situated on the cusp of the Upper St. Lawrence (L.2) subsection of the Great Lakes-St. Lawrence Forest Region where it meets the Middle Ottawa (L.4c) subsection. The Upper St. Lawrence (L.2) sub-region consists of a wide array of deciduous trees, including but not limited to: sugar maples, beech, red maple, yellow birch, basswood, white ash, largetooth aspen, red oak, and bur oak with occasional groupings of white oak, red ash, grey birch, rock elm, blue-beech, and bitternut hickory. Coniferous species can include eastern hemlock, eastern white pine, white spruce and balsam fir (Rowe 1972:94). The Middle Ottawa (L.4c) subsection is characterized, mainly, as a hardrock upland that encloses the Palaeozoic lowlands of the upper St. Lawrence with irregular topography ranging between lowland flats and upland terrain. The upland forest consists primarily of deciduous trees which primarily include sugar maple, beech, yellow birch, red maple, and eastern hemlock with eastern white pine, red pine, and the occasional jack pine. Additional tree species can include white spruce, balsam fir, trembling aspen, white birch, red oak, and basswood. The low swamp lands in this area are home to eastern white cedar, tamarack, black spruce, black ash, red maple, and white elm (Rowe 1972:100). As forest regions are live and fluid, it is likely that the study area exhibits characteristics from both the Upper St. Lawrence and Middle Ottawa subregions of the Great Lakes-St. Lawrence Forest Region. Additionally, it is likely that the area would have been cleared of its original forest cover with the intensification of Euro-Canadian settlement and extensive logging in the early nineteenth century.

5.0 STAGE 1 ARCHAEOLOGICAL ASSESSMENT

This section of the report includes an evaluation of the archaeological potential within the study area, in which the results of the background research described above are synthesized to determine the likelihood of the property to contain significant archaeological resources.

5.1 Optional Property Inspection

In addition to the above research, Past Recovery completed an optional site inspection on August 24th, 2022. The weather was overcast and humid with a high of 26 degrees Celsius. The inspection was conducted according to archaeological fieldwork standards outlined in *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011), with field conditions and features influencing archaeological potential documented through digital photography, a field map and field notes. The complete Stage 1 photographic catalogue is included as Appendix 1 and the locations and orientations of all photographs referenced in this section of the report are shown on Maps 9 to 11. As per the *Terms and Conditions for Archaeological Licences* in Ontario, curation of all photographs generated during the Stage 1 archaeological assessment is being provided by Past Recovery pending the identification of a suitable repository. An inventory of the records generated during the inspection is provided below in Table 2. The property inspection has been used to supplement the background information to help inform the archaeological potential model developed below.

The site visit confirmed the conditions obvious in the 2014 aerial image used to define the study area (see Map 2) and noted other natural features or disturbances affecting the archaeological potential of the property (Images 6 to 16). The larger proposed construction location consisted of maintained lawn with evidence of deep disturbance in the form of a lamp post, a test well, a drainage ditch, and clear evidence of underground

Table 2. Inventory of the Stage 1 Documentary Record.

Type of Document	Description	Number of Records	Location
Photographs	Digital photographs documenting the subject property and conditions at the time of the property survey	11 digital photographs	On Past Recovery computer network – file PR22-049
Mapping Data	Shapefiles (*.shp)	8 files	On Past Recovery computer network – file PR22-049
Field Notes	Field notes from the site visit	3 digital files (2 .jpeg and 1 .msg)	In Past Recovery office – file PR22-049

utilities visible entering the main control building at the south end (see Images 6 to 12). The entire location was also slightly raised from the surrounding terrain as a result of landscaping following the extensive disturbance from the 1997 construction activities (see Images 1 to 5). The smaller proposed construction location consisted of maintained lawn and was clearly situated on heavily and deeply disturbed fill soils associated with the installation of the extant water treatment digesters and sludge holding tanks in 1997 (see Images 1 to 5, 13 to 16).

5.2 Evaluation of Archaeological Potential

The evaluation of the potential of a particular parcel of land to contain significant archaeological resources is based on the identification of local features that have demonstrated associations with known archaeological sites. For instance, archaeological sites associated with pre-Contact settlements and land uses are typically found in close physical association with environmental features such as sources of potable water, transportation routes (navigable waterways and trails), accessible shorelines, areas of elevated topography (i.e. knolls, ridges, eskers, escarpments, and drumlins), areas of sandy and well-drained soils, distinctive land formations (i.e. waterfalls, rock outcrops, caverns, mounds, and promontories and their bases), as well as resource-rich areas (e.g. migratory routes, spawning areas, scarce raw materials, etc.). Similarly, post-Contact archaeological sites are often found in association with many of these same environmental features, though they are also commonly connected with known areas of early Euro-Canadian settlement, early historical transportation routes (e.g. roads, trails, railways, etc.), and areas of early Euro-Canadian industry (i.e. the fur trade, logging and mining). For this reason, assessments of the potential of a particular parcel of land to contain post-Contact archaeological sites rely heavily on historical and archival research, including reviews of available land registry records, census returns and assessment rolls, historical maps, and aerial photographs. The locations of previously discovered archaeological sites can also be used to shed light on the chances that a particular location contains an archaeological record of past human activities.

Archaeological assessment standards established in the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011) specify which factors, at a minimum, must be considered when evaluating archaeological potential. Licensed consultant archaeologists are required to incorporate these factors into potential determinations and account for all features on the property that can indicate the potential for significant archaeological sites. If this evaluation indicates that any part of a subject property exhibits potential for archaeological resources, the completion of a Stage 2 archaeological assessment is commonly required prior to the issuance of approvals for activities that would involve soil disturbances or other alterations.

The *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011) also establish minimum distances from features of archaeological potential that must be identified as exhibiting potential for sites. For instance, this includes all lands within 300 metres of

primary and secondary water sources, past water sources (i.e. glacial lake shorelines), registered archaeological sites, areas of early Euro-Canadian settlement, or locations identified as potentially containing significant archaeological resources by local histories or informants. It also includes all lands within 100 metres of early historic transportation routes (e.g. roads, trails, and portage routes). Further, any portion of a property containing elevated topography, pockets of well-drained sandy soils, distinctive land formations, resource-rich/harvesting areas, and/or previously identified cultural heritage resources (i.e. built heritage properties and/or cultural heritage landscapes that may be associated with significant archaeological resources) must also be identified as exhibiting archaeological potential.

5.3 Analysis and Conclusions

The background research undertaken for this assessment indicates that all of the subject property exhibits potential for the presence of significant archaeological resources associated with pre-Contact settlement and/or land uses. Specifically:

- All of the study area lies within 300 metres of the Ottawa River (a major pre-Contact transportation corridor), which offered a source of potable water and food, making the entire area a suitable location for camps for pre-Contact hunter-gatherer populations;
- All of the study area lies within a delta land formation associated with the Champlain Sea's western shoreline, within proximity of former river scarps, which indicates potential for Paleo-Indian and Early Archaic Indigenous occupation in the region; and,
- Soils in the study area are well-drained sandy loam, of a type preferred for pre-Contact campsites.

The study area also exhibits characteristics that indicate potential for the presence of archaeological resources associated with post-Contact settlement and/or land uses. Specifically:

- All of the study area lies within 300 metres of the Ottawa River, a major post-Contact transportation corridor which continued to serve as a transportation corridor.

The evaluation of archaeological potential also included a review of available sources of information (i.e. high resolution aerial photographs and satellite imagery) to determine if part or all of the study area had been subject to deep and intensive soil disturbance (i.e. quarrying, road construction, major landscaping involving grading below topsoil, former building footprints, utility line and infrastructure development, etc.) in the recent past, as these activities would have severely damaged the integrity of or removed any archaeological resources that might have been present. Further, the review included an assessment of the property for additional factors that might limit archaeological potential

such as land with permanent water saturation, exposed bedrock or steep slope of greater than 20 degrees in elevation. As has been noted above, most of the property consists of dirt roads and maintained lawn adjacent to the extant water treatment structures (see Section 2.1). The construction of the present water treatment digesters in 1997 required deep and extensive below grade disturbance in the location of the smaller proposed construction location, with additional disturbance within the larger proposed construction location clearly evident in photographs taken at the time. Further, portions of the larger proposed construction location lie within the footprint or adjacent to a late twentieth century garage foundation which would have also deeply and extensively disturbed the soil stratigraphy. The site visit also found that the larger proposed construction location contained underground utilities associated with a lamp post and the building to the south of the study area, as well as a drainage ditch along the western edge, evidence of further deep disturbance (see Images 1 to 16).

Based on the historical sources and imagery reviewed, it has been determined that neither of the two proposed construction areas retain potential for either pre-Contact and or post-Contact archaeological resources. The extents of the disturbed areas were confirmed during the Stage 1 site inspection. The archaeological potential determination for the proposed work has been illustrated on Maps 9 to 11.

5.4 Stage 1 Recommendations

The results of the background research discussed above have indicated that all portions of the study area are significantly disturbed. Accordingly, it is recommended that:

- 1) There are no further archaeological concerns for the study area as illustrated on Map 2.
- 2) In the event that future planning results in the identification of additional areas of impact beyond the limits of the present study area, further Stage 1 archaeological assessment may be required. It should be noted that impacts requiring consideration include all aspects of proposed development causing soil disturbances, soil impacts, or other alterations, including temporary property needs (i.e. access roads, staging/lay down areas, associated works etc.).
- 3) Any future Stage 1 archaeological assessment should be undertaken by a licensed consultant archaeologist, in compliance with *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011).

The following recommendation has been included as per a request from the Algonquins of Ontario:

- 4) Since the potential always exists to miss important information in archaeological surveys, if any artifacts of Indigenous interest or human remains are encountered

during the development of the subject property, please contact: Algonquins of Ontario Consultation Office, 31 Riverside Drive, Suite 101, Pembroke, ON, K8A 8R6; Tel: 613-735-3759; Fax: 613-735-6307; Email: algonquins@tanakiwin.com.

The reader is also referred to Section 6.0 below to ensure compliance with relevant provincial legislation and regulations as may relate to this project

6.0 ADVICE ON COMPLIANCE WITH LEGISLATION

In order to ensure compliance with relevant Provincial legislation as it may relate to this project, the reader is advised of the following:

- 1) This report is submitted to the Ministry of Tourism, Culture and Sport 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 the Ministry of Tourism, Culture and Sport, 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.
- 2) 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 Archaeological Reports referred to in Section 65.1 of the *Ontario Heritage Act*.
- 3) 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*.
- 4) The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.
- 5) 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.

7.0 LIMITATIONS AND CLOSURE

Past Recovery Archaeological Services Inc. has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the archaeological profession currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied, is made.

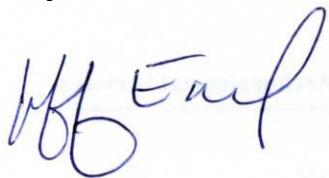
This report has been prepared for the specific site, design objective, developments and purpose prescribed in the client proposal and subsequent agreed upon changes to the contract. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the client in the design of the specific project.

Special risks occur whenever archaeological investigations are applied to identify subsurface conditions and even a comprehensive investigation, sample and testing program may fail to detect all or certain archaeological resources. The sampling strategies in this study comply with those identified in the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (2011).

The documentation related to this archaeological assessment will be curated by Past Recovery Archaeological Services Inc. until such a time that arrangements for their ultimate transfer to an approved and suitable repository can be made to the satisfaction of the project owner(s), the Ontario Ministry of Tourism, Culture and Sport and any other legitimate interest group.

We trust that this report meets your current needs. If you have any questions or if we may be of further assistance, please do not hesitate to contact the undersigned.



Jeff Earl, M.Soc.Sc.
Principal
Past Recovery Archaeological Services Inc.

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Topographic Map:

Map Sheet	Year	Original Scale
31F14	1936	1:63,000
31F14	1944	1:63,360

Survey and Mapping Branch, Department of Energy, Mines and Resources:

Topographic Map:

Map Sheet	Year	Original Scale
31F14	1975	1:50,000
31F14	1986	1:50,000

National Air Photo Library (NAPL):

Year	Roll#	Photo
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1994	A28053	041
1987	A27185	042

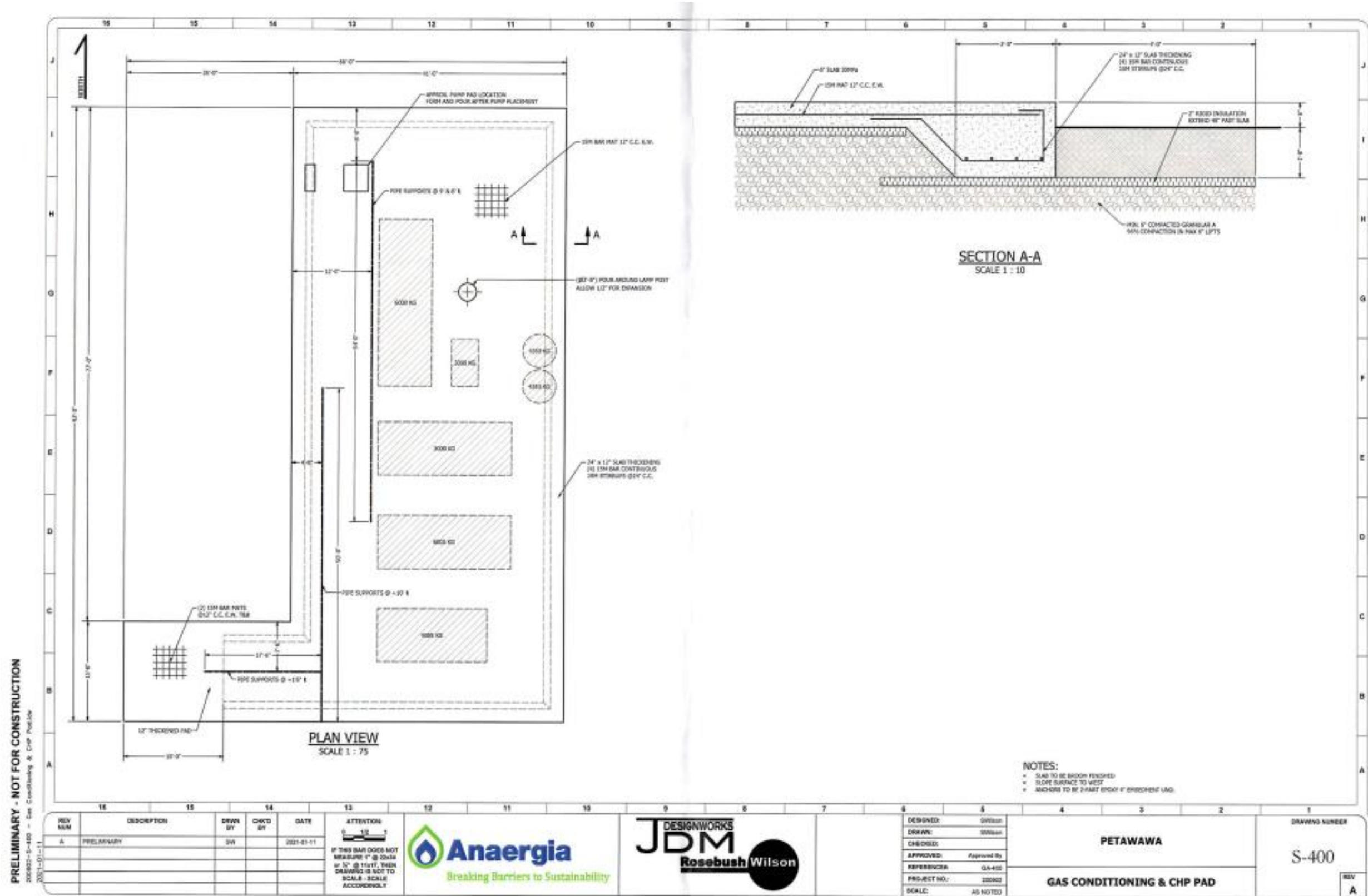
9.0 MAPS



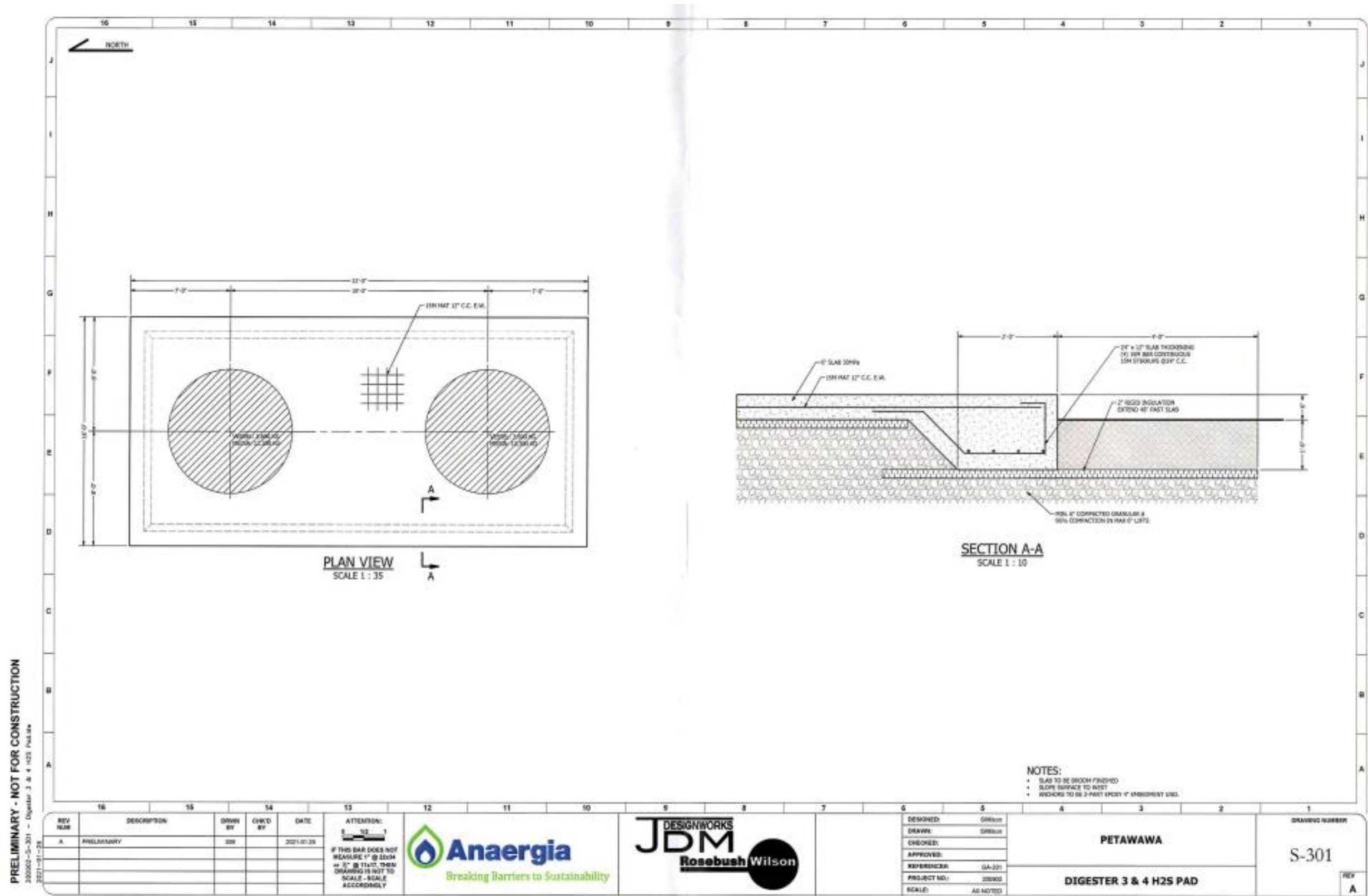
Map 1. Location of the study area.



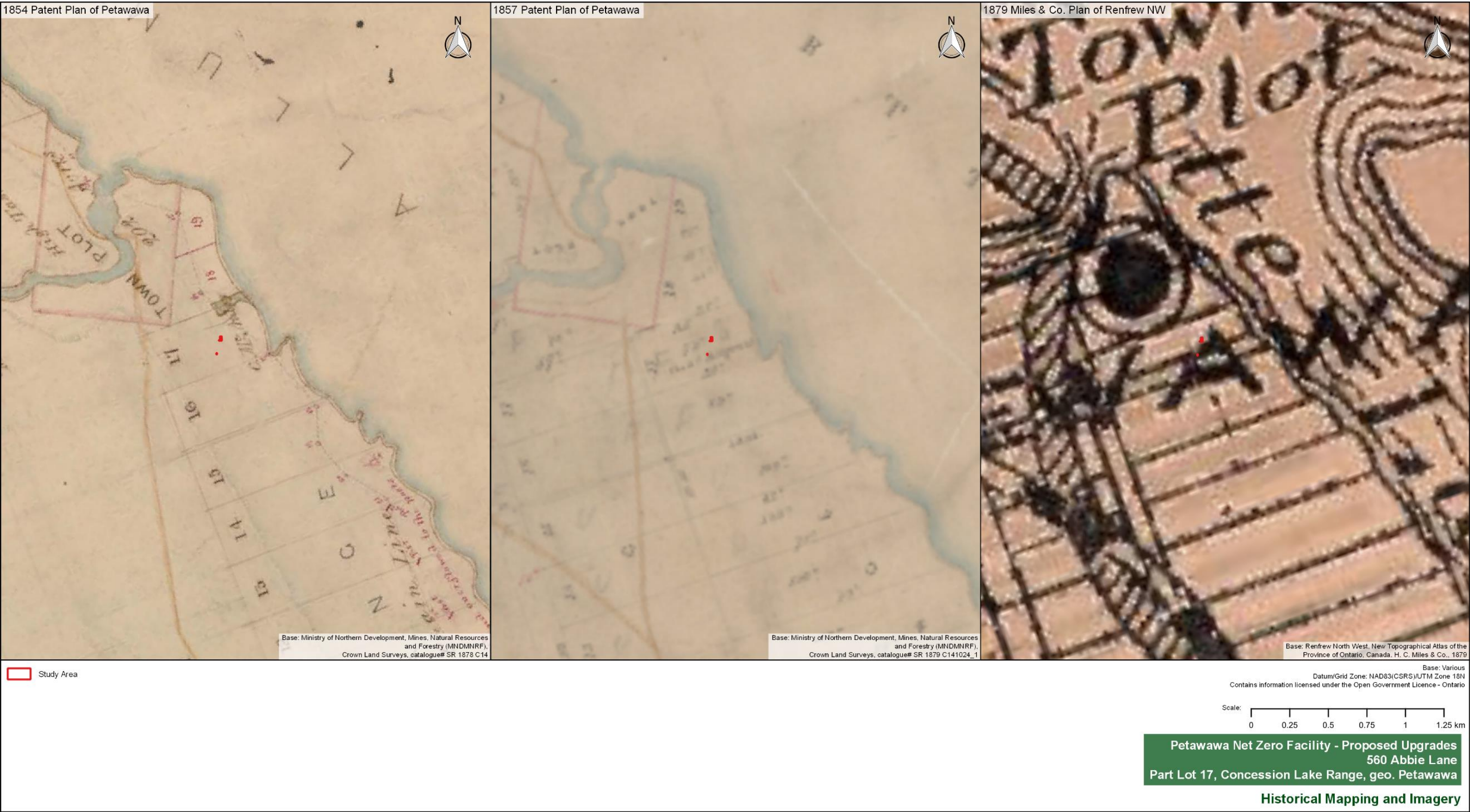
Map 2. Recent (2014) orthographic imagery showing the proposed construction locations.



Map 3. Plan sketch showing the larger proposed construction foot-print and cross-section. (Courtesy of David Unrau)



Map 4. Plan sketch showing the smaller proposed construction foot-print and cross-section. (Courtesy of David Unrau)



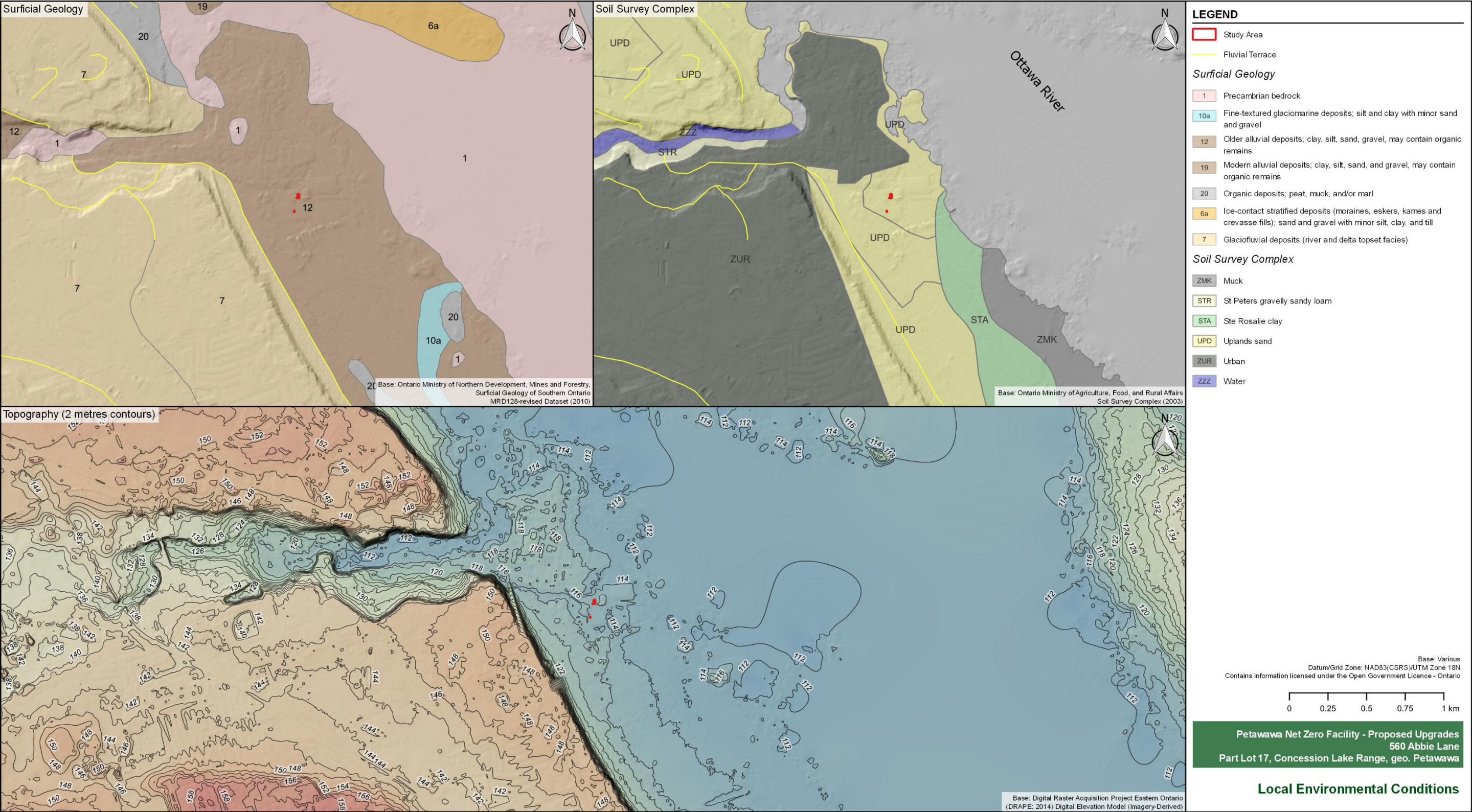
Map 5. Historical mapping showing the approximate proposed construction locations.



Map 6. Historical topographic mapping showing the proposed construction locations.



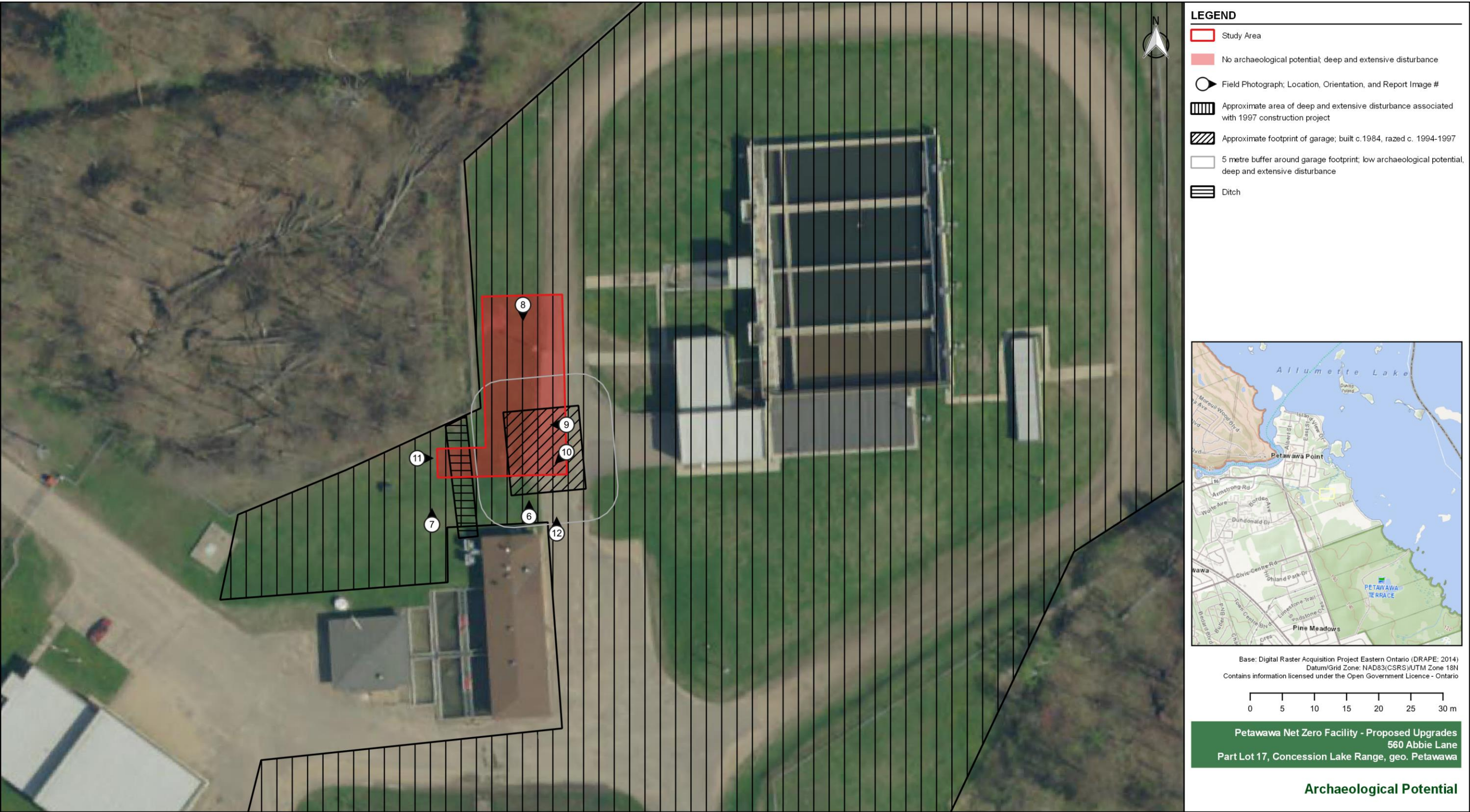
Map 7. Historical aerial photography showing the proposed construction locations.



Map 8. Environmental mapping showing the proposed construction locations.



Map 9. Recent (2014) orthographic imagery showing archaeological potential within the proposed construction locations.



Map 10. Recent (2014) orthographic imagery showing archaeological potential within the larger proposed construction location.



Map 11. Recent (2014) orthographic imagery showing archaeological potential within the smaller proposed construction location.

10.0 IMAGES



Image 1. Photograph showing deep and extensive disturbance caused by the 1997 expansion of the water treatment plant, facing south-southwest. (Photograph scanned and provided by David Unrau)



Image 2. Photograph showing deep and extensive disturbance caused by the 1997 expansion of the water treatment plant, facing northeast. (Photograph scanned and provided by David Unrau) Note large dirt piles in the background in the approximate location of the larger proposed construction location.



Image 3. Photograph showing deep and extensive disturbance caused by the 1997 expansion of the water treatment plant, facing northwest. (Photograph scanned and provided by David Unrau) Note large dirt piles in the background in the approximate location of the larger proposed construction location.



Image 4. Photograph showing deep and extensive disturbance caused by the 1997 expansion of the water treatment plant, facing south. (Photograph scanned and provided by David Unrau)



Image 5. Photograph showing deep and extensive disturbance caused by the 1997 expansion of the water treatment plant, facing northwest. (Photograph scanned and provided by David Unrau)



Image 6. View of the east side of larger proposed construction location, facing north. (PR22-049D001) Note the landscaped berm and utilities.



Image 7. View of an open drainage ditch bordering the larger proposed construction location to the west, facing north. (PR22-049D002)



Image 8. View of a lamp post and concrete base in the foreground with a blue test well and various underground lines emerging against the building exterior at the south end of the larger proposed construction location, facing south. (PR22-049D003)



Image 9. View of the test well in the foreground and the ditch in the background within the larger proposed construction location, facing west. (PR22-049D004)



Image 10. View of the north end of the building at the south end of the larger proposed construction location showing utility disturbance, facing southwest. (PR22-049D005)



Image 11. View of the open drainage ditch along the west side of the larger proposed construction location, facing east. (PR22-049D006)



Image 12. View of the east side of the larger proposed construction location bound by asphalt paving, facing north. (PR22-049D007)



Image 13. View of the smaller proposed construction location with a digester tank to the east, facing north. (PR22-049D008)



Image 14. View of the smaller proposed construction location, facing south. (PR22-049D009)



Image 15. View of the smaller proposed construction location showing a portable office situated on the site, facing southwest. (PR22-049D010)



Image 16. View of the smaller proposed construction location with a digester tank to the east and trailers to the west, facing south. (PR22-049D011)

APPENDIX 1: Photographic Catalogue

Camera: Samsung Galaxy S6

Catalogue No.	Description	Dir.
PR22-049D001	View of east side of larger study area	N
PR22-049D002	View of open drainage ditch bordering the larger study area to the west	N
PR22-049D003	View of lamp post and concrete base in foreground with blue test well and various underground lines emerging against the building exterior at the south end of the larger study area	S
PR22-049D004	View of test well in foreground with ditch in background of larger study area	W
PR22-049D005	View of the north end of the building at the south end of the larger study area	SW
PR22-049D006	View of open drainage ditch along the west side of the larger study area	E
PR22-049D007	View of the east side of the larger study area bound by asphalt paving	N
PR22-049D008	View of smaller study area with digester tank to the east	N
PR22-049D009	View of smaller study area	S
PR22-049D010	View of smaller study area showing ports cabin situated on the site	SW
PR22-049D011	View of smaller study area with digester tank to the east and trailers to the west	S

APPENDIX 2: Glossary of Archaeological Terms

Archaeology:

The study of human past, both prehistoric and historic, by excavation of cultural material.

Archaeological Sites:

The physical remains of any building, structure, cultural feature, object, human event or activity which, because of the passage of time, are on or below the surface of the land or water.

Archaic:

A term used by archaeologists to designate a distinctive cultural period dating between 8000 and 1000 B.C. in eastern North America. The period is divided into Early (8000 to 6000 B.C.), Middle (6000 to 2500 B.C.) and Late (2500 to 1000 B.C.). It is characterized by hunting, gathering and fishing.

Artifact:

An object manufactured, modified or used by humans.

B.P.:

Before Present. Often used for archaeological dates instead of B.C. or A.D. Present is taken to be 1951, the date from which radiocarbon assays are calculated.

Backdirt:

The soil excavated from an archaeological site. It is usually removed by shovel or trowel and then screened to ensure maximum recovery of artifacts.

Chert:

A type of silica rich stone often used for making chipped stone tools. A number of chert sources are known from southern Ontario. These sources include outcrops and nodules.

Contact Period:

The period of initial contact between Native and European populations. In Ontario, this generally corresponds to the seventeenth and eighteen centuries depending on the specific area. See also Protohistoric.

Cultural Resource / Heritage Resource:

Any resource (archaeological, historical, architectural, artifactual, archival) that pertains to the development of our cultural past.

Cultural Heritage Landscapes:

Cultural heritage landscapes are groups of features made by people. The arrangement of features illustrate noteworthy relationships between people and their surrounding environment. They can provide information necessary to preserve, interpret or reinforce the understanding of important historical settings and changes to past patterns of land use. Cultural landscapes include neighbourhoods, townscape and farmscapes.

Diagnostic:

An artifact, decorative technique or feature that is distinctive of a particular culture or time period.

Disturbed:

In an archaeological context, this term is used when the cultural deposit of a certain time period has been intruded upon by a later occupation.

Excavation:

The uncovering or extraction of cultural remains by digging.

Feature:

This term is used to designate modifications to the physical environment by human activity. Archaeological features include the remains of buildings or walls, storage pits, hearths, post moulds and artifact concentrations.

Flake:

A thin piece of stone (usually chert, chalcedony, etc.) detached during the manufacture of a chipped stone tool. A flake can also be modified into another artifact form such as a scraper.

Fluted:

A lanceolate shaped projectile point with a central channel extending from the base approximately one third of the way up the blade. One of the most diagnostic Palaeo-Indian artifacts.

Historic:

Period of written history. In Ontario, the historic period begins with European settlement.

Lithic:

Stone. Lithic artifacts would include projectile points, scrapers, ground stone adzes, gun flints, etc.

Lot:

The smallest provenience designation used to locate an artifact or feature.

Midden:

An archaeological term for a garbage dump.

Mitigation:

To reduce the severity of development impact on an archaeological or other heritage resource through preservation or excavation. The process for minimizing the adverse impacts of an undertaking on identified cultural heritage resources within an affected area of a development project.

Multicomponent:

An archaeological site which has seen repeated occupation over a period of time. Ideally, each occupation layer is separated by a sterile soil deposit that accumulated during a period when the site was not occupied. In other cases, later occupations will be directly on top of earlier ones or will even intrude upon them.

Operation:

The primary division of an archaeological site serving as part of the provenience system. The operation usually represents a culturally or geographically significant unit within the site area.

Palaeo-Indian:

The earliest human occupation of Ontario designated by archaeologists. The period dates between 9000 and 8000 B.C. and is characterized by small mobile groups of hunter-gatherers.

Prehistoric:

Before written history. In Ontario, this term is used for the period of Native occupation up until the first contact with European groups.

Profile:

The profile is the soil stratigraphy that shows up in the cross-section of an archaeological excavation. Profiles are important in understanding the relationship between different occupations of a site.

Projectile Point:

A point used to tip a projectile such as an arrow, spear or harpoon. Projectile points may be made of stone (either chipped or ground), bone, ivory, antler or metal.

Provenience:

Place of origin. In archaeology this refers to the location where an artifact or feature was found. This may be a general location or a very specific horizontal and vertical point.

Salvage:

To rescue an archaeological site or heritage resource from development impact through excavation or recording.

Stratigraphy:

The sequence of layers in an archaeological site. The stratigraphy usually includes natural soil deposits and cultural deposits.

Sub-operation:

A division of an operation unit in the provenience system.

Survey:

To examine the extent and nature of a potential site area. Survey may include surface examination of ploughed or eroded areas and sub-surface testing.

Test Pit:

A small pit, usually excavated by hand, used to determine the stratigraphy and presence of cultural material. Test pits are often used to survey a property and are usually spaced on a grid system.

Woodland:

The most recent major division in the prehistoric sequence of Ontario. The Woodland period dates from 1000 B.C. to A.D. 1550. The period is characterized by the introduction of ceramics and the beginning of agriculture in southern Ontario. The period is further divided into Early (1000 B.C. to A.D. 0), Middle (A.D. 0 to A.D. 900) and Late (A.D. 900 to A.D.1550).