

APPENDIX C

Stage 1 Archaeological Assessment

ARCHEOWORKS INC.

**Stage 1 Archaeological Assessment for the
Proposed Junction Street Wastewater Pumping Station
And Forcemain Upgrades
Within Part of Brant's Block, Lots 17-18, Broken Front Concession
Lots 17-18, Concession 3 South of Dundas Street
In the Geographic Township of Nelson
Former County of Halton
City of Burlington
Regional Municipality of Halton
Ontario**

**Project #: 145-HA1703-16
Licensee (#): Nimal Nithiyantham (P390)
PIF#: P390-0253-2016**

Revised Report

February 27th, 2018

Presented to:

B&V Water

50 Minthorn Blvd, Suite 501
Markham, Ontario
L3T 7X8
T: 905.370.1243

Prepared by:

Archeoworks Inc.

16715-12 Yonge Street, Suite 1029
Newmarket, Ontario
L3X 1X4
T: 416.676.5597
F: 647.436.1938

EXECUTIVE SUMMARY

The 2011 Sustainable Halton Water and Wastewater Master Plan identified the requirement for higher pumping capacity at the Junction Street Wastewater Pumping Station (WWPS) in the City of Burlington in order to adequately service growth to the year 2031. Accordingly, Halton Region initiated a Municipal Class Environmental Assessment (Class EA) Study that will consider a wide range of WWPS and collection system upgrade alternatives in order to select the most appropriate station design concept that meets Halton Region's latest design standards. The impact of the WWPS upgrade alternatives on social, cultural, economic and natural environments will be evaluated and assessed during the study.

To facilitate this study, *Archeoworks Inc.* was retained by *B&V Water* to conduct a Stage 1 Archaeological Assessment (AA), of the EA study area which is situated within part of Brant's Block, Lots 17-18, Broken Front Concession, and Lots 17-18, Concession 3 South of Dundas Street (SDS), in the Geographic Township of Nelson, former County of Halton, City of Burlington, Regional Municipality of Halton.

Stage 1 background research was completed for the EA study area, and an evaluation of archaeological potential, including field review was confined to the "construction area," which includes:

1. The Junction Street WWPS Site
 - a. The existing Junction Street WWPS site (to be upgraded)
2. The Junction Street Forcemain Alternatives
 - a. Alternative B: Along Smith Street
 - b. Alternative C: Along Martha Street
 - c. Alternative D: Along Pearl Street (via Lakeshore Road)
 - d. Alternative E: Along Pearl Street (via Old Lakeshore Road)
 - e. Alternative F: Along Torrance Street

The limits of the study area correspond to the limits of the Class EA. The limits of the Junction Street forcemain alternatives ("construction area") include the existing road right-of-way (ROW) as well as 10-metres on either end of the ROW.

Stage 1 AA background research identified elevated potential for the recovery of archaeologically significant materials within the study area based on the proximity (within 300 metres) of: a primary water source, historic settlements, historic transportation routes, and designated structures.

An on-site property inspection was conducted for the construction area, where extensive disturbances, and physiographic features with no or low archaeological potential were identified.

The remaining balance of the construction area was identified as retaining archaeological potential.

Considering the findings presented in this report, the following recommendations are presented:

1. As per *Section 1.3.2* and *1.4.2* of the *2011 S&G*, portions of the construction area exhibit disturbed conditions that have removed archaeological potential. These disturbed areas are recommended to be exempt from further Stage 2 AA.
2. As per *Section 2.1, Standard 2.a* of the *2011 S&G*, lands within the construction area that have been evaluated as having low to no archaeological potential are recommended to be exempt from further Stage 2 AA.
3. Upon selection of a preferred WWPS site design and forcemain alternative(s), all identified areas which retain archaeological potential within the WWPS site and forcemain alternative(s), must be subjected to a Stage 2 AA employing a shovel test pit archaeological survey at five-metre transects in accordance with *Section 2.1.2* of the *2011 S&G*.
4. Should there be any intrusive activity beyond the construction area limits, a comprehensive Stage 1 AA must be undertaken.

No construction activities shall take place within the study area prior to the *Ministry of Tourism, Culture, and Sport* (Archaeology Programs Unit) confirming in writing that all archaeological licensing and technical review requirements have been satisfied.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	I
TABLE OF CONTENTS	III
PROJECT PERSONNEL.....	IV
1.0 PROJECT CONTEXT	1
1.1 OBJECTIVE	1
1.2 DEVELOPMENT CONTEXT.....	1
1.3 HISTORICAL CONTEXT	2
1.4 ARCHAEOLOGICAL CONTEXT.....	14
1.5 CONFIRMATION OF ARCHAEOLOGICAL POTENTIAL	19
2.0 PROPERTY INSPECTION	20
3.0 ANALYSIS AND CONCLUSIONS.....	21
3.1 HISTORICAL IMAGERY	21
3.2 IDENTIFIED DEEP AND EXTENSIVE DISTURBANCES	21
3.3 PHYSIOGRAPHIC FEATURES OF NO OR LOW ARCHAEOLOGICAL POTENTIAL.....	22
3.4 IDENTIFIED AREAS OF ARCHAEOLOGICAL POTENTIAL	22
4.0 RECOMMENDATIONS.....	23
5.0 ADVICE ON COMPLIANCE WITH LEGISLATION.....	24
6.0 BIBLIOGRAPHY AND SOURCES.....	25
APPENDICES	32
APPENDIX A: MAPS.....	33
APPENDIX B: SUMMARY OF BACKGROUND RESEARCH.....	55
APPENDIX C: IMAGES.....	56
APPENDIX D: INVENTORY OF DOCUMENTARY AND MATERIAL RECORD.....	60
LIST OF TABLES	
TABLE 1: HISTORIC STRUCTURES WITHIN THE STUDY AREA IN THE 1806 PLAN OF THE THIRD TOWNSHIP OF NELSON...	12
TABLE 2: HISTORIC STRUCTURES WITHIN THE STUDY AREA IN THE 1858 TREMAINE’S MAP OF THE COUNTY OF HALTON	13
TABLE 3: HISTORIC STRUCTURES WITHIN THE STUDY AREA IN THE 1877 ILLUSTRATED HISTORICAL ATLAS OF THE COUNTY OF HALTON.....	13
TABLE 4: HERITAGE PROPERTIES WITHIN THE STUDY AREA	14
TABLE 5: HERITAGE PROPERTIES WITHIN 300 METRES OF THE STUDY AREA.....	15
TABLE 6: REGISTERED ARCHAEOLOGICAL SITES WITHIN ONE KILOMETRE OF THE STUDY AREA.....	17

PROJECT PERSONNEL

Project Director Nimal Nithiyanantham – MTCS licence P390

Field Director..... Nimal Nithiyanantham – MTCS licence P390

Report Preparation Nimal Nithiyanantham – MTCS licence P390

Report Review.....Kim Slocki – MTCS licence P029
Lee Templeton – MTCS licence R454

Historical Research.....Lee Templeton – MTCS licence R454

GraphicsLee Templeton – MTCS licence R454
Michael Lawson

1.0 PROJECT CONTEXT

1.1 Objective

The objectives of a Stage 1 Archaeological Assessment (AA), as outlined by the 2011 *Standards and Guidelines for Consultant Archaeologists* ('2011 S&G') published by the *Ministry of Tourism, Culture, and Sport (MTCS)* (2011), are as follows:

- To provide information about the property's geography, history, previous archaeological fieldwork and current land condition;
- To evaluate in detail the property's archaeological potential, which will support recommendations for Stage 2 survey for all or parts of the property; and
- To recommend appropriate strategies for Stage 2 survey.

1.2 Development Context

The 2011 Sustainable Halton Water and Wastewater Master Plan identified the requirement for higher pumping capacity at the Junction Street Wastewater Pumping Station (WWPS) in the City of Burlington in order to adequately service growth to the year 2031. Accordingly, Halton Region initiated a Municipal Class Environmental Assessment (Class EA) Study that will consider a wide range of WWPS and collection system upgrade alternatives in order to select the most appropriate station design concept that meets Halton Region's latest design standards. The impact of the WWPS upgrade alternatives on social, cultural, economic and natural environments will be evaluated and assessed during the study.

To facilitate this study, *Archeoworks Inc.* was retained by *B&V Water* to conduct a Stage 1 AA, of the EA study area which is situated within part of Brant's Block, Lots 17-18, Broken Front Concession, and Lots 17-18, Concession 3 South of Dundas Street (SDS), in the Geographic Township of Nelson, former County of Halton, City of Burlington, Regional Municipality of Halton (*see Appendix A – Map 1*).

Stage 1 AA background research will be completed for the EA study area, and an evaluation of archaeological potential, including field review will be confined to the "construction area", which includes (*see Maps 2-7*):

1. **The Junction Street WWPS Site**
 - a. The existing Junction Street WWPS site (to be upgraded)
2. **The Junction Street Forcemain Alternatives**
 - a. Alternative B: Along Smith Street
 - b. Alternative C: Along Martha Street
 - c. Alternative D: Along Pearl Street (via Lakeshore Road)

- d. Alternative E: Along Pearl Street (via Old Lakeshore Road)
- e. Alternative F: Along Torrance Street

The limits of the study area correspond to the limits of the Class EA. The limits of the Junction Street forcemain alternatives (“construction area”) include the existing road right-of-way (ROW) as well as 10-metres on either end of the ROW.

This study is being conducted in compliance with the planning and design process for Schedule ‘B’ projects as outlined in the Municipal Engineers Association Municipal Class EA document (October 2000, as amended in 2007 & 2011), which is approved under the Ontario EA Act. The City of Burlington does not have an Archaeological Master Plan. This Stage 1 AA was conducted under the project direction of Mr. Nimal Nithiyanantham, under the archaeological consultant licence number P390, in accordance with the *Ontario Heritage Act* (2009). Permission to investigate the study area was granted by B&V Water on September 12th, 2016.

1.3 Historical Context

To establish the historical context and archaeological potential of the study area, *Archeoworks Inc.* conducted a comprehensive review of Aboriginal and Euro-Canadian settlement history, and a review of available historic mapping.

The results of this background research are documented below and summarized in **Appendix B – Summary of Background Research**.

1.3.1 Pre-Contact Period

1.3.1.1 The Paleoindian Period (ca. 11,000 to 7,500 B.C.)

The region in which the study area is situated was first inhabited after the final retreat of the North American Laurentide ice sheet 15,000 years ago (or 13,000 B.C.) (Stewart, 2013, p.24). Initial vegetation of most of Southern Ontario was tundra-like. As the average climatic temperature began to warm, small groups of Paleoindians entered Ontario (Karrow and Warner, 1990, p.22; Stewart, 2013, p.28). Generally, Paleoindians are thought to have been small groups of nomadic hunter-gatherers who depended on naturally available foodstuffs such as game or wild plants (Ellis and Deller, 1990, p.38). For much of the year, Paleoindians “hunted in small family groups; these would periodically gather into larger groupings or bands during a favourable period in their hunting cycle, such as the annual caribou migration” (Wright, 1994, p.25).

Paleoindian sites are extraordinarily rare and consist of “stone tools clustered in an area of less than 200-300 metres” (Ellis, 2013, p.35). These sites appear to have been campsites used during travel episodes and can be found on well-drained soils in elevated situations, which would have provided a more comfortable location in which to camp and view the surrounding territory (Ellis and Deller, 1990, p.50). Traditionally, Paleoindian sites have been located primarily along abandoned glacial lake strandlines or beaches. However, this view is biased as these are the only

areas in which archaeologists have searched for sites due to the current understanding of the region's geological history (Ellis and Deller, 1990, p.50; Ellis, 2013, p.37). Where attention has been paid to non-strandline areas and to older strandlines, sites are much less concentrated and more ephemeral (Ellis and Deller, 1990, p.51).

Artifact assemblages from this period are characterized by fluted and lanceolate stone points, scrapers, and small projectile points produced from specific chert types (Ellis and Deller, 1990). Distinctive dart heads were used to kill game, and knives were used for butchering and other tasks (Wright, 1994, p.24). These items were created and transported over great distances while following migratory animals within a massive territory.

1.3.1.2 The Archaic Period (ca. 7,800 to 500 B.C.)

As the climate continued to warm and the post-glacial environment began to normalize, deciduous trees slowly began to permeate throughout Ontario, creating mixed deciduous and coniferous forests (Karrow and Warner, 1990, p.30). The "Archaic peoples are the direct descendants of Paleoindian ancestors" having adapted to meet new environmental and social conditions (Ellis, 2013, p.41; Wright, 1994, p.25). The Archaic period is divided chronologically, and cultural groups are divided geographically and sequentially. Archaic Aboriginals lived in "hunter-gatherer bands whose social and economic organization was probably characterized by openness and flexibility" (Ellis et al., 1990, p.123). This fluidity creates 'traditions' and 'phases' which encompass large groups of Archaic Aboriginals (Ellis et al., 1990, p.123).

Few Archaic sites have faunal and floral preservation; hence lithic scatters are often the most commonly encountered Archaic Aboriginal site type (Ellis et al., 1990, p.123). House structures have "left no trace" due to the high acidic content of Ontario soils (Wright, 1994, p.27). Burial/grave goods and ritual items appear, although very rarely. By the Late Archaic, multiple individuals were interred together suggesting semi-permanent communities were in existence (Ellis, 2013, p.46). Ceremonial and decorative items also appear on Archaic Aboriginal sites through widespread trade networks, such as conch shells from the Atlantic coast and galena from New York (Ellis, 2013, p.41). Through trade with the northern Archaic Aboriginals situated around Lake Superior, native copper was initially utilized to make hooks and knives but gradually became used for decorative and ritual items (Ellis, 2013, p.42).

During the Archaic period, stone points were reformed from fluted and lanceolate points to stone points with notched bases to be attached to a wooden shaft (Ellis, 2013, p.41). The artifact assemblages from this period are characterized by a reliance on a wide range of raw lithic materials in order to make stone artifacts, the presence of stone tools shaped by grinding and polishing, and an increase in the use of polished stone axes and adzes as wood-working tools (Ellis et al., 1990, p.65; Wright, 1994, p.26). Ground-stone tools were also produced from hard stones and reformed into tools and throwing weapons (Ellis, 2013, p.41). The bow and arrow was first used during the Archaic period (Ellis, 2013, p.42).

1.3.1.3 The Early Woodland Period (ca. 800 to 0 B.C.)

Early Woodland cultures evolved out of the Late Archaic period (Ferris and Spence, 1995, p.89; Spence et al., 1990, p.168). The Early Woodland period is divided into two complexes: the Meadowood complex and the Middlesex complex. The Middlesex complex appears to be restricted to Eastern Ontario, particularly along the St. Lawrence River, while Meadowood materials depict a broad extent of occupation in southwestern Ontario (Spence et al., 1990, p.134, 141). The distinguishing characteristic of the Early Woodland period is the introduction of pottery (ceramics). The earliest forms were coil-formed, “thick, friable and often under fired, and must have been only limited to utility usage” (Ferris and Spence, 1995, p.89; Williamson, 2013, p.48).

Cache Blades, a formal chipped stone technology, and side-notched Meadowood points, were commonly employed tools that were often recycled into many other tool forms such as end scrapers (Spence et al., 1990, p.128; Ferris and Spence, 1995, p.93). These tools were primarily formed from Onondaga chert (Spence et al., 1990, p.128). Meadowood sites have produced a distinctive material culture that functioned in both domestic and ritual spheres (Ferris and Spence, 1995, p.90; Spence et al., 1990, p.128). This allows correlations to be made between habitations and mortuary sites, creating a well-rounded view of Meadowood culture (Ferris and Spence, 1995, p.90; Spence et al., 1990, p.128). However, their settlement-subsistence system is poorly understood as only a “few settlement types have been adequately investigated, and not all of these are from the same physiographic regions” (Ferris and Spence, 1995, p.93; Spence et al., 1990, p.136). Generally, Meadowood sites are in association with the Point Peninsula and Saugeen complexes which “then eventually changed or were absorbed into the Point Peninsula complex” (Wright, 1994, pp.29-30).

1.3.1.4 The Middle Woodland Period (ca. 200 B.C. to A.D. 900)

During the Middle Woodland period, three primary cultural complexes developed in Southern Ontario. The Point Peninsula complex was “distributed throughout south-central and eastern Southern Ontario, the southern margins of the Canadian Shield, the St. Lawrence River down river to Quebec City, most of southeastern Quebec, along the Richelieu River into Lake Champlain” (Spence et al., 1990, p.157; Wright, 1999, p.633). The Saugeen complex occupied “southwestern Southern Ontario from the Bruce Peninsula on Georgian Bay to the north shore of Lake Erie to the west of Toronto” (Wright, 1999, p.629; Wright, 1994, p.30). The Couture complex was located in the southwestern-most part of Ontario (Spence et al., 1990, p.143).

The Saugeen and Point Peninsula cultures appear to have shared Southern Ontario but the borders between these three cultural complexes are not well defined, and many academics believe that the Niagara Escarpment formed a frontier between the Saugeen complex and the Point Peninsula complex (Spence et al., 1990, p.143; Wright, 1999, p.629; Ferris and Spence, 1995, p.98). Consequently, the dynamics of hunter-gatherer societies shifted territorial boundaries resulting in regional clusters throughout southwestern Southern Ontario that have been variously assigned to Saugeen, Point Peninsula, or independent complexes (Spence et al., 1990, p.148; Wright, 1999, p.649).

Middle Woodland pottery share a preference for stamped, scallop-edged or tooth-like decoration, but each cultural complex had distinct pottery forms (such as globular pots), finishes, and zones of decoration (Williamson, 2013, p.49; Ferris and Spence, 1995, p.97; Spence et al., 1990, p.143). Major changes in settlement-subsistence systems occurred during the Middle Woodland period, particularly the introduction of large 'house' structures and substantial middens associated with these structures (Spence et al., 1990, p.167; Ferris and Spence, 1995, p.99). The larger sites likely indicate a prolonged period of macroband settlement and a more consistent return to the same site, rather than an increase in band size (Spence et al., 1990, p.168). Environmental constraints in different parts of Southern Ontario all produced a common implication of increased sedentism caused by the intensified exploitation of local resources (Ferris and Spence, 1995, p.100). Burial offerings became more ornate and encompassed many material mediums, including antlers, whetstones, copper, and pan pipes (Ferris and Spence, 1995, p.99). Burial sites during this time were set away from occupation sites and remains were interred at time of death; secondary burials were not common (Ferris and Spence, 1995, p.101). Small numbers of burial mounds are present and both exotic and utilitarian items were left as grave goods (Williamson, 2013, p.51; Ferris and Spence, 1995, p.102).

1.3.1.5 The Late Woodland Period (ca. A.D. 900 to 1600)

At the onset of the Late Woodland Period, the transitional Princess Point complex arrived in Ontario. Sites attributed to the Princess Point complex exhibit few continuities from earlier developments. These sites appear to have arisen suddenly and suggest a well-developed state with no apparent predecessors. It is hypothesized that this complex migrated into Ontario, possibly from the southwest. The material culture includes 'Princess Point Ware' vessels that are collarless, with everted rims and semi-conical bases. Decorations include horizontal lines with an encircling row of circular exterior punctates. Smoking pipes and ground stone tools are rare. Triangular arrow points predominate the lithic assemblage, where some exhibit weakly notched bases. Subsistence patterns include the hunting of deer, bear, squirrels and fish, with the gathering of berries. Corn horticulture has been attributed to the Princess Point complex. Little is known about the settlement patterns, but it has been suggested that they followed a pattern of warm season macroband and cold season microband dispersal (Fox, 1990, pp.174-179).

During the Late Woodland Period, multiple sub-stages, and complexes have been assigned, which are divided spatially and chronologically (Fox, 1990; Williamson, 1990; Dodd et al., 1990; Warrick, 2000). Although several migration theories have been suggested explaining the Ontario Iroquoian origins, an "available date from Southern Ontario strongly suggests continuity (*in situ*) from the Middle-Late Woodland Transitional Princess Point complex and Late Woodland cultural groups" (Ferris and Spence, 1995, p.105; Smith, 1990, p.283).

1.3.1.6 The Early Ontario Iroquois Stage (ca. A.D. 900 to 1300)

Two primary cultural groups in Southern Ontario have been assigned to the Early Ontario Iroquois Period. The Glen Meyer cultural group was located primarily in southwestern Ontario, and their territory "encompassed a portion of southwestern Ontario extending from Long Point on the north shore of Lake Erie to the southeastern shore of Lake Huron" (Williamson, 1990, p.304). The Pickering cultural group is "thought to be much larger encompassing all of the region north of

Lake Ontario to Georgian Bay and Lake Nipissing” (Williamson, 1990, p.304). Regional clusters of these groups appear within riverine or lacustrine environments with a preference for sandy soils.

The material culture of Early Iroquois consisted of well-made and thin-walled clay vessels that were more globular in shape with rounded bottoms. These vessels were produced by modelling rather than coil-forming. Decorative stamping, incising, and punctation along the exterior and interior rim region of the vessels were favoured. Material cultural remains also included crudely made smoking pipes, gaming discs, triangular-shaped concave projectile chert points, and worked bone and antlers. House structures gradually became larger, longer, and wider, but variations depended on settlement type and season of occupation. Subsistence patterns indicate a quick adoption of a greater variety of harvest products. Burial practices during this period saw an evolution to ossuary burials; however burial patterns are still not well understood (Williamson, 1990, pp.304-311).

1.3.1.7 The Middle Ontario Iroquois Stage (ca. A.D. 1300 to 1400)

The Middle Ontario Iroquois began “with the fusion of [Glen Meyer and Pickering] caused by the conquest and absorption of Glen Meyer by Pickering” (Dodd et al., 1990, p.321). This fusion resulted in two cultural horizons located throughout most of Southern Ontario and lasting approximately 100 years. Within these 100 years, two cultural groups were present and divided chronologically into two 50-year timespans: the Uren sub-stage (A.D. 1300-1350) and the Middleport sub-stage (A.D. 1350-1400). The chronology of this stage has been contested and reflects a probable overlap with earlier stages. It is theorized that the Uren sub-stage represents a fusion of Glen Meyer and Pickering branches of the Early Ontario Iroquois while the Middleport sub-stage gave rise to the Huron, Petun, and Neutral groups of the Late Ontario Iroquois stage (Dodd et al., 1990, pp.321, 356).

Uren sites are distributed throughout much of southwestern and southcentral Ontario, and generally coincide with Early Ontario Iroquoian Stage sites. Middleport sites generally correlate with Uren sites, representing a continuation of local cultural sequences. The material culture of the Uren sub-stage includes rolled rim clay vessels with horizontal indentation on the exterior of the vessel; pipes that gradually improve in structure; gaming discs; and projectile points that favour triangular points. The material culture of Middleport sub-stage includes collared vessels decorated with oblique and horizontal indentation; a well-developed clay pipe complex that includes effigy pipes; and a marked increase in notched projectile points (Dodd et al., 1990, pp. 330-342).

Settlement patterns of the Uren sub-stage reflect a preference for sand plains and do not appear to have had defensive palisades surrounding clusters of small longhouses. Subsistence patterns indicate an increasing reliance on corn cultivation, suggesting villages were occupied in the winter and campsites were occupied during the spring to fall. Settlement patterns of the Middleport sub-stage reflect a preference for drumlinized till plains. Small villages are present where palisades first appear, and longhouses are larger than those found in the Uren sub-stage. Subsistence patterns reflect an increasing reliance on corn and beans with intensive exploitation

of locally available land and water species. Burial patterns graduate to ossuaries by the Middleport sub-stage (Dodd et al., 1990, pp.342-356).

1.3.1.8 The Late Ontario Iroquois Stage (ca. A.D. 1400 to 1600)

During the Late Ontario Iroquoian Stage, the Iroquoian-speaking linguistic and cultural groups developed. Prior to European Contact, neighbouring Iroquois-speaking communities united to form several confederacies known as the Huron (Huron-Wendat or Wyandot), Neutral (called Attiawandaron by the Huron-Wendat), Petun (Tionnontaté or Khionontateronon) in Ontario, and the Five Nations (later Six Nations) of the Iroquois (Haudenosaunee) of upper New York State (Birch, 2010, p.31; Warrick, 2013, p.71). These groups are located primarily in south and central Ontario. Each group was distinct but shared a similar pattern of life already established by the 16th century (Trigger, 1994, p.42).

The geographic distribution of pre-contact Ontario Iroquoian sites describes two major groups east and west of the Niagara Escarpment: the ancestral Neutral Natives to the west, and the ancestral Huron-Wendat to the east. The western boundary of the Huron-Wendat territory is often contested, where a number of sites between the Niagara Escarpment and the Humber River were occupied by a mixed Neutral-Huron-Wendat population. It has been theorized that the Credit River valley may have functioned as a boundary marker between ancestral Neutral Natives and ancestral Huron-Wendat peoples. It remains unclear if this area was home to frontier Neutral Natives communities or primarily Huron-Wendat that had experienced profound cultural change as a result of exchange and intermarriage with neighbouring Neutral Natives people (Warrick, 2000, p.446; Warrick, 2008, p.15).

Ancestral Huron-Wendat villages have been located as far east as the Trent River watershed, where “concentrations of sites occur in the areas of the Humber River valley, the Rouge and Duffin Creek valleys, the lower Trent valley, Lake Scugog, the upper Trent River and Simcoe County” (Ramsden, 1990, p.363). Ancestral Neutral Natives sites are found clustered around the western end of Lake Ontario and eastward across the Niagara Peninsula, “but are also distributed over a much larger area to the west” (Lennox and Fitzgerald, 1990, p.437). These sites “suggest a migration of peoples from the west into Historic Neutralia” or the Niagara Peninsula (Lennox and Fitzgerald, 1990, p.437). The movement into the Niagara Peninsula before European Contact was likely a consequence of creating a buffer between the ancestral Neutral Natives and the Algonquin-speaking Western Basin Tradition of the Toledo-Detroit-Chatham area (Lennox and Fitzgerald, 1990, p.438). These two groups became increasingly hostile towards one another as evidenced by the presence of fortified villages that pre-date European contact (Lennox and Fitzgerald, 1990, p.438). By European contact, the ancestral Neutral Natives had dispersed the Western Basin Tradition.

Ancestral Neutral Natives settlement patterns consist of a varying range of settlement types. Of those settlements which were occupied year-round, five acre sites are categorized as a town, one to five acres sites are villages, one acre sites are hamlets and smaller settlements of one to two houses are referred to as agricultural cabin sites. Furthermore, isolated, small fishing and hunting camps are also present. Village clusters are generally found on sandy loam soils of high

agricultural capability and “are rarely found along the banks of major rivers or lakeshores, except for smaller, seasonal hunting and fishing camps. Instead, larger settlements tend to be located along smaller creeks, at headwater springs and around marshlands” (Lennox and Fitzgerald, 1990, p.440). Later villages are enclosed within some form of a palisade and longhouses are of varying configurations covered in bark (Lennox and Fitzgerald, 1990, pp.439-441).

The Neutral Natives subsistence patterns reflect a diet dependent on a combination of hunting, farming, fishing, and gathering as their territory provided a diverse and rich array of subsistence resources. The Neutral Natives lived in an area particularly rich in game and appear to have depended more upon hunting than the Huron-Wendat. The interior lands occupied by the Neutral Natives contained rapidly running streams, large rivers, and portage routes. A significant trail beginning at Lake Simcoe, following the Nottawasaga River to the Pine River to the source of the Irvine River into the Grand River, and into the banks of Lake Erie, formed a native portage route favoured for travel and trade between Huron-Wendat and Neutral Natives territorial lands (Lennox and Fitzgerald, 1990, p.450; Trigger, 1994, p.43; Bricker, 1934, p.58).

1.3.2 Contact Period (ca. A.D. 1600 to 1650)

At the time of European Contact, the area “south of Lake Simcoe and along the north shore of Lake Ontario remained a no-man’s land, with no permanent settlements and traversed only by raiding parties from the north or from the south” (Robinson, 1965, p.11). The Huron-Wendat villages were located north of Lake Simcoe, but their territorial hunting grounds stretched roughly between the Canadian Shield, Lake Ontario and the Niagara Escarpment (Warrick, 2008, p.12). The Neutral Native villages were clustered in the Niagara Peninsula, but their territorial hunting grounds stretched from the “Niagara River on the east, Lake Erie on the south, Lake St. Clair on the west, and a hazy Huron-Wendat-Neutral frontier on the north” (Hunt, 1940, p.50; White, 1978, p.407). The Credit River valley may have continued to form a frontier boundary between both groups homelands (Warrick, 2008, p.15). The Haudenosaunee were primarily located south of Lake Ontario but hunted in the lands north of Lake Ontario.

There are limited historical records documenting European contact with the Neutral Native territory. The Huron-Wendat and Haudenosaunee called those within the territory of the Niagara Peninsula the Attiewandaron Nation (also spelled Attiwondaronks and Atiquandaronk). Samuel de Champlain first referred to the Attiewandaron as *la Nation neutre* due to their apparent neutrality during the Iroquoian conflicts (Brown, 2009, p.26; Warrick, 2008, p.80; Jury, 1974, p.4).

By 1640, both Récollet (or Recollect) missionaries and Jesuit missionaries had traveled to the Attiewandaron territory in an attempt to instruct them in the principals of Christian religion. Additionally, no direct trade relationship was ever formed between the French and Attiewandaron. This allowed the Huron-Wendat to continue to act as middle-men in trading partnerships. Famine also affected the Attiewandaron and had become so severe by 1639 that many Attiewandaron fled to neighbouring tribes pale and disfigured (Jury, 1974, p.4; White, 1978, p.407; Brown, 2009, p.27).

By 1645, having grown dependent on European goods and with their territory no longer yielding enough animal pelts, the Haudenosaunee became increasingly aggressive towards the Huron-Wendat Confederacy (Trigger, 1994, p.53). Armed with Dutch guns and ammunition, the Haudenosaunee engaged in warfare with the Huron-Wendat Confederacy and brutally attacked and destroyed several Huron-Wendat villages throughout Southern Ontario (Trigger, 1994, p.53). After the massacres of 1649-50, the small groups that remained of the Huron-Wendat Confederacy became widely dispersed throughout the Great Lakes region, ultimately resettling in Quebec (Schmalz, 1991, p.17). Many Huron-Wendat groups sought refuge and protection within the Attiawandaron, until the Haudenosaunee attacked in the 1650s (Warrick, 2008, p.208; Trigger, 1994, p.56). Many were captured and incorporated into the Haudenosaunee, or sought refuge within other tribes (Trigger, 1994, 57; Lennox and Fitzgerald, 1990, p.410). The last mention of the Attiawandaron in French writing was in 1671 (Noble, 2012). After the massacres of 1649-50, and “for the next forty years, the Haudenosaunee used present-day Ontario to secure furs with the Dutch, then with the English” (Smith, 2013, p.19; Schmalz, 1991, p.17; Coyne, 1895, p.20).

1.3.3 Post Contact Period (ca. A.D. 1650 – 1800)

Although their homeland was located south of the lower Great Lakes, the Haudenosaunee controlled most of Southern Ontario after the 1660s, occupying at “least half a dozen villages along the north shore of Lake Ontario and into the interior” (Schmalz, 1991, p.17; Williamson, 2013, p.60). The Haudenosaunee established “settlements at strategic locations along the trade routes inland from the north shore of Lake Ontario. Their settlements were on canoe-and-portage routes that linked Lake Ontario to Georgian Bay and the upper Great Lakes” (Williamson, 2013, p.60). The Haudenosaunee, particularly the Seneca, had established a number of villages including one at the mouth of the Rouge River, one at a bend near the mouth of the Humber River, and along the Niagara River (Robinson, 1965, pp.15-16; Schmalz, 1991, p.29).

As a consequence of the French being allies of the Huron-Wendat, the Haudenosaunee made it difficult for French explorers and missionaries to utilize the St. Lawrence River and to travel within their territory north of Lake Ontario (Lajeunesse, 1960, p.xxix). One such French explorer and trader was René-Robert Cavelier de La Salle who arrived in Seneca territory from Montreal with dreams of finding the Ohio River. After some time in Seneca territory, an Iroquoian guide on his way to his village offered to assist La Salle to Ohio. However, while at the far end of Burlington Bay, La Salle was struck with a fever and returned to Montreal. La Salle would go on to claim discovery of the Mississippi River (Dupré, 2015). A park, LaSalle Park and Pavilion, located west of the subject area, was named after René-Robert Cavelier de La Salle after it was determined to be the location of his stopover in Burlington (Ontario Heritage Trust, 2012).

Several Algonquin-speaking linguistic and cultural groups within the Anishinaabeg (or Anishinaabe) began to challenge the Haudenosaunee dominance in the region (Johnston, 2004, pp.9-10; Gibson, 2006, p.36). Before contact with the Europeans, the Ojibwa territorial homeland was situated inland from the north shore of Lake Huron (MNCFN, ND, p.3). The English referred to those Algonquin-speaking linguistic and cultural groups that settled in the area bounded by Lakes Ontario, Erie, and Huron as Chippewas or Ojibwas (Smith, 2002, p.107). In 1640, the Jesuit

fathers had recorded the name “*oumisagai*, or Mississaugas, as the name of an Algonquin group near the Mississagi River on the northwestern shore of Lake Huron. The French, and later English, applied this same designation to all Algonquian [-speaking groups] settling on the north shore of Lake Ontario” (Smith, 2002, p. 107; Smith, 2013, pp.19-20). “The term ‘Mississauga’ perplexed the Algonquins, or Ojibwas, on the north shore of Lake Ontario, who knew themselves as the Anishinaabeg” (Smith, 2013, p.20).

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

In 1701, representatives of several groups within the Anishinaabeg and the Haudenosaunee, collectively known as the First Nations, assembled in Montreal to participate in Great Peace negotiations, sponsored by the French (Johnston, 2004, p.10; Trigger, 2004, p.58). The Mississaugas were granted possession of the territory along and extending northward of Lake Ontario and Lake Erie (Hathaway, 1930, p.433). The Credit River, known to the Mississauga as the Missinnihe, translated to “trusting creek,” became the favoured location of European traders who would trade with the Mississauga and provide them with ‘credit’ for the following year (Smith, 2013, p.21). The Mississauga who settled along the west shore of Lake Ontario became known as the Credit River Indians (Smith, 2013, p.21). Rambo Creek was originally called Lamabinicon by the Mississauga (Burlington Historical Society, 2017a). Subsistence patterns include a primary focus on hunting, fishing and gathering with little emphasis on agriculture (McMillian and Yellowhorn, 2004, p.110). Temporary and moveable house structures were utilized which were easy to construct and disassemble, allowing swift travel throughout their territory (McMillian and Yellowhorn, 2004, p.111). Consequently, little archaeological material was left behind.

The Seven Years War brought warfare between the French and British in North America. In 1763, the Royal Proclamation declared the Seven Years War over, giving the British control of New France. The British did not earn the respect of the Anishinaabeg, as the British did not honour fair trade nor the Anishinaabeg occupancy of the land as the French had. Consequently, the Pontiac Uprising, also known as the Beaver Wars, began that same year (Schmalz, 1991, p.70; Johnston, 2004, pp.13-14). This uprising involved both groups within the Haudenosaunee and groups within the Anishinaabeg. After numerous attacks on the British, the Pontiac Uprising was over by 1766 when a peace agreement was concluded with Sir William Johnson, the Superintendent of Indian Affairs (Schmalz, 1991, p.81). The fur-trade continued throughout Southern Ontario until the beginning of British colonization.

1.3.4 Euro-Canadian Settlement Period (A.D. 1800 to present)

During the American Revolutionary War, the Haudenosaunee confederacy was divided in their support of the British and their support of the Americans. The Mohawk, Onondaga, Cayuga and Seneca supported the British and many fled from their territorial homelands south of Lake Ontario to the Niagara Peninsula and remained there until the Treaty of Paris was signed in 1784 (Tooker, 1978, p.435). However, the Treaty made no provisions for the Natives, and “consequently, the [divided Iroquois] had to treat with each government separately. This meant that as individuals the Iroquois had to decide where they should go live and with which country they wished to enter into a treaty agreement with” (Tooker, 1978, p.435). During this war, Joseph Brant, a Mohawk war chief of the Six Nations (Haudenosaunee) and his family, had assisted considerably to the British Military efforts against the Americans. The Indian Department recommended that for services rendered to the British Crown, Joseph Brant would be awarded a tract of land for his own use at the head of Lake Ontario (present-day Burlington). In 1795, a provisional agreement was made that stipulated a payment of £100 in goods. In 1797, a confirmatory agreement was issued for 3,450 acres of land at the head of Lake Ontario (Surtees, 1994, p.109; N.A., 1891, p.xl; Government of Ontario, 2014).

After the American War of Independence in the late 1700s, a large number of United Empire Loyalists and American immigrants began to move into Southern Ontario. This put greater demand on the amount of available lands for Euro-Canadian and American immigrant settlement within Upper Canada. By this time, the Mississaugas claimed the County of Halton. On behalf of the British Crown, William Claus, Deputy Superintendent of Indian Affairs, entered into negotiations with the Mississauga in 1805, to surrender 35,000 acres of the Mississauga Tract at the head of Lake Ontario. This tract included lands “reaching from the Etobicoke Creek on the East for twenty-six miles westward to the outlet of Burlington Bay, these lands stretching back from the Lake shore line for from five to six miles to what we now know as the Second Concession North of Dundas (or Eglinton Avenue)” (Fix, 1967, p.13). Additionally, one mile on either side of the Credit River and the ‘flat lands’ bordering the Etobicoke Creek were to remain property of the Mississaugas. The Mississauga obtained £1000 worth of goods and the right to retain their fishery sites at the mouths of the Credit River, Sixteen Mile Creek, and Twelve Mile Creek. The purchase included lands within the historic Home District, and subsequently, the southern portion of the Township of Nelson. A confirmatory surrender was issued in 1806. The earliest places in Halton County were the southern part of both the Township of Nelson and the Township of Trafalgar which were surveyed using a technique that produced long narrow strips of 100-acre lots. This became known as the “old” survey in Halton County (Surtees, 1994, pp.94, 110; N.A., 1891, p.xl; McDonald, 2011, p.71; Loverseed, 1987, p.21).

After the War of 1812, immigration from the United States came to a halt as a change in British policy discouraged Americans from taking residence in Canada and encouraged immigration from the British Isle. In 1818, to accommodate this influx of settlers, the remainder of the Mississauga Tract, within what is now Halton Region, was purchased by William Claus. The area belonged to the Credit River Mississauga who, despite efforts from the Indian Department officials to protect them, found themselves victim to encroachment on their lands and fisheries by Euro-Canadian settlers. Ajetance, chief of the Credit River Mississauga, settled for goods in the value of £522.10

shilling annually per person in exchange for 648,000 acres of land. This second purchase, or Ajetance Purchase, surrendered those lands within what would encompass “the northern section of Trafalgar, and Nelson Townships, and all of Esquesing and Nassagaweya Townships” (McDonald, 2011, p.71; Surtees, 1994, pp.116-117).

The Township of Nelson was officially named after Vice-Admiral Horatio Nelson who led the British military at the Battle of Trafalgar during the Napoleonic Wars (1803-1815). Originally, the Township of Nelson was named Grant Township in recognition of Alexander Grant who was the President and Administrator of Upper Canada. The first family to arrive in the Township of Nelson was the Bates family, who settled in 1800, and the next influx of settlers arrived in 1807. By 1817, 476 inhabitants and 68 houses, two grist mills, and three saw mills were located in the Township of Nelson. By 1850, the population had increased to 3,792 individuals (McDonald, 2011, p.200; Walker & Miles, 1877, p.60).

As the population continued to grow, centres of industry developed, such as Wellington Square and Port Nelson. Wellington Square was included in part of the 3,450 acre land grant given to Chief Joseph Brant. Joseph Brant constructed his house in 1790 and began to sell or rent out parcels of his land. His family continued to do this after his death in 1807. Eight years later, James Gage purchased approximately 338 ½ acres from Catherine Brant and Augustus Jones, trustees under Joseph Brant’s will, who surveyed the land into blocks for settlement and named the village Wellington Square. A steam and flouring mill, wharf and warehouse were constructed and Wellington Square became a considerable grain market in Halton County. Port Nelson, located at the foot of Guelph Line, a plank road, was included in lands purchased by James Gage. Port Nelson was connected to Wellington Square by Lakeshore Road and functioned as additional wharfs (Walker & Miles, 1877, p.60; Reynolds, 1993, pp.3-4; Burlington Public Library, 2013).

During the latter half of the nineteenth century, the wheat market relocated westward and Burlington became a centre for fruit production and export. In 1873, Wellington Square and Port Nelson incorporated as the Village of Burlington, and in 1914 Burlington became a town (Burlington Public Library, 2013).

1.3.5 Past Land Use

To further assess the study area’s potential for the recovery of historic pre-1900 remains, several documents were reviewed to gain an understanding of the land use history. These include the 1806 *Plan of the Third Township of Nelson*, the 1858 *Tremaine’s Map of the County of Halton* and the 1877 *Illustrated Historical Atlas of the County of Halton*.

Table 1: Historic Structures within the Study Area in the 1806 Plan of the Third Township of Nelson

Lot, Con.	Occupant/Owner	Structure(s)
All, 17, Broken Front	John Brant	No structure(s)
All, 18, Broken Front	John Brant	No structure(s)
All, 17, 3 SDS	Mary Branett	No structure(s)
All, 18, 3 SDS	Mary Branett	No structure(s)
Brant’s Block	Captain Joseph Brant’s Land	No structure(s)

The 1806 *Plan of the Third Township of Nelson* identifies no historic structures within or in proximity to (within 300 metres of) the study area. It should be noted that this map identifies property owners and does not appear to depict structures (*see Map 8; Table 1*).

Table 2: Historic Structures within the Study Area in the 1858 Tremaine's Map of the County of Halton

Lot, Con.	Occupant/Owner	Structure(s)
East part, 17, Broken Front	Unlisted	No structure(s)
West half, 17, Broken Front	Jno. & Alex. Malcolmson	No structure(s)
All, 18, Broken Front	Jno. & Alex. Malcolmson	No structure(s)
South part, 17, 3 SDS	John Cryster	No structure(s)
South part, 18, 3 SDS	Unlisted	No structure(s)
East part, Brant's Block	Torrance	No structure(s)
Central part, Brant's Block	Village lots of Wellington Square	Village lots

The 1858 *Tremaine's Map* identifies the village lots of Wellington Square within and within 300 metres of the study area. Rambo Creek is also depicted traversing the study area and Lake Ontario is depicted within the study area (*see Map 9; Table 2*).

Table 3: Historic Structures within the Study Area in the 1877 Illustrated Historical Atlas of the County of Halton

Lot, Con.	Occupant/Owner	Structure(s)
East part, 17, Broken Front	Geo. Martsott (?)	No structure(s)
West part, 17, Broken Front	Wm. Dalton	No structure(s)
South part, 17, Broken Front	Mrs. Chisholm	No structure(s)
South part, 17, Broken Front	Sherd	No structure(s)
South part, 17, Broken Front	English Church Pres.	No structure(s)
South part, 17, Broken Front	Peter M. Culloch	No structure(s)
South part, 17, Broken Front	Geo. Morrison	No structure(s)
South part, 17, Broken Front	W. Permt (?)	No structure(s)
Part, 18, Broken Front	Wm. Dalton	No structure(s)
Part, 18, Broken Front	Thos. Burnet (?)	No structure(s)
South part, 17, 3 SDS	Heirs of Thos. Baxter	No structure(s)
South part, 18, 3 SDS	Unlisted	One structure
Brant's Block	Village lots of Burlington	Village lots

The 1877 *Illustrated Historical Atlas* identifies one historic structure (a homestead) and the village lots of Burlington within the study area. Additional village lots are also depicted within 300 metres of the study area. Rambo Creek is depicted traversing the study area and Lake Ontario is depicted within the study area (*see Maps 10-11; Table 3*).

Additionally, the study area is located along present day New Street and Lakeshore Road, which were originally laid out during the survey of the Township of Nelson. Martha Street, Pearl Street, Elizabeth Street, Old Lakeshore Road, Pine Street, James Street, Maria Street and Caroline Street were originally laid out during the survey of Wellington Square (later Burlington). In Southern Ontario, the 2011 *S&G* considers areas of early Euro-Canadian settlements (e.g., pioneer homesteads, isolated cabins, farmstead complexes, early wharf or dock complexes, pioneer

churches, and early cemeteries), early historic transportation routes (e.g., trails, passes, roads, railways, portage routes), and properties that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations, to be of elevated archaeological potential (per *Section 1.3.1* of the *2011 S&G*). Therefore, based on the close proximity of both early Euro-Canadian settlements and historic transportation routes, there is elevated potential for the location of Euro-Canadian archaeological resources (pre-1900) within portions of the study area which lie within 300 metres and 100 metres, respectively, of these historic features.

1.3.6 Present Land Use

Per the City of Burlington’s “Official Plan – Schedule B: Comprehensive Land Use Urban Planning Area” (2015), the present land use of the study area can be categorized as residential (low density) and mixed use.

1.4 Archaeological Context

To establish the archaeological context and archaeological potential of the study area, Archeoworks Inc. conducted a comprehensive review of designated and listed heritage properties and commemorative markers. Furthermore, an examination of registered archaeological sites and previous AAs within proximity to its limits, and a review of the physiography of the study area were performed.

The results of this background research are documented below and summarized in **Appendix B – Summary of Background Research**.

1.4.1 Designated and Listed Cultural Heritage Resources

According to *Section 1.3.1* of the *2011 S&G*, property listed on a municipal register or designated under the *Ontario Heritage Act*, or that is a federal, provincial, or municipal historic landmark or site, are considered to have elevated potential.

Consultation with the online inventory entitled ‘Municipal Register of Cultural Heritage Value’ (City of Burlington, 2016a; City of Burlington, 2016b), which records municipal properties that have been formally designated under the Ontario Heritage Act and those not designated, but of interest to the city, confirmed the presence of numerous heritage properties located within (*see Map 12*) and in proximity to (within 300 metres) the study area (*see Tables 4-5*).

Table 4: Heritage Properties within the Study Area

Address	Description	Heritage Status
415 Elizabeth Street	The Stinson-Morrine House; built 1850	Not-designated
417 Elizabeth Street	The Stinson-Morrine House; built 1850	Not-designated
423 Elizabeth Street	The Bastedo- Redmon-John Kenter House; built 1855-80	Not-designated
451 Elizabeth Street	The Former Methodist Episcopal Church - The Iron Duke; built 1868	Not-designated
461 Elizabeth Street	Knox Presbyterian Church; built 1845/77	Not-designated

**STAGE 1 AA FOR THE PROPOSED JUNCTION STREET WWPS AND FORCEMAIN UPGRADES
CITY OF BURLINGTON, REGIONAL MUNICIPALITY OF HALTON, ONTARIO**

Address	Description	Heritage Status
2137 Lakeshore Road	The Sewage Pumping Station, aka 2137 Junction Street; built 1915	Not-designated
2187 Lakeshore Road	The Dalton – Bell House; built 1880	Not-designated
2201 Lakeshore Road	Apple Villa: The William Dalton – J.C. Smith House; built 1872	Not-designated
2222 Lakeshore Road	Brant’s Landing; built 1830, 1855/1872	Designated
2230 Lakeshore Road	The Baxter – Fearman House; built 1881	Not-designated
2243 Lakeshore Road	Lakeshore Public School; built 1920	Not-designated
2083 Maria Street	The Old Metcalfe House; built 1885	Designated
2228 New Street	The Rowsome-Stinson Farmhouse; built 1883	Not-designated
383 Pearl Street	The Acland Houses; built 1880	Not-designated
385 Pearl Street	The Acland Houses; built 1880	Not-designated
416 Pearl Street	The Inglehart House – Mitchell Dairy; built 1875	Not-designated
491 Pearl Street	The Robert Hammond House; built 1872	Designated
2085 Pine Street	The Nelson Ogg – Jabez Clark House; built 1847	Not-designated
2084 Old Lakeshore Rd	The Estaminet; built 1843 (?)	Designated
2100 Old Lakeshore Rd	The Stewart-Williamson-Peck House; built 1875	Not-designated
2101 Old Lakeshore Rd	The Chrysler Carriage Shop (aka 2105 Old Lakeshore Rd); built 1859	Not-designated
310 Seneca Avenue	The George Murison House; built 1875	Designated
349 Smith Avenue	A Dalton – Smith House; built 1890	Not-designated
367 Smith Avenue	Built 1890	Not-designated
403 Smith Avenue	A Dalton – Smith House; built 1890	Not-designated
404 Smith Avenue	Built 1900 (?)	Not-designated
433 Smith Avenue	Built 1890	Not-designated
357 Torrance Street	The Joseph Acland House; built 1880	Not-designated
367 Torrance Street	The Torrance House; built 1889	Not-designated

Table 5: Heritage Properties within 300 metres of the Study Area

Address	Description	Heritage Status
2015 Lakeshore Road	The Shaver Building; built 1881	Not-designated
2017 Lakeshore Road	The Shaver Building; built 1881	Not-designated
2349 Lakeshore Road	The Benjamin Johnson House	Designated
2357 Lakeshore Road	The Jeremiah Lane House	Not-designated
371 Beaver Street	The Hugh Cotter – Wesley King Farmhouse; built 1855	Not-designated
361 Brant Street	The LaPatourel Drug Store First Location; built 1881	Not-designated
368 Brant Street	The Bell – Wiggins Boot and Shoe Store; built 1867	Not-designated
400 Brant Street	Sherwood Inn: Formerly The Queens Hotel Originally the Zimmerman House; built 1860	Not-designated
401 Brant Street	The Cline/Dickenson/Johnston/Watson Store; built 1872	Not-designated
463 Brant Street	The James Allen Carriage Works; built 1850-55	Not-designated
590 Brant Street	The Phil C. Patriarche House; built 1913	Not-designated
2057 Caroline Street	The Hart House; built 1890	Not-designated
2063 Caroline Street	The Ellis Hughes House; built 1893	Not-designated
2085 Caroline Street	The Hugh Cleaver House; built 1923	Designated
482 Elizabeth Street	The Laing-Speers House and former Burlington Public Library; built 1873	Not-designated
490 Elizabeth Street	The Laing-Fisher House Shanston Hall; built 1855/1913	Not-designated

**STAGE 1 AA FOR THE PROPOSED JUNCTION STREET WWPS AND FORCEMAIN UPGRADES
CITY OF BURLINGTON, REGIONAL MUNICIPALITY OF HALTON, ONTARIO**

Address	Description	Heritage Status
2040 Emerald Crescent	The Betty Taylor House; built 1938	Designated
524 Emerald Street	Oreland McIntyre House; built 1937	Designated
2031 James Street	Built 1876	Not-designated
444 John Street	The Dickenson Ice House; built 1916	Not-designated
482 John Street	-	Not-designated
447 Locust Street	Built 1867	Designated
449 Locust Street	Built 1867	Designated
464 Locust Street	The Richard Cole House; built 1896	Designated
468 Locust Street	The Robert Kentner House; built 1884	Not-designated
471 Locust Street	The Atkinson – Peart House; built 1885	Not-designated
472 Locust Street	L'Eglise St. Philippe Originally Calvary Baptist Church (aka 1446 Ontario Street); built 1875	Not-designated
560 Locust Street	The Charlotte Petit Retirement House; built 1917	Not-designated
566 Locust Street	The Harry Blessinger Retirement House; built 1922	Not-designated
572 Locust Street	Built 1925	Not-designated
576 Locust Street	Built 1837	Not-designated
1436 Ontario Street	Middleton House/Blathwayt House; built 1888	Designated
1441 Ontario Street	The William Hodgson – Sarah Oakley House; built 1830s	Not-designated
1442 Ontario Street	The James Cushie Bent House; built 1888	Designated
1457 Ontario Street	The Miller Bush House; built 1874-81	Designated

Therefore, based on presence of numerous heritage resource within and in proximity to (within 300 metres of) the study area, there is elevated archaeological potential within portions of the study area that lie within 300 metres of these heritage properties.

1.4.2 Heritage Conservation Districts

A Heritage Conservation District (HCD) includes areas that have been protected under Part V of the *Ontario Heritage Act*. An HCD can be found in both urban and rural environments and may include residential, commercial, and industrial areas, rural landscapes or entire villages or hamlets with features or land patterns that contribute to a cohesive sense of time or place and to an understanding and appreciation of the cultural identity of a local community, region, province, or nation. An HCD may comprise an area with a group or complex of buildings, or a large area with many buildings and properties, and often extends beyond its built heritage, structures, streets, landscape and other physical and spatial elements, to include important vistas and views between and towards buildings and spaces within the district (MTCS, 2006, p.5). An HCD area contains valuable cultural heritage and must be taken into consideration during municipal planning to ensure that they are conserved.

According to *Section 1.3.1* of the 2011 S&G, heritage resources listed on a municipal register or designated under the *Ontario Heritage Act*, or a federal, provincial, or municipal historic landmark or site, are considered to have elevated archaeological potential. To determine if the study area is located within or in proximity to (within 300 metres of) an HCD, the City of Burlington's 'Heritage Conservation Frequently Asked Questions' webpage (City of Burlington, 2016c) was reviewed and confirmed that there are no HCD's in the City of Burlington. Therefore, this feature does not further elevate the archaeological potential within the study area.

1.4.3 Commemorative Plaques or Monuments

Per *Section 1.3.1* of the *2011 S&G*, commemorative markers of Aboriginal and Euro-Canadian settlements, which may include their history, local, provincial, or federal monuments, cairns or plaques, or heritage parks, are considered to have elevated archaeological potential. To determine if any historical plaques are present, the Ontario Historical Plaques inventory was reviewed, which contains a catalogue of federal Historic Sites and Monuments Board of Canada plaques, the provincial Ontario Heritage Trust plaques, plaques identified by various historical societies, and other published plaques located in Ontario (Ontario Historical Plaques, 2017). This review confirmed the absence of commemorative plaques within and in proximity to (within 300 metres of) the study area. Therefore, this feature does not further elevate the archaeological potential within the study area.

1.4.4 Pioneer/Historic Cemeteries

The Knox Presbyterian Church, located at 461 Elizabeth Street is within the study area. The Knox Church was founded in 1845 using a small wooden building at the corner of what is today Elizabeth and James Streets. By 1877, the congregation had grown and the present building was constructed. The former 1845 building was moved to the rear of the property and used as a Sunday school room. This church is noted as the ‘Knox Presbyterian Cemetery’ by the City of Burlington, however it is not clear if any burials occurred on this property (Knox Presbyterian Church, 2017; City of Burlington, 2012a; City of Burlington, 2012b).

1.4.5 Registered Archaeological Sites

In order provide a summary of registered or known archaeological sites within a minimum one-kilometre distance from the study area limits, as per *Section 1.1, Standard 1* and *Section 7.5.8, Standard 1* of the *2011 S&G*, the *Ontario Archaeological Sites Database* (OASD) maintained by the MTCS was consulted (MTCS, 2016). Every archaeological site is registered according to the Borden System, which is a numbering system used throughout Canada to track archaeological sites and their artifacts.

According to the MTCS (2016), ten archaeological sites have been registered within one-kilometre of the study area; none are located within 300 metres of the study area (*see Table 6*).

Table 6: Registered Archaeological Sites within One Kilometre of the Study area

Borden #	Name	Cultural Affiliation	Type
AhGw-18	Rene Bridgeman	Archaic	Unknown
AhGw-23	John Blair	Archaic	Other: camp/campsite
AhGw-24	Bell 2	Archaic	Unknown
AhGw-25	St. Luke’s Church	-	-
AhGw-52	-	-	-
AhGw-53	-	Archaic	Unknown
AhGw-54	-	-	-
AhGw-99	Brant Hotel Complex	Late Woodland; Post-contact	Unknown; Hotel
AIgW-77	Stanley Blair	Paleo-Indian; Archaic; Woodland	Other; camp/campsite
AIgW-78	Hopkins	-	-

“-“ denotes no information provided in Past Port

The 2011 S&G considers previously registered archaeological sites to be of elevated archaeological potential. Therefore, given that no registered archaeological sites are located within 300 metres of the study area, this feature does not further elevate the archaeological potential within the study area.

1.4.6 Previous Archaeological Assessments

To further establish the archaeological context of the study area, a review of previous AAs carried out within the limits of, or immediately adjacent (i.e., within 50 metres) to the study area (as documented by all available reports) was undertaken. No previous archaeological assessment reports were identified on PastPort that fit these conditions.

1.4.7 Physical Features

An investigation of the study area's physical features was conducted to aid in the development of an argument for archaeological potential based on the environmental conditions of the study area. Environmental factors such as close proximity to water, soil type, and nature of the terrain, for example, can be used as predictors to determine where human occupation may have occurred in the past.

The study area is located within the Iroquois Plain physiographic region of Southern Ontario. The Iroquois Plain physiographic region extends around the western part of Lake Ontario, from the Niagara River to the Trent River, its width varying from a few hundred yards to about eight miles. The lowland bordering Lake Ontario, when the last glacier was receding but still occupied the St. Lawrence Valley, was inundated by a body of water known as Lake Iroquois. The undulating till plains above the old shorelines of Lake Iroquois make up the Iroquois Plain. The plain, cut in previously deposited clay and till, is partly floored with sand deposits; from Scarborough to Trenton the plain widens until the old beach is six and one-half miles inland from the present shore of Lake Ontario. The old shoreline is well marked by bluffs or gravel bars, while immediately below is a strip of boulder pavement and sandy off-shore deposits which vary in width. Poorly drained, this coarse sandy soil is not very productive. Prior to 1930, until 1940, the Iroquois plain was a general farming area, with a tendency for horticulture and growth of canning crops. Since the Second World War, the remaining farms have become larger while much of the land has been put to urban uses (Chapman and Putnam, 1984, pp.190-196).

The soil information within City of Burlington, in the vicinity of Burlington and Port Nelson is considered unreliable due to heavy urban expansion (Ontario Agricultural College, 1971).

In terms of archaeological potential, potable water is a highly important resource necessary for any extended human occupation or settlement. As water sources have remained relatively stable in Ontario since post-glacial times, proximity to water can be regarded as a useful index for the evaluation of archaeological site potential. Indeed, distance from water has been one of the most commonly used variables for predictive modeling of site location. A watershed is an area drained by a river and its tributaries. As surface water collects and joins a collective water body, it picks up nutrients, sediment and pollutants, which may altogether affect ecological processes along the way. Hydrological features such as primary water sources (i.e. lakes, rivers, creeks, streams)

and secondary water sources (i.e. intermittent streams and creeks, springs, marshes, swamps) would have helped supply plant and food resources to the surrounding area and are indicators of archaeological potential (per *Section 1.3.1* of the *2011 S&G*).

Rambo Creek and Lake Ontario are located within the study area. Therefore, these features elevate archaeological potential within portions of the study area that fall within 300 metres of their limits.

1.4.8 Current Land Conditions

The study area is situated within suburban/residential area, commercial area and lake front within the City of Burlington. The study area encompasses several commercial buildings along Elizabeth Street and Pearl Street, residential homes, a high school, parkettes, the Waterfront Trail, and the open space surrounding Rambo Creek and the Lake Ontario shoreline. The topography within the study area gradually decreases from north to south, with the elevation measuring between approximately 82 to 88 metres above sea level.

1.4.9 Date of Review

A property inspection of the construction area was undertaken on January 31st and May 2nd, 2017, to systematically review the archaeological potential of the entire construction area.

1.5 Confirmation of Archaeological Potential

Based on the information gathered from the background research documented in the preceding sections, elevated archaeological potential has been established within the study area boundary. Features contributing to archaeological potential are summarized in **Appendix B**.

2.0 PROPERTY INSPECTION

This property inspection, which is confined to the construction area, was conducted in compliance with the standards set forth in *Section 1.2* of the *2011 S&G*. The weather and ground conditions were conducive to identifying features and assessing the land's archaeological potential.

The inspection was carried out systematically every 10 metres, reviewing the entire extent of the construction area to gain first-hand knowledge of the construction area's geography, topography, and current condition, and to evaluate and map archaeological potential. Photographic images of the construction area are presented within **Appendix C**. Location and orientation information associated with all photographs taken in the field is provided within **Maps 17-22**.

3.0 ANALYSIS AND CONCLUSIONS

In combination with data gathered from background research (*see Sections 1.3 and 1.4*), a review of 20th century aerial photography, 21st century satellite imagery, and an on-site property inspection, an evaluation of archaeological potential was performed.

3.1 Historical Imagery

Data gathered from background research (see Sections 1.3 and 1.4) was used to perform an assessment of archaeological potential. Additionally, a detailed review of aerial photographs taken from 1954 (*see Map 13*), and satellite imagery taken from 2005 to 2016 (*see Maps 14-16*), reveals that the construction area has undergone significant changes since 1954.

The 1954 aerial photograph shows the construction area consisted primarily of open road allowances and right-of-way (ROW) of Smith Avenue, Lakeshore Road, Old Lakeshore Road, Martha Street, Pearl Street, Torrance Street and Harris Crescent (*see Map 13*). Residential houses flank the lands beyond the ROW and a wooded area is present along Rambo Creek.

A satellite image from 2005 reveals the construction area primarily within the open road allowances and ROW of Smith Avenue, Lakeshore Road, Old Lakeshore Road, Martha Street, Pearl Street, Torrance Street and Harris Crescent (*see Map 14*). The construction area beyond the ROW is flanked by residential houses and the Junction Street Wastewater Pumping Station and its paved area is present in the west part of the construction area. The study area remained unchanged after this time (*see Maps 15-16*).

3.2 Identified Deep and Extensive Disturbances

The construction area was evaluated for extensive disturbances that have removed archaeological potential. Disturbances may include but are not limited to: grading below topsoil, quarrying, building footprints, or sewage and infrastructure development. *Section 1.3.2* of the *2011 S&G* considers infrastructure development among those “features indicating that archaeological potential has been removed.”

Disturbances consisting of urban and infrastructure development, including, but not limited to, existing roadways, buildings, grading, infill, embankments, paved areas, the existing Junction Street WWPS, and utilities were encountered (*see Maps 17-22; Images 1-13*). The construction of these features would have resulted in severe damage to the integrity of any archaeological resources which may have been present within their footprints. As per *Section 1.4.2* of the *2011 S&G*, an on-site visual inspection was conducted which confirmed the removal of archaeological potential by extensive and deep disturbances within these areas.

3.3 Physiographic Features of No or Low Archaeological Potential

The construction area was also evaluated for physical features of no or low archaeological potential. These usually include but are not limited to: permanently wet areas, exposed bedrock, and steep slopes (greater than 20°) except in locations likely to contain pictographs or petroglyphs, as per *Section 2.1, Standard 2.a.* of the 2011 S&G.

Steeply sloping terrain and permanently wet areas (Rambo Creek) were encountered (*see Maps 17-22; Image 14*). Stage 2 AA is not required due to their low to no archaeological potential classification, as per *Section 2.1, Standard 2.a.*

3.4 Identified Areas of Archaeological Potential

Portions of the construction area that exhibit neither extensively disturbed conditions, nor contain physical features of no or low archaeological potential, are considered to have archaeological potential. Therefore, the remainder of the construction area, consisting of grassed and treed areas, as well as the valleylands associated with Rambo Creek are considered to retain archaeological potential (*see Maps 17-22; Images 1,2, 5-6, 15, and 16*). Given the presence of existing infrastructure and trees, ploughing in advance of survey is not a viable option; therefore, these areas must be subjected to a test pit form of survey at five-metre transects in accordance with Section 2.1.2 of the 2011 S&G.

4.0 RECOMMENDATIONS

Considering the findings detailed in the preceding sections, the following recommendations are presented:

1. As per *Section 1.3.2* and *1.4.2* of the *2011 S&G*, portions of the construction area exhibit disturbed conditions that have removed archaeological potential. These disturbed areas are recommended to be exempt from further Stage 2 AA.
5. As per *Section 2.1, Standard 2.a* of the *2011 S&G*, lands within the construction area that have been evaluated as having low to no archaeological potential are recommended to be exempt from further Stage 2 AA.
1. Upon selection of a preferred WWPS site design and forcemain alternative(s), all identified areas which retain archaeological potential within the WWPS site and forcemain alternative(s), must be subjected to a Stage 2 AA employing a shovel test pit archaeological survey at five-metre transects in accordance with *Section 2.1.2* of the *2011 S&G*.
2. Should there be any intrusive activity beyond the construction area limits, a comprehensive Stage 1 AA must be undertaken.

No construction activities shall take place within the study area prior to the *MTCS* (Archaeology Programs Unit) confirming in writing that all archaeological licensing and technical review requirements have been satisfied.

5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

1. This report is submitted to the *MTCS* 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 *MTCS*, 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 Archaeology 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 *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 require 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.

6.0 BIBLIOGRAPHY AND SOURCES

Birch, J. (2010). *Coalescence and Conflict in Iroquoian Ontario*. [Online]. Available at: http://uga.academia.edu/JenniferBirch/Papers/183903/Coalescence_and_Conflict_in_Iroquoian_Ontario. [Accessed 18 January 2017].

Bricker, P.B. (1934). The First Settlement in Central Western Ontario. In Ontario Historical Society. *Papers and Records, Vol. XXX*. Toronto, Ontario: Ontario Historical Society, pp.58-65.

Brown, R. (2009). *The Lake Erie Shore – Ontario's Forgotten South Coast*. Toronto, Natural Heritage Books: A Member of the Dundurn Group.

Burlington Historical Society. (2017a). *Map of Brant's Block, later Wellington Square, and neighbouring properties, after a Plan drawn in 1817*. [Online]. Available at: <http://vitacollections.ca/burlingtonhistoricalsociety/57065/data?n=30>. [Accessed 18 January 2017].

Burlington Historical Society. (2017b). *Plan of the Third Township of Nelson, District of Gore 1806 Map*. [Online]. Available at: <http://vitacollections.ca/burlingtonhistoricalsociety/2814841/data?n=1>. [Accessed 17 January 2017].

Burlington Public Library. (2013). *A Short History of Burlington*. [Online]. <http://heritage.bpl.on.ca/localhist/burhistory.htm>. [Accessed 18 January 2017].

Chapman, L. J. and Putnam, D. F. (1984). *Physiography of Southern Ontario. 3rd ed. Ontario Geological Survey, Special Volume 2*. Toronto: Ministry of Natural Resources.

City of Burlington. (2012a). *Cemeteries of Burlington – Cemetery Map*. [Online]. Available at: <http://www.tourismburlington.com/wp-content/uploads/2013/04/2012-Cemetery-Map.pdf>. [Accessed 18 January 2017].

City of Burlington. (2012b). *Cemetery Listing*. [Online]. Available at: <http://www.tourismburlington.com/wp-content/uploads/2013/04/2012-Cemeteries-Listing.pdf>. [Accessed 18 January 2017].

City of Burlington. (2015). Official Plan – Schedule B: Comprehensive Land Use Urban Planning Area. [Online]. Available at: https://www.burlington.ca/en/services-for-you/resources/Planning_and_Development/Official_Plan_Review_/Map-Schedules/COB_Official-Plan_Schedule-B.pdf. [Accessed 17 January 2017].

City of Burlington. (2016a). *Municipal Register of Cultural Heritage Resources*. [Online]. Available at: <http://legacy.burlington.ca/MunicipalRegister/default.aspx>. Accessed 17 January 2017].

City of Burlington. (2016b). *City of Burlington Municipal Register*. [Online]. Available at: http://mapping.burlington.ca/Municipal_Register/. [Accessed 17 January 2017].

City of Burlington. (2016c). *Heritage Conservation Frequently Asked Questions*. [Online]. Available at: <https://www.burlington.ca/en/services-for-you/heritage-conservation-frequently-asked-questions.asp>. [Accessed 17 January 2017].

Coyne, J.H. (1895). *The Country of the Neutrals (as far as comprised in the County of Elgin) From Champlain to Talbot*. [Online]. Available at: https://archive.org/stream/cihm_03619#page/n7/mode/2up. [Accessed 18 January 2017].

Dodd, C.F., Poulton, D. R., Lennox, P.A., Smith, D.G., and Warrick, G.A. (1990). The Middle Ontario Iroquoian Stage. In Ellis, C.J. and N. Ferris (Eds.) *The Archaeology of Southern Ontario to A.D. 1650*. London, Ontario: Occasional Publication of the London Chapter, OAS, pp. 321-359.

Dupré. (2015). *Cavelier de La Salle, René-Robert*. [Online]. http://www.biographi.ca/en/bio/cavelier_de_la_salle_rene_robert_1E.html. [Accessed 18 January 2017].

Ellis, C.J. and Deller, D.B. (1990). Paleo-Indians. In C.J. Ellis, and N. Ferris, (Eds.). *The Archaeology of Southern Ontario to A.D. 1650*. London, Ontario: Occasional Publication of the London Chapter, OAS, pp. 37-64.

Ellis, C.J., Kenyon, I.T., and Spence, M.W. (1990). The Archaic. In C.J. Ellis, and N. Ferris, (Eds.). *The Archaeology of Southern Ontario to A.D. 1650*. London, Ontario: Occasional Publication of the London Chapter, OAS, pp. 65-124.

Ellis, C.J. (2013). Before Pottery: Paleoindian and Archaic Hunter-Gathers. In Munson, M.K. and Jamieson, S.M (Eds.) *Before Ontario: The Archaeology of a Province*. Montreal & Kingston, Ontario: McGill Queen's University Press.

Ferris, N. (2013). Seeing Ontario's Past Archaeologically. In Munson, M.K. and Jamieson, S.M (Eds.) *Before Ontario: The Archaeology of a Province*. Montreal & Kingston, Ontario: McGill Queen's University Press, p.3-20.

Ferris, N. and Spence, M.W. (1995). The Woodland Traditions in Southern Ontario. *Revista de Arqueologia Americana* (9), 83-138.

Fix, M. (1967). *Unfurling the Banner: Part 1 – The First Mississauga Treaty, 1805*. In *A History of Peel County: To Make Its Centenary as a Separate County 1867-1967*. Brampton: Charters Publishing Company Limited.

Fox, W.A. (1990). The Middle Woodland to Late Woodland Transition. In C.J. Ellis, and N. Ferris, (Eds.). *The Archaeology of Southern Ontario to A.D. 1650*. London, Ontario: Occasional Publication of the London Chapter, OAS, pp. 171-188.

Gibson, M.M. (2006). *In the Footsteps of the Mississaugas*. Mississauga, Ontario: Mississauga Heritage Foundation.

Google Earth. (2017a). 2005 Google Earth Satellite Image. [Online]. Available at: <http://www.google.com/earth/>. [Accessed 17 January 2017].

Google Earth. (2017b). 2009 Google Earth Satellite Image. [Online]. Available at: <http://www.google.com/earth/>. [Accessed 17 January 2017].

Google Earth. (2017c). 2016 Google Earth Satellite Image. [Online]. Available at: <http://www.google.com/earth/>. [Accessed 17 January 2017].

Government of Canada. (2013). *Topographic Map 1:30 000, NTS Hamilton-Burlington 030M05*. [Online]. Available at: <http://atlas.gc.ca/toporama/en/index.html>. [Accessed 17 January 2017].

Government of Ontario (2009). *Ontario Heritage Act*. [Online]. Available at: http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90o18_e.htm [Accessed 17 January 2017].

Government of Ontario. (2014). *First Nations and Treaties Map*. [Online]. Available at: <https://files.ontario.ca/firstnationsandtreaties.pdf>. [Accessed 18 January 2017].

Hathaway, E, the Late (1930). The River Credit and the Mississaugas. In *Ontario Historical Society Papers and Records Vol. xxvi*. Toronto: Ontario Historical Society.

Hunt, G.T. (1940). *The Wars of the Iroquois: A Study of Intertribal Trade Relations*. Madison, Wisconsin: The University of Wisconsin Press.

Hunting Survey Corporation Ltd. (1954). *Aerial Photograph, Southern Ontario: tile 433-794*. [Online]. Available at: http://maps.library.utoronto.ca/data/on/AP_1954/index.html. [Accessed 17 January 2017].

Johnston, D. (2004). *Connecting People to Place: Great Lakes Aboriginal History in Cultural Context*. [Online]. Available at: http://www.attorneygeneral.jus.gov.on.ca/inquiries/ipperwash/transcripts/pdf/P1_Tab_1.pdf. [Accessed 18 January 2017].

Jury, E.M. (1974). *The Neutral Indians of South-Western Ontario*. London: Bulletin of the Museums no.13, The Museum of Indian Archaeology, The University of Western Ontario, London.

Karrow, P.F. and Warner, B.G. (1990). The Geological and Biological Environment for Human Occupation in Southern Ontario. In C.J. Ellis, and N. Ferris (Eds.). *The Archaeology of Southern Ontario to A.D. 1650*. London, Ontario: Occasional Publication of the London Chapter, OAS, pp. 5-35.

Knox Presbyterian Church. (2017). *Home*. [Online]. Available at: <http://knoxburlington.ca/>. [Accessed 18 January 2017].

Lajeunesse, E. J. (1960). *The Windsor Border Region: Canada's Southernmost Frontier*. Toronto: The Champlain Society.

Loverseed, H.V. (1987). *Brampton: An Illustrated History*. Burlington, Ontario: Windsor Publications (Canada) Ltd.

Lennox, P.A. and Fitzgerald, W.R. (1990). The Culture History and Archaeology of the Neutral Iroquoians. In Ellis, C.J. and N. Ferris (Eds.) *The Archaeology of Southern Ontario to A.D. 1650*. London, Ontario: Occasional Publication of the London Chapter, OAS, pp. 405-456.

McDonald, J. (2011). *Halton's Heritage: William Halton and Halton County*. Milton, Ontario: Halton Sketches Publishing.

McMillan, A. D. and Yellowhorn, E. (2004). *First People in Canada*. Vancouver, B.C.: Douglas & McIntyre.

Mississauga of the New Credit First Nation (MNCFN). (N.D.). *The History of the Mississauga of the New Credit First Nation*. Ottawa, Ontario: Praxis Research Associates.

No Author (N.A.). (1891). *Indian Treaties and Surrenders from 1680 to 1890*. Ottawa: Browns Chamberlin Printers.

Noble, W.C. (2012). *Neutral*. [Online]. Available at: <http://www.thecanadianencyclopedia.com/articles/neutral> [Accessed 18 January 2017].

Ontario Agricultural College (1971). *Soil Map of Halton County, Soil Survey Report No. 43*. Guelph: Soil Research Institute.

Ontario Heritage Trust. (2012). René-Robert Cavelier de La Salle at Cataracoui. [Online]. Available at: <http://www.heritagetrust.on.ca/CorporateSite/media/oht/PDFs/La-Salle-ENG.pdf>. [Accessed 18 January 2017].

Ontario Historical Plaques. (2017). *Plaque Map*. [Online]. Available at:
http://www.ontarioplaques.com/Menu_Map.html [Accessed 17 January 2017].

Ontario Ministry of Tourism, Culture and Sport. (2006). *Heritage Conservation Districts: A Guide to District Designation under the Ontario Heritage Act*. [Online]. Available at:
http://www.mtc.gov.on.ca/en/publications/Heritage_Tool_Kit_HCD_English.pdf [Accessed 17 January 2017].

Ontario Ministry of Tourism, Culture and Sport. (2011). *Standards and Guidelines for Consultant Archaeologists*. Toronto: Ministry of Tourism, Culture and Sport.

Ontario Ministry of Tourism, Culture and Sport (2016). *Sites within a One Kilometre Radius of the Project Area*, provided from the Ontario Archaeological Sites Database, 09 December 2016.

Ramsden, P.G. (1990). The Hurons: Archaeology and Culture History. In Ellis, C.J. and N. Ferris (Eds.) *The Archaeology of Southern Ontario to A.D. 1650*. London, Ontario: Occasional Publication of the London Chapter, OAS, pp. 361-384.

Reynolds, J.L. (1993). *Sounds by the Shore – A History of Burlington, Ontario, Canada*. [Online]. Available at: <http://cms.burlington.ca/AssetFactory.aspx?did=3750>. [Accessed 18 January 2017].

Robinson, P.J. (1965). *Toronto during the French Regime: 1615-1793*. Toronto: University of Toronto Press.

Schmalz, P.S. (1991). *The Ojibwa of Southern Ontario*. Toronto, Canada: University of Toronto Press.

Smith, D.A. (1990). Iroquois Societies in Southern Ontario: Introduction and Historical Overview. In C.J. Ellis, and N. Ferris, (Eds.). *The Archaeology of Southern Ontario to A.D. 1650*. London, Ontario: Occasional Publication of the London Chapter, OAS, pp. 279-290.

Smith, D.B. (2013). *Sacred Feathers: The Reverend Peter Jones (Kahkewaquonaby) and the Mississauga Indians*. Toronto: University of Toronto Press.

Smith, D.G. (2002). Their Century and a Half on the Credit: The Mississaugas in Mississauga. In *Mississauga: The First 10,000 Years*. Toronto, Ontario: The Mississauga Heritage Foundation Inc., 123-138.

Spence, M.W., Pihl, R.H., and Murphy, C.R. (1990). Cultural Complexes of the Early and Middle Woodland Periods. In Ellis, C.J. and N. Ferris (Eds.) *The Archaeology of Southern Ontario to A.D. 1650*. London, Ontario: Occasional Publication of the London Chapter, OAS, pp. 125-169.

Stewart, A.M. (2013). Water and Land. In Munson, M.K. and Jamieson, S.M (Eds.) *Before Ontario: The Archaeology of a Province*. Montreal & Kingston, Ontario: McGill Queen's University Press.

Surtees, R.J. (1994). Land Cessions, 1763-1830. In E.S. Rogers, (Ed.). *Aboriginal Ontario: Historical Perspectives on the First Nations*. Toronto, Ontario: Dundurn Press Limited, pp. 92-121.

Tremaine, G.C. (1858). *Tremaine's Map of the County of Halton*, Canada West. Toronto.

Tooker, E. (1978). The League of the Iroquois: Its History, Politics, and Ritual. In B.G. Trigger (Ed.). *Volume 15: Northeast*. Washington: Smithsonian Institution, pp.418-441.

Trigger, B.G. (1994). The Original Iroquoians: Huron, Petun and Neutral. In Edward S. Rogers (Eds.). *Aboriginal Ontario: Historical Perspectives on the First Nations*. Toronto, Ontario: Dundurn Press Limited, pp 41-63.

Walker & Miles. (1877). *Illustrated Historical Atlas of the County of Halton*, Canada West.

Warrick, G.A. (2000). The Precontact Iroquoian Occupation of Southern Ontario. In *Journal of World Prehistory*, Vol.14, No.4, pp. 415-466.

Warrick, G. (2008). *A Population History of the Huron-Petun, A.D. 500-1650*. New York: Cambridge University Press.

Warrick, G. (2013). The Aboriginal Population of Ontario in Late Prehistory. In Munson, M.K. and Jamieson, S.M (Eds.) *Before Ontario: The Archaeology of a Province*. Montreal & Kingston, Ontario: McGill Queen's University Press.

White, M.E. (1978). Neutral and Wenro. In Sturtevant, W. C. (Ed.). *Handbook of North American Indians -Volume 15: Northeast*. Washington: Smithsonian Institution, pp.407-411.

Williamson, R.F. (1990). The Early Iroquoian Period of Southern Ontario. In Ellis, C.J. and N. Ferris (Eds.) *The Archaeology of Southern Ontario to A.D. 1650*. London, Ontario: Occasional Publication of the London Chapter, OAS, pp. 291-320.

Williamson, R.F. (2013). The Woodland Period, 900 BCE to 1700 CE. In Munson, M.K. and Jamieson, S.M (Eds.) *Before Ontario: The Archaeology of a Province*. Montreal & Kingston, Ontario: McGill Queen's University Press.

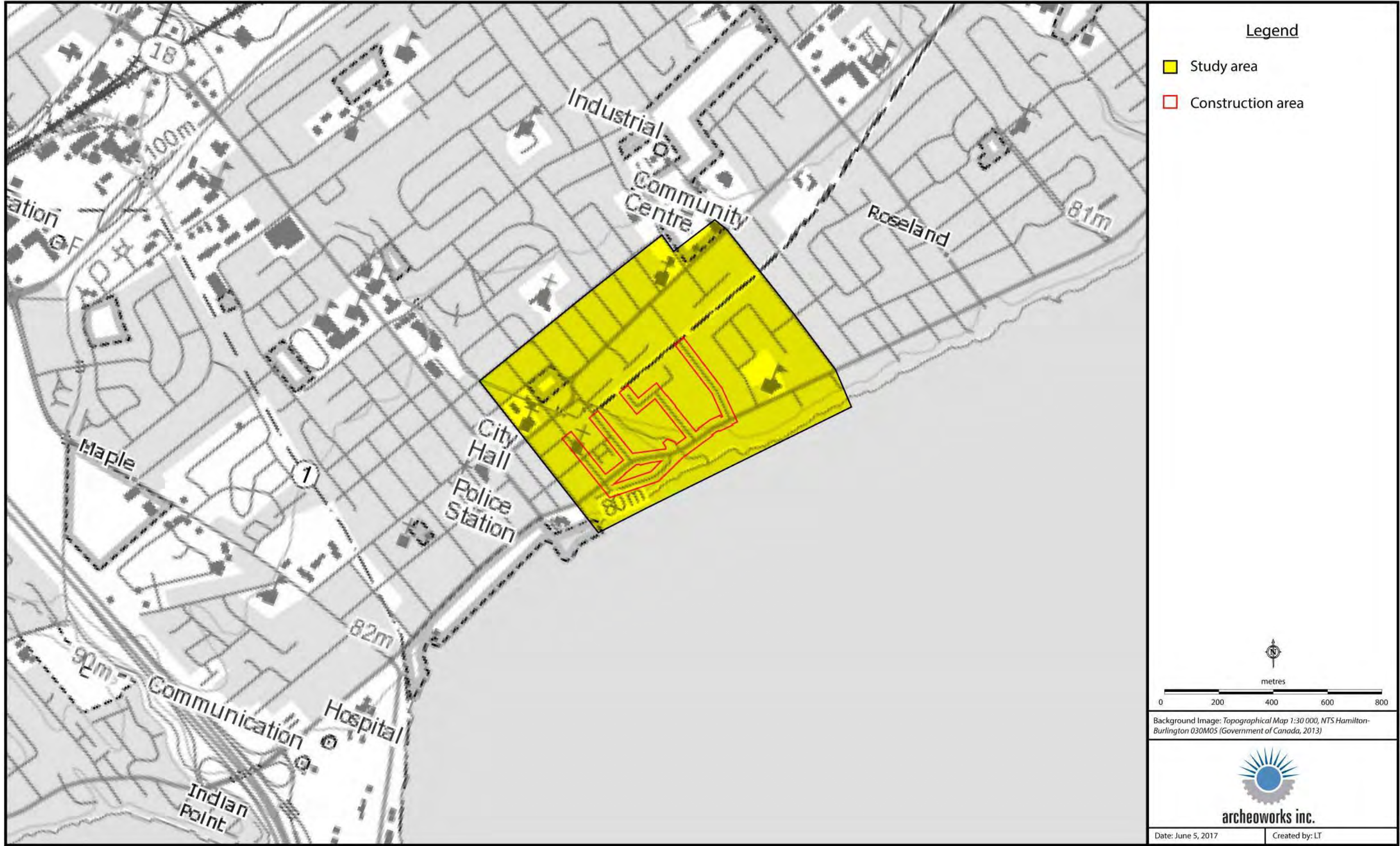
Wright, J.V. (1994). Before European Contact. In Edward S. Rogers (Eds.). *Aboriginal Ontario: Historical Perspectives on the First Nations*. Toronto, Ontario: Dundurn Press Limited, pp 21-40.

Wright, J.V. (1999). *A History of the Native People of Canada: Volume II (1,000B.C. – A.D. 500)*. Hull, Quebec: Museum of Civilization.

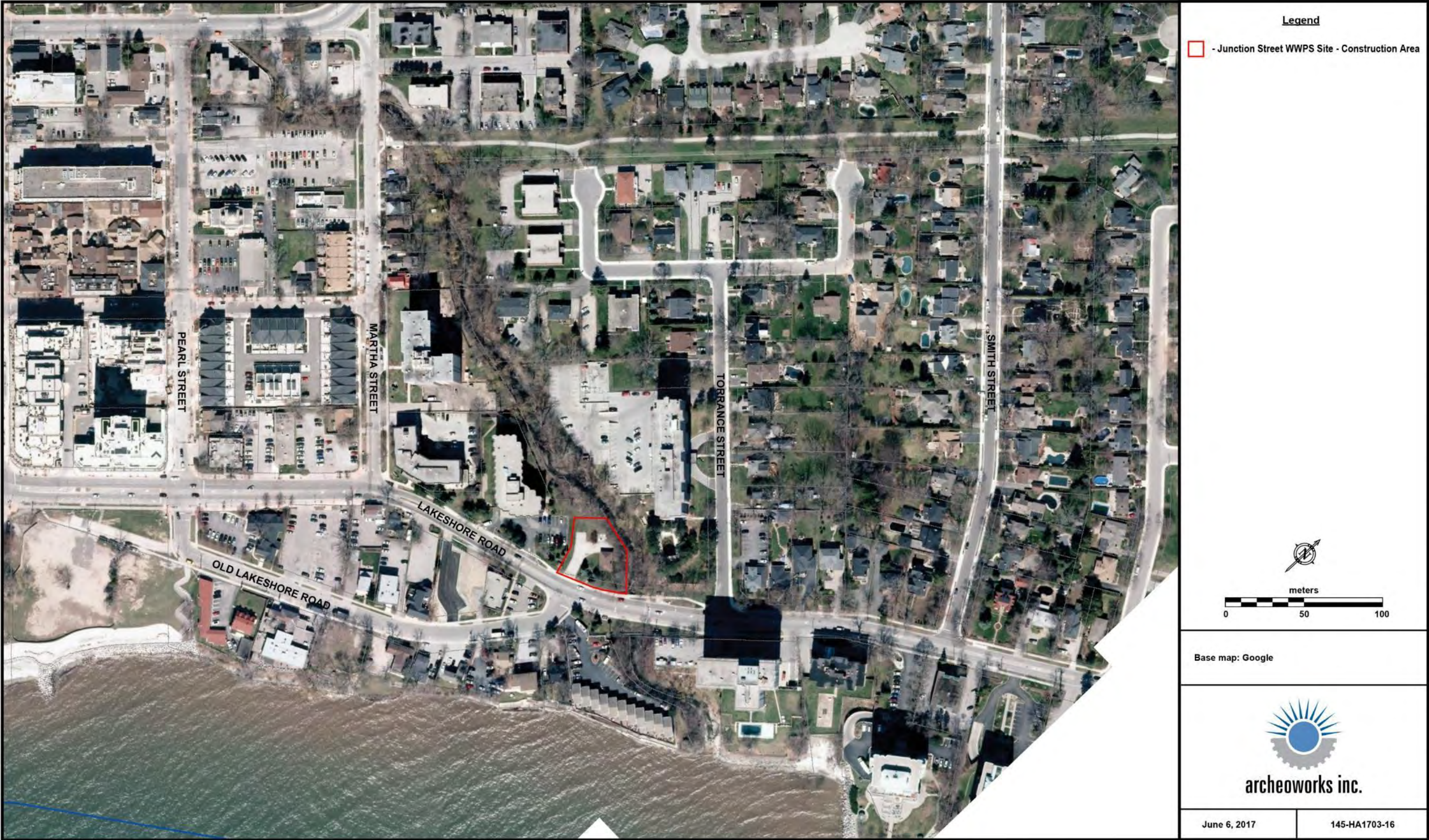
Wright, J.V. (2004). *A History of the Native People of Canada: Volume III (A.D. 500 – European Contact)*. Hull, Quebec: Museum of Civilization.

APPENDICES

APPENDIX A: MAPS



Map 1: Topographical map 1:30 000, NTS Hamilton-Burlington 030M05 (Government of Canada, 2013) identifying the Stage 1 AA study area.



Map 2: Limits of the Junction Street WWPS Site.



Map 3: Limits of the Junction Street WWPS Site and Junction Street Forcemain – Alternative B.



Map 4: Limits of the Junction Street WWPS Site and Junction Street Forcemain – Alternative C.



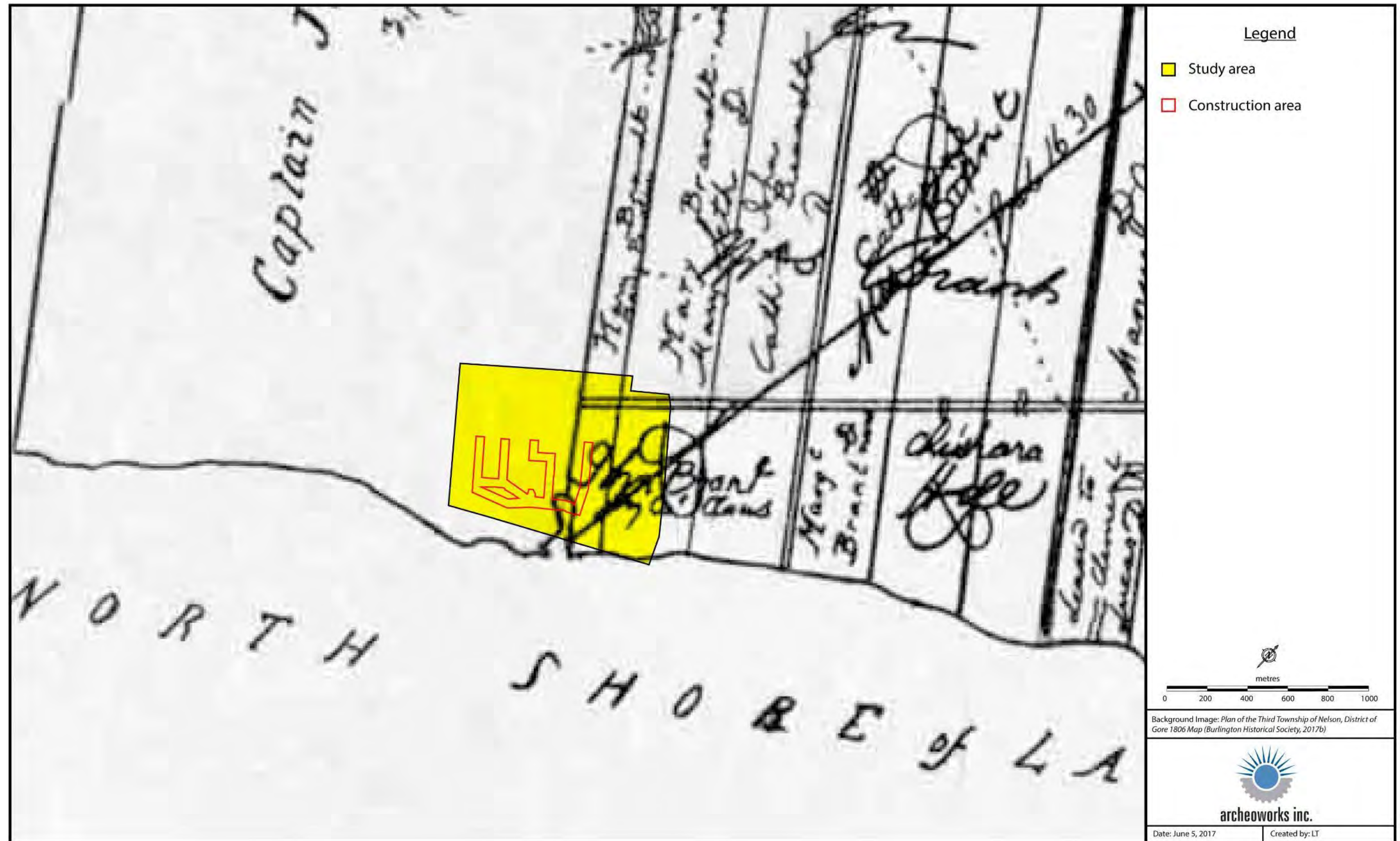
Map 5: Limits of the Junction Street WWPS Site and Junction Street Forcemain – Alternative D.



Map 6: Limits of the Junction Street WWPS Site and Junction Street Forcemain – Alternative E.



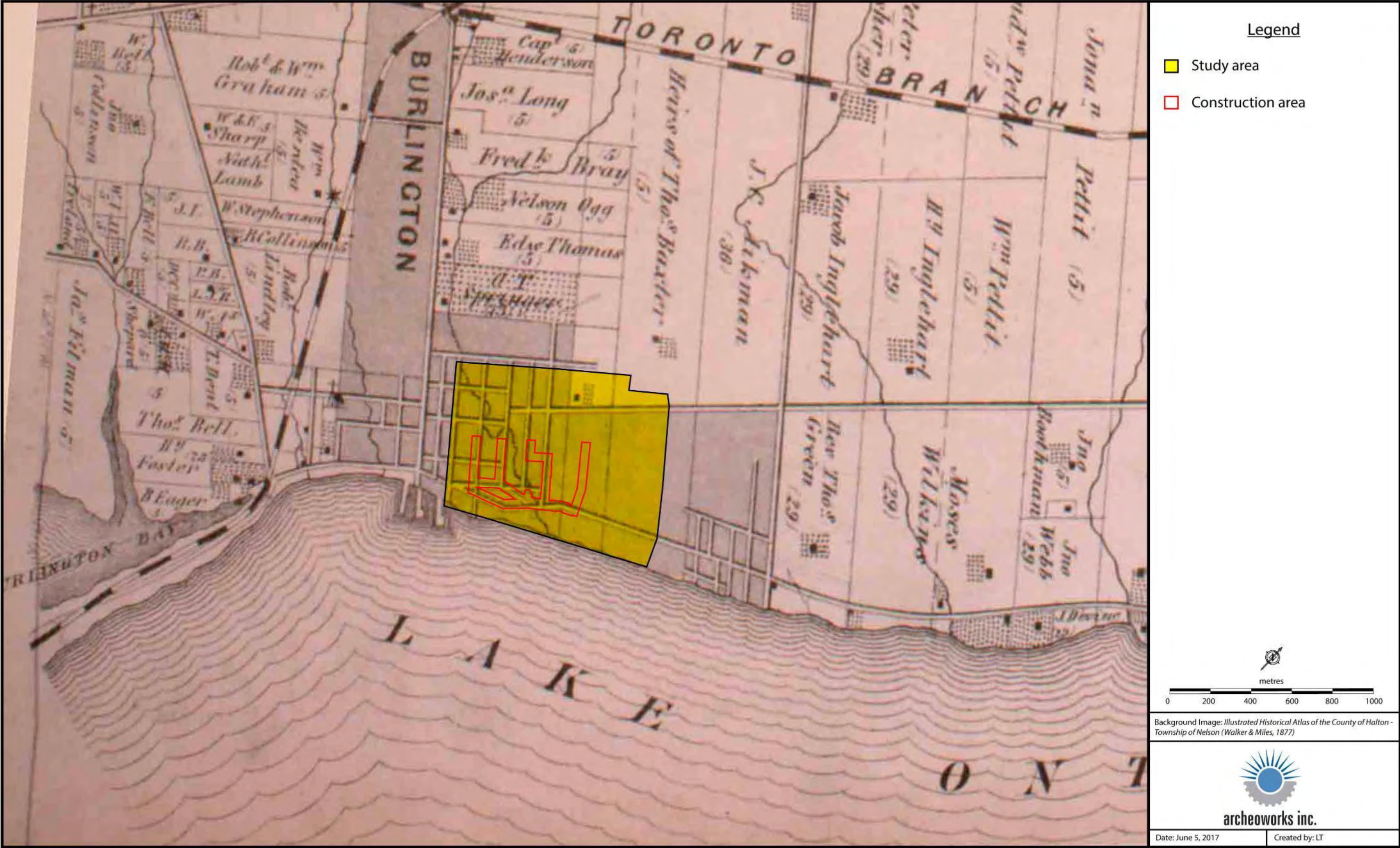
Map 7: Limits of the Junction Street WWPS Site and Junction Street Forcemain – Alternative F.



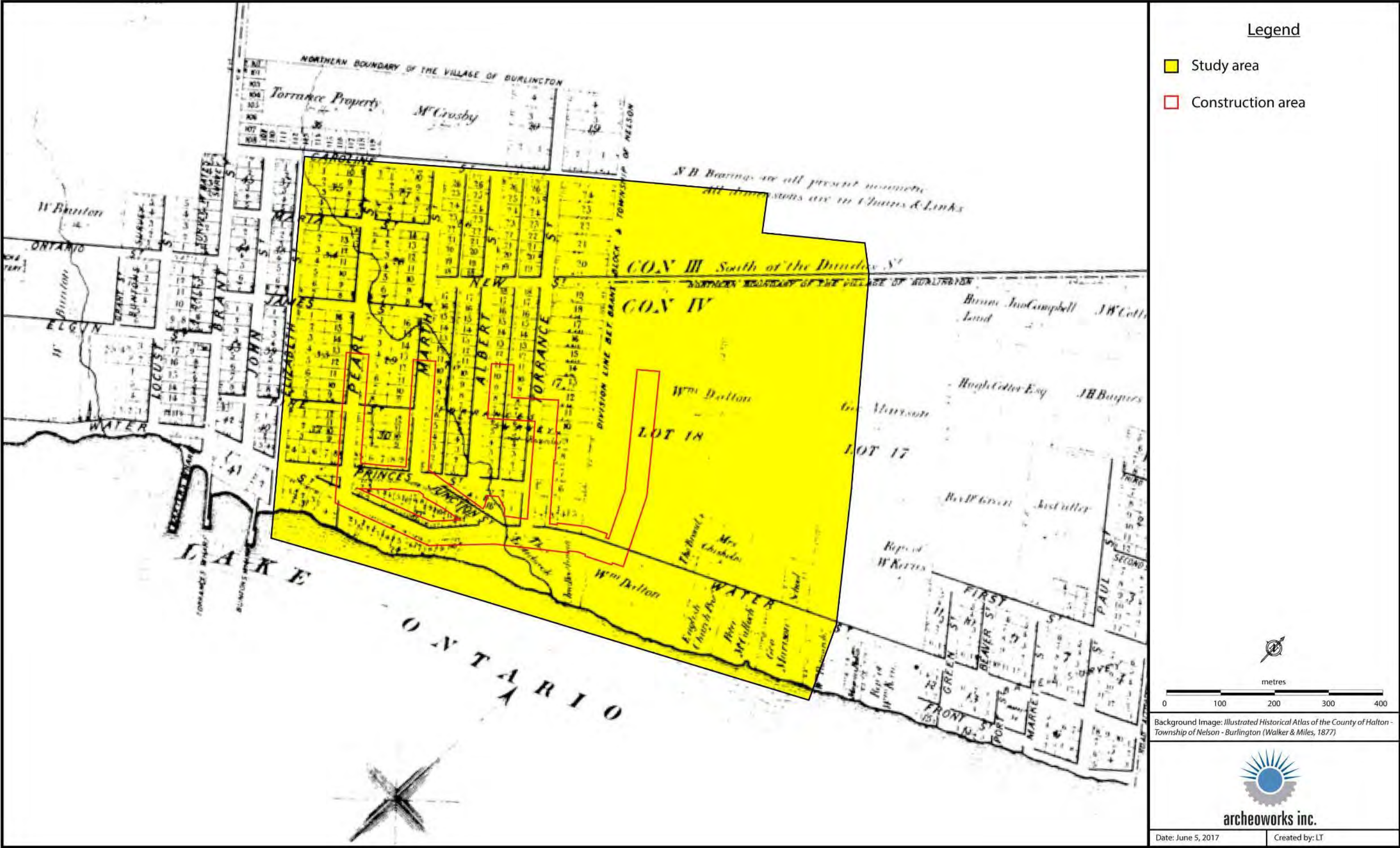
Map 8: Stage 1 AA study area within the 1806 Plan of the Third Township of Nelson, District of Gore (Burlington Historical Society, 2017b).



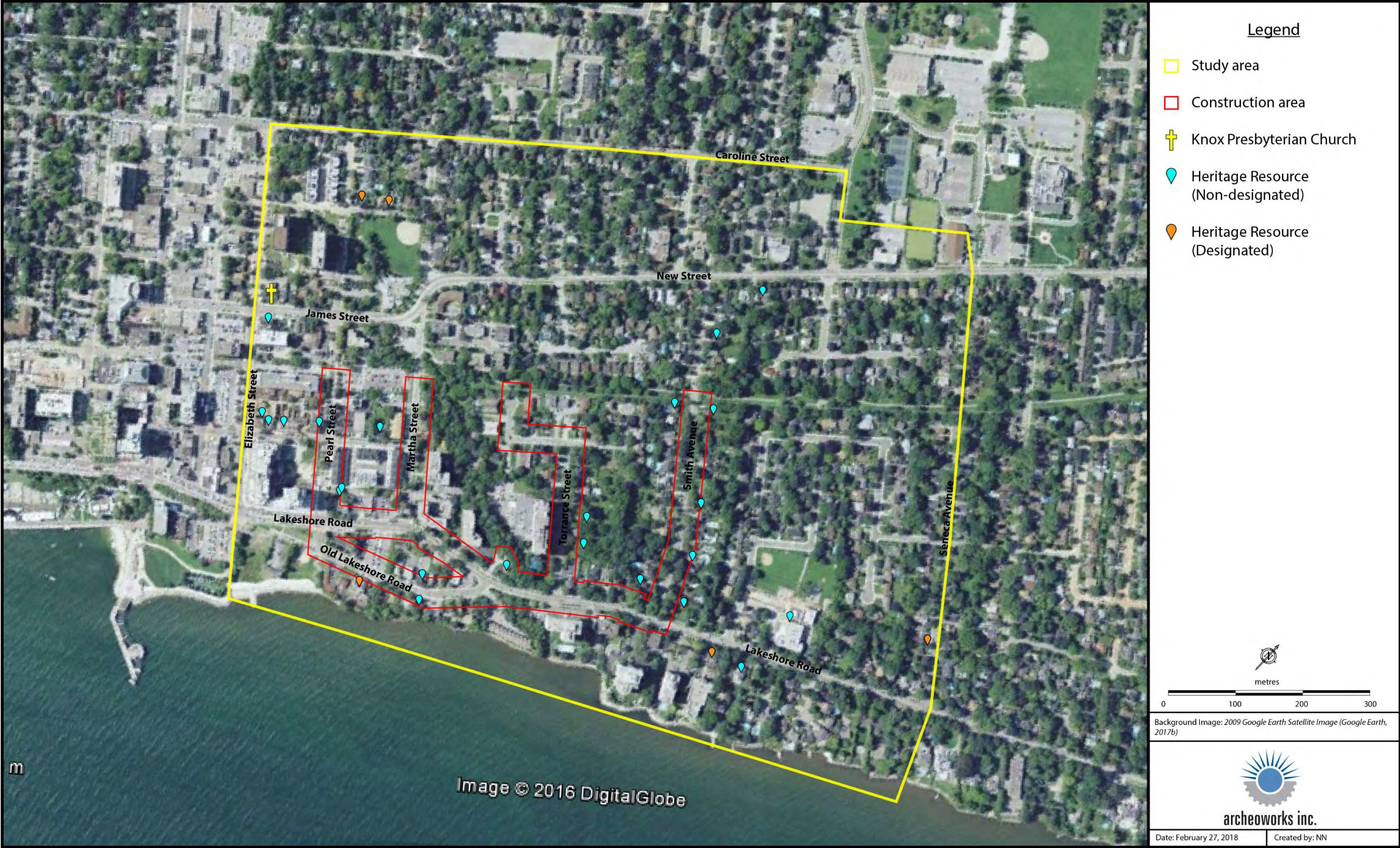
Map 9: Stage 1 AA study area within the 1858 Tremaine’s Map of the County of Halton – Township of Nelson (Tremaine, 1858).



Map 10: Stage 1 AA study area within the Illustrated Atlas of the Country of Halton – Township of Nelson (Walker & Miles, 1877).



Map 11: Stage 1 AA study area within the Illustrated Atlas of the Country of Halton – Township of Nelson – Burlington (Walker & Miles, 1877).



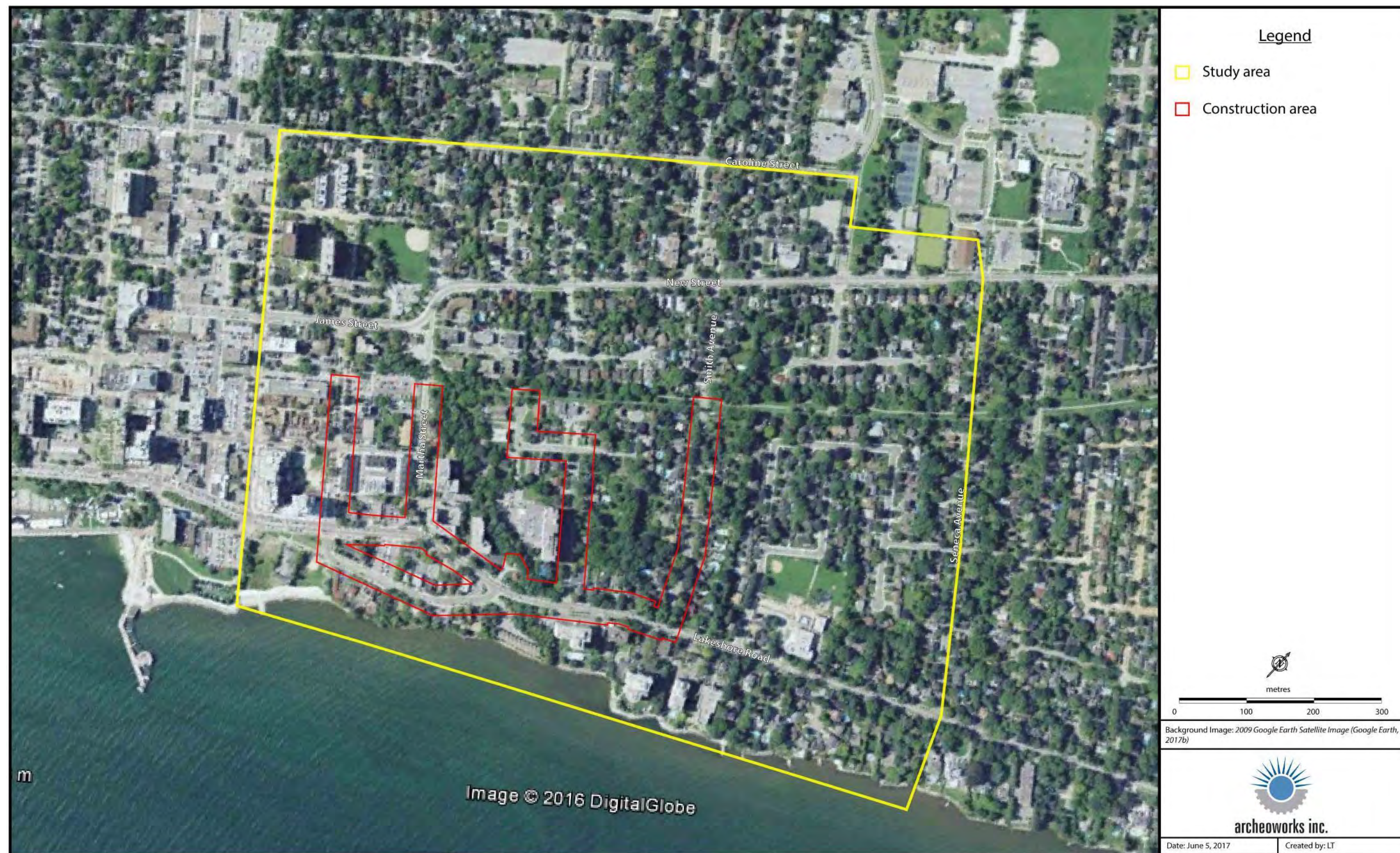
Map 12 Illustrating the location of heritage resources within the study area.



Map 13: Stage 1 AA study area within a 1954 aerial photograph (Hunting Survey Corporation Ltd., 1954).



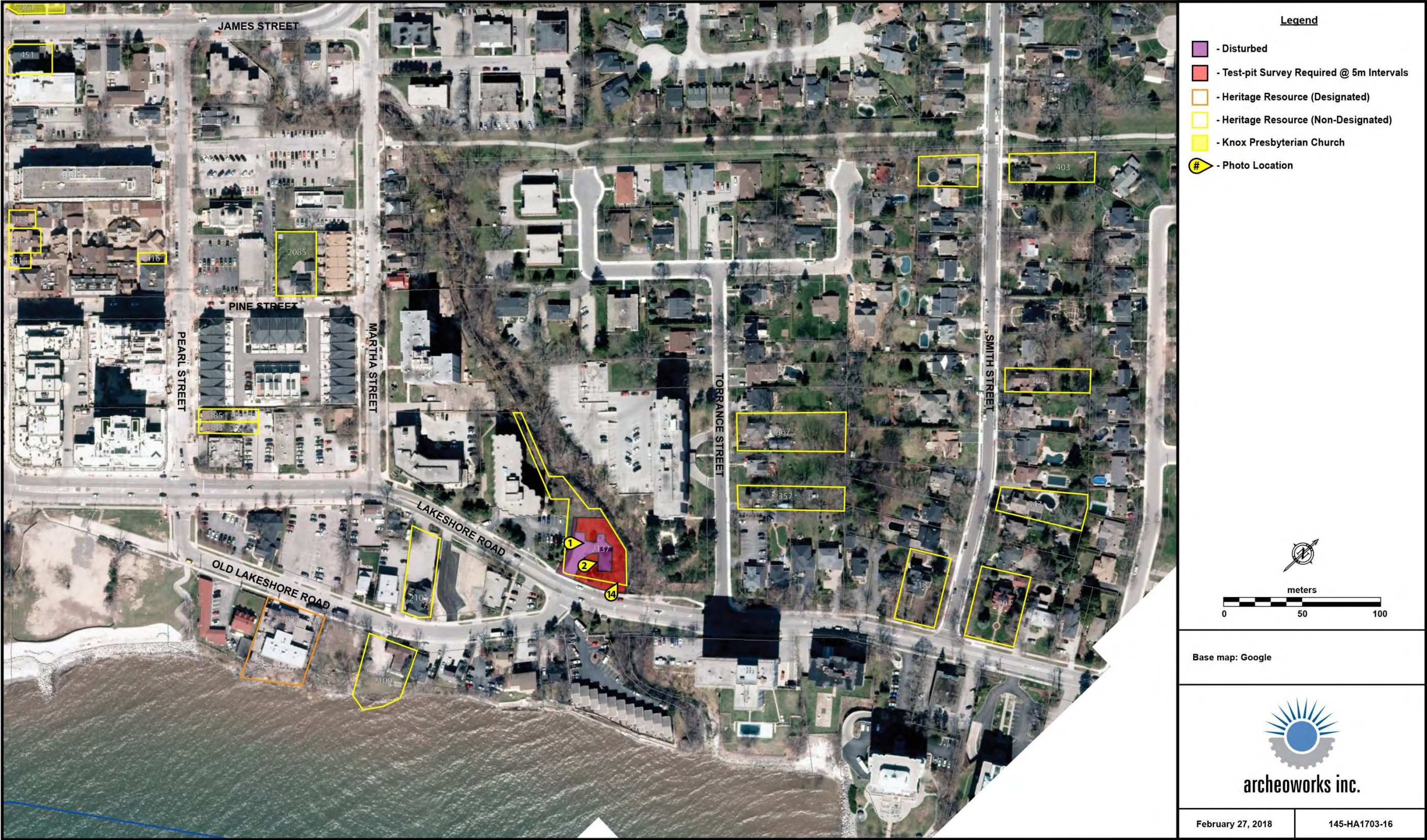
Map 14: Stage 1 AA study area within a 2005 satellite image (Google Earth, 2017a).



Map 15: Stage 1 AA study area within a 2009 satellite image (Google Earth, 2017b).



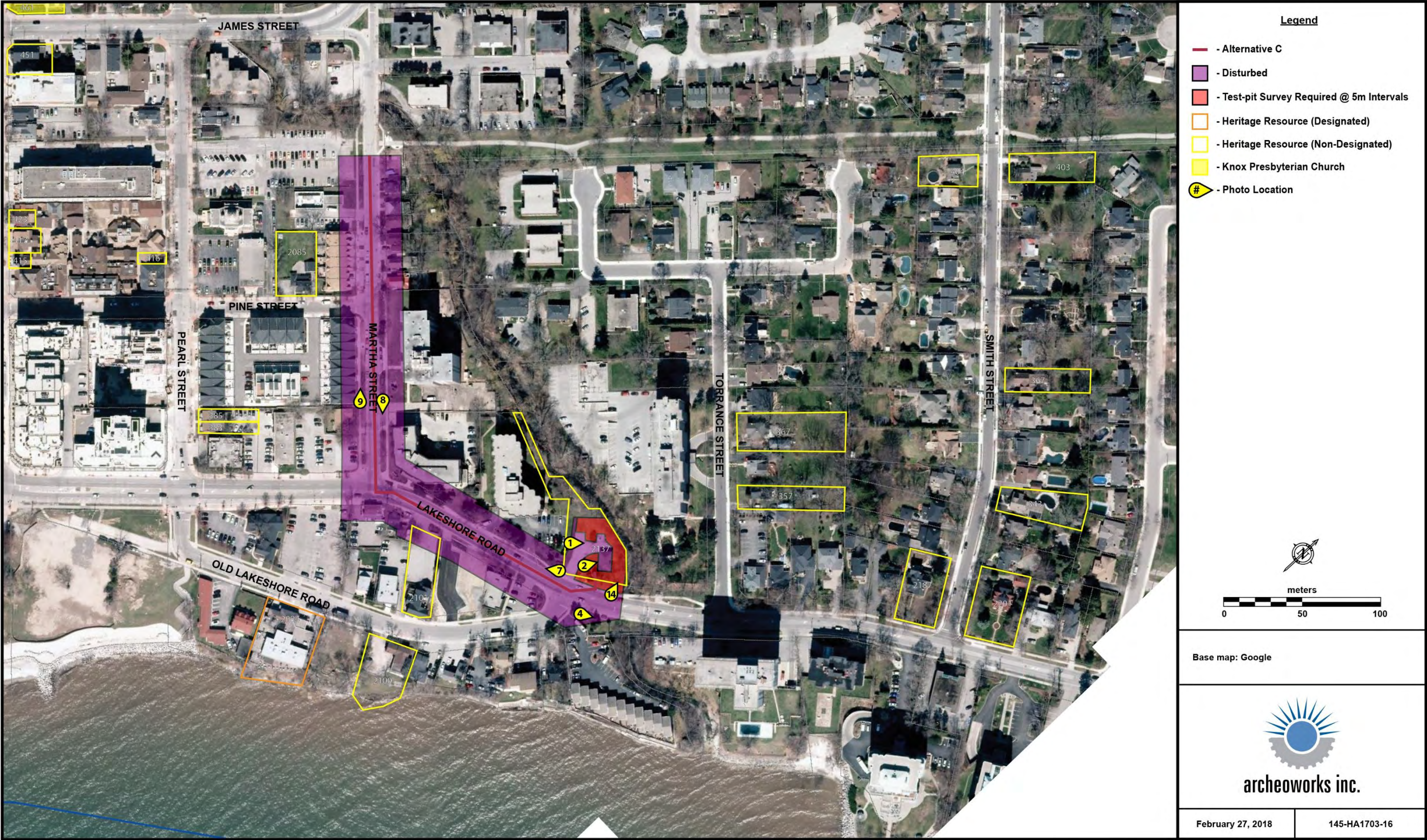
Map 16: Stage 1 AA study area within a 2016 satellite image (Google Earth, 2017c).



Map 17: Stage 1 AA results with of the Junction WWPS Site, with photo locations illustrated.



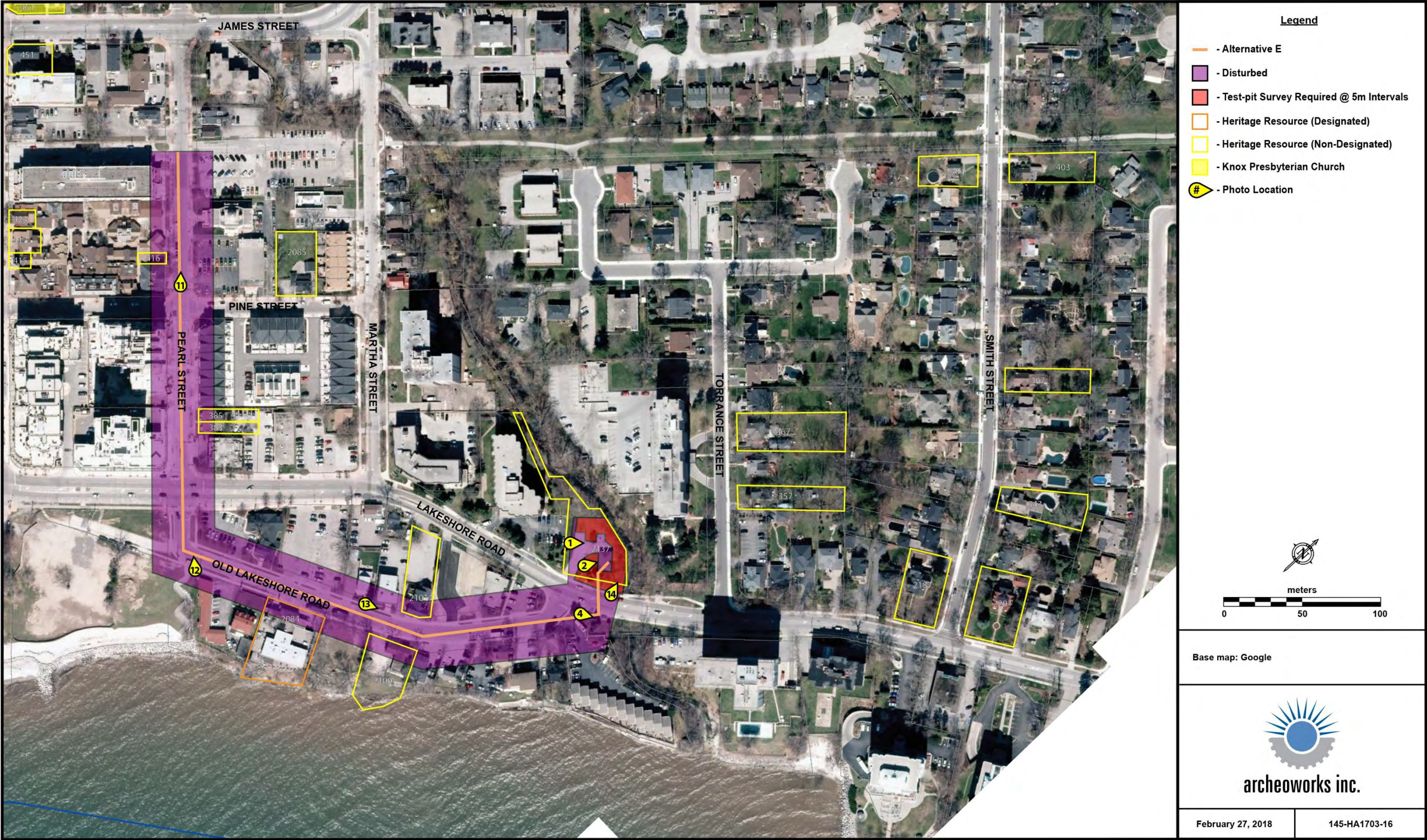
Map 18: Stage 1 AA results with of the Junction WWPS site and Junction Street Forcemain – Alternative B, with photo locations illustrated.



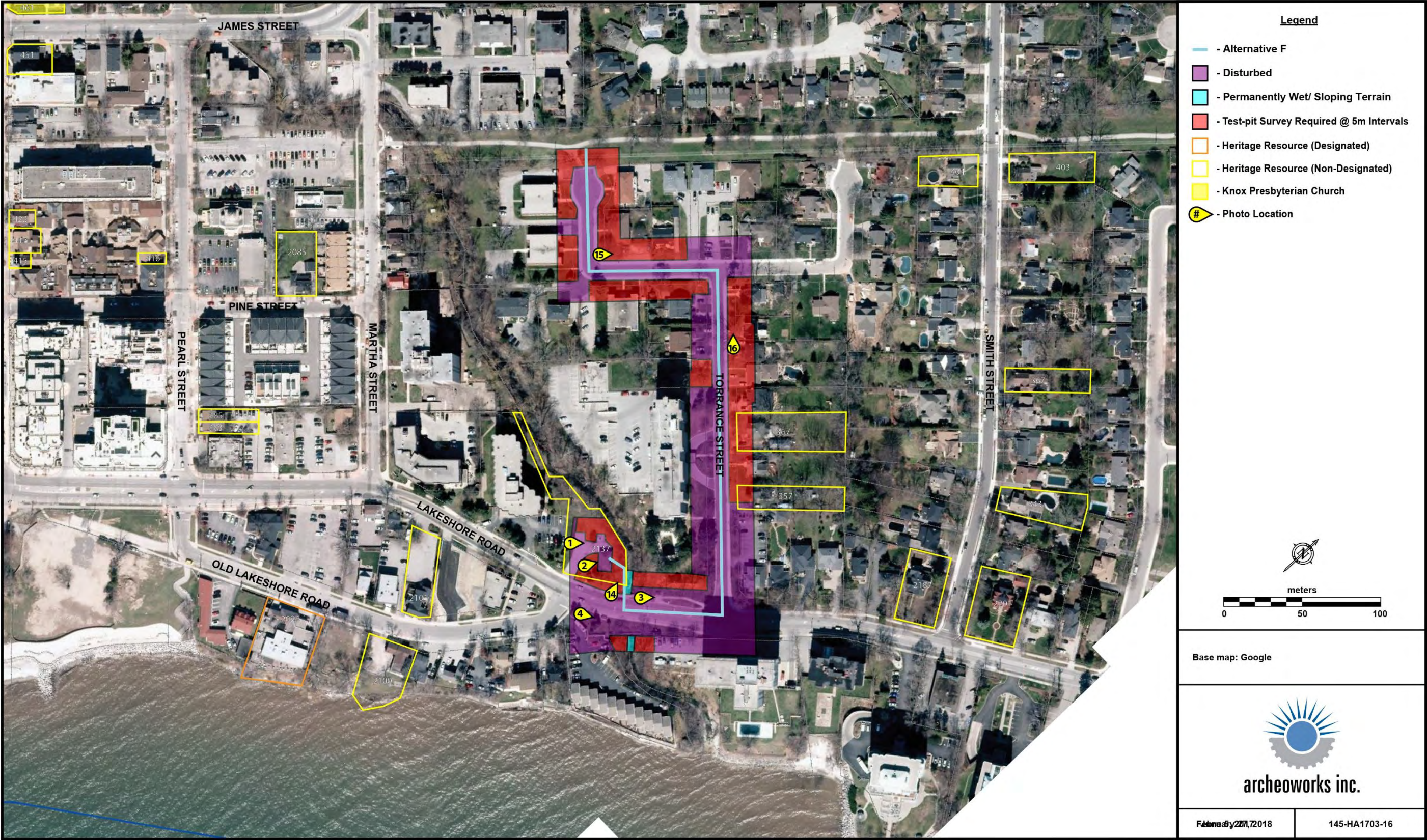
Map 19: Stage 1 AA results with of the Junction WWPS site and Junction Street Forcemain – Alternative C, with photo locations illustrated.



Map 20: Stage 1 AA results with of the Junction WWPS site and Junction Street Forcemain – Alternative D, with photo locations illustrated.



Map 21 : Stage 1 AA results with of the Junction WWPS site and Junction Street Forcemain – Alternative E, with photo locations illustrated.



Map 22: Stage 1 AA results with of the Junction WWPS site and Junction Street Forcemain – Alternative F, with photo locations illustrated.

APPENDIX B: SUMMARY OF BACKGROUND RESEARCH

Feature of Archaeological Potential		Yes	No	Unknown	Comment
1	Known archaeological sites within 300 m?		X		If Yes, potential confirmed
Physical Features		Yes	No	Unknown	Comment
2	Is there water on or adjacent to the property?	X			If Yes, potential confirmed
2a	Presence of primary water source within 300 metres of the study area (lakes, rivers, streams, creeks)	X			If Yes, potential confirmed
2b	Presence of secondary water source within 300 metres of the study area (intermittent creeks and streams, springs, marshes, swamps)		X		If Yes, potential confirmed
2c	Features indicating past presence of water source within 300 metres (former shorelines, relic water channels, beach ridges)		X		If Yes, potential confirmed
2d	Accessible or inaccessible shoreline (high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh)		X		If Yes, potential confirmed
3	Elevated topography (knolls, drumlins, eskers, plateaus, etc.)		X		If Yes to two or more of 3-5 or 7-10, potential confirmed
4	Pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground		X		If Yes to two or more of 3-5 or 7-10, potential confirmed
5	Distinctive land formations (mounds, caverns, waterfalls, peninsulas, etc.)		X		If Yes to two or more of 3-5 or 7-10, potential confirmed
Cultural Features		Yes	No	Unknown	Comment
6	Is there a known burial site or cemetery that is registered with the Cemeteries Regulation Unit on or directly adjacent to the property?		X		If Yes, potential confirmed
7	Associated with food or scarce resource harvest areas (traditional fishing locations, food extraction areas, raw material outcrops, etc.)		X		If Yes to two or more of 3-5 or 7-10, potential confirmed
8	Indications of early Euro-Canadian settlement (monuments, cemeteries, structures, etc.) within 300 metres	X			If Yes to two or more of 3-5 or 7-10, potential confirmed
9	Associated with historic transportation route (historic road, trail, portage, rail corridor, etc.) within 100 metres of the property	X			If Yes to two or more of 3-5 or 7-10, potential confirmed
Property-specific Information		Yes	No	Unknown	Comment
10	Contains property designated under the Ontario Heritage Act	X			If Yes, potential confirmed
11	Local knowledge (aboriginal communities, heritage organizations, municipal heritage committees, etc.)		X		If Yes, potential confirmed
12	Recent ground disturbance, not including agricultural cultivation (post-1960, extensive and deep land alterations)	X – parts of the study area			If Yes, low archaeological potential is determined

APPENDIX C: IMAGES



Image 1 View of disturbances associated with existing Junction Street WWPS and paved access route. Also, view of grassed and treed areas retaining archaeological potential.



Image 2 View of disturbances associated with existing Junction Street WWPS. Also, view of grassed area retaining archaeological potential.



Image 3 View along the north side of Lakeshore Road of disturbances associated with underground utilities and infrastructure development.



Image 4 View along the south side of Lakeshore Road of disturbances associated with underground utilities and infrastructure development.



Image 5 View of disturbances along the west side of Smith Street associated with underground utilities and infrastructure development. Note the presence of a utility flag. Also, grassed/treed areas beyond the existing ROW, which retains archaeological potential.



Image 6 View of disturbances associated with underground utilities and infrastructure development along the east side of Smith Street. Also, grassed/treed areas beyond the existing ROW, which retains archaeological potential.



Image 7 View along the north side of Lakeshore Road of disturbances associated with infrastructure development, existing buildings, and utilities.



Image 8 View along the east side of Martha Street of disturbances associated with infrastructure development, paved driveways, existing buildings, and utilities.



Image 9 View along the west side of Martha Street of disturbances associated with infrastructure development, existing buildings, and utilities.



Image 10 View along the south side of Lakeshore Road of disturbances associated with infrastructure development, existing buildings, paved parking areas, and utilities.



Image 11 Looking north along Pearl Street at disturbances associated with infrastructure development, existing buildings, paved parking areas, and utilities.



Image 12 Looking north toward Pearl Street from Old Lakeshore Road at disturbances associated with infrastructure development, existing buildings, paved parking areas, and utilities.



Image 13 Looking east along Old Kingston Road at disturbances associated with infrastructure development, existing buildings, and utilities.



Image 14 View of permanently wet area and steeply sloping terrain. Also, view of grassed area and valleylands retaining archaeological potential.



Image 15: Looking east along Torrance Street at grassed area that retains archaeological potential.



Image 16 : Looking north along Torrance Street at grassed area that retains archaeological potential.

APPENDIX D: INVENTORY OF DOCUMENTARY AND MATERIAL RECORD

Project Information				
Project Number:		145-HA1703-16		
Licensee:		Nimal Nithiyanantham (P390)		
MTCS PIF:		P390-0253-2016		
Document/ Material			Location	Comments
1.	Research/ Analysis/ Reporting Material	Digital files stored in: /2016/145-HA1703-16 - Halton Region WWPS Sites/Stage 1 - Junction Street WWPS	Archeoworks Inc., 16715-12 Yonge Street, Suite 1029, Newmarket, ON, Canada, L3X 1X4	Stored on Archeoworks network servers
2.	Written Field Notes/ Annotated Field Maps/ Images	Digital Images: 75 digital photos Field maps/notes: Three (3) pages	Archeoworks Inc., 16715-12 Yonge Street, Suite 1029, Newmarket, ON, Canada, L3X 1X4	Stored on Archeoworks network servers

Under Section 6 of Regulation 881 of the *Ontario Heritage Act*, Archeoworks Inc. will, “keep in safekeeping all objects of archaeological significance that are found under the authority of the licence and all field records that are made in the course of the work authorized by the licence, except where the objects and records are donated to Her Majesty the Queen in right of Ontario or are directed to be deposited in a public institution under subsection 66 (1) of the Act.”