Stage 1 Archaeological Assessment: Silver Lake and Laurel Creek in Waterloo Park Class Environmental Assessment Addendum

Part of Lots 13, 14, 23, and 24, German Co. Tract, Geographic Township of Waterloo, former County of Waterloo, now City of Waterloo, Municipality of Waterloo, Ontario

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PIF Number: P392-0206-2017
Project Number: 161413464

ORIGINAL REPORT

April 5, 2018

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Executive Summary

Stantec Consulting Ltd. (Stantec) was retained by the City of Waterloo to complete a Stage 1 archaeological assessment for the Class Environmental Assessment Addendum of Laurel Creek and Silver Lake in Waterloo Park, in part of Lots 13, 14, 23, and 24, German Co. Tract, City of Waterloo, Ontario.

The Stage 1 archaeological assessment, involving background research and a property inspection, resulted in the determination that a portion of the study area exhibits high potential for the identification and recovery of archaeological resources. As such, in accordance with Section 1.3.1 and Section 7.7.4 Standard 1a of the Ministry of Tourism, Culture and Sport's (MTCS) 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), **a Stage 2 archaeological assessment is recommended for part of the study area**

The Stage 2 archaeological assessment will consist of a test-pit survey at five-metre intervals in accordance with Section 2.1.2 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

The MTCS is asked to review the results presented and accept this report into the Ontario Public Register of Archaeological Reports. Additional archaeological assessment is required; hence the study area remains subject to Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990a) and may not be altered, or have artifacts removed from it, except by a person holding an archaeological licence.

The Executive Summary highlights key points from the report only; for complete information and findings, the reader should examine the complete report.

1.0 PROJECT CONTEXT

1.1 DEVELOPMENT CONTTEXT

Stantec Consulting Ltd. (Stantec) was retained by the City of Waterloo to complete a Stage 1 archaeological assessment for the Class Environmental Assessment (EA) Addendum of Laurel Creek and Silver Lake in Waterloo Park, in part of Lots 13, 14, 23, and 24, German Co. Tract, City of Waterloo, Ontario (Figure 1). The purpose of the EA Addendum is to determine a preferred rehabilitation option for Silver Lake and Laurel Creek within Waterloo Park.

1.1.1 Objectives

The objectives of the Stage 1 assessment are to compile available information about the known and potential archaeological resources within the study area and to provide specific direction for the protection, management and/or recovery of these resources. In compliance with the provincial standards and guidelines set out in the Ministry of Tourism, Culture and Sport's (MTCS) 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), the objectives of the Stage 1 Archaeological Overview/Background Study are as follows:

- To provide information about the study area's geography, history, previous archaeological fieldwork and current land conditions;
- To evaluate the study area'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.

To meet these objectives, Stantec archaeologists employed the following research strategies:

- A review of relevant archaeological, historic, and environmental literature pertaining to the study area;
- A review of pertinent historic maps such as historical atlases;
- A review of the Region of Waterloo's (1989) *Archaeological Facilities Master Plan*;
- An examination of the Ontario Archaeological Sites Database (ASDB) to determine the presence of known archaeological sites in and around the study area; and
- A property inspection of the study area.

Permission to enter the study area to identify features of archaeological potential was provided by the City of Waterloo.

1.2 HISTORICAL CONTEXT

1.2.1 Post-contact Aboriginal Resources

"Contact" is typically used as a chronological benchmark in discussing Aboriginal archaeology in Canada and describes the contact between Aboriginal and European cultures. The precise moment of *contact* is a constant matter of discussion. Contact in what is now the province of Ontario is broadly assigned to the 16th century (Loewen and Chapdelaine 2016).

From the mid-16th century until the turn of the 17th century, the region of the study area is understood as being within the territory of Iroquoian populations who were probably ancestral to those historically described as the *Neutre* Nations (by the French) or the *Attiwandaron* (by the Huron-Wendat) (Birch 2015: Fig.1). The autonym of the Attiwandaron is not conclusively known (Birch 2015).

Claude Bernou's 1680 map indicates the then dispersed *Attiragenrega* Nation occupied the region of the upper Grand River (White 1978: Figure 2) and one archaeological settlement which is associated with the Neutral Nation is located within one kilometre of the study area (Government of Ontario 2017). In 1649, the Seneca, with the Mohawk, led a campaign into southern Ontario and dispersed the Huron-Wendat, Tionontate (Petun) and Attiwandaron (Neutral) Nations, which resulted in the Seneca established dominance over the region (Heidenreich 1978).

By 1690, Ojibwa speaking people had begun moving south into the lower Great Lakes basin (Konrad 1981; Rogers 1978). The Mississauga economy since the turn of the 18th century focused on fishing and the fur trade, supplemented by agriculture and hunting. The study area falls within the historic territory of the formerly Credit River Mississauga Nation, modernly the Mississaugas of the New Credit First Nation. The epithet of "Credit River" was made based on the Nations promptness to repay any debts (Mississaugas of the New Credit First Nation n.d.).

The expansion of the fur trade led to increased interaction between European and Aboriginal people, and ultimately intermarriage between European men and Aboriginal women. During the 18th century the progeny of these marriages began to no longer identify with either their paternal or maternal cultures, but instead as Métis. The ethnogenesis of the Métis progressed with the establishment of distinct Métis communities along the major waterways in the Great Lakes of Ontario. Métis communities were primarily focused around the upper Great Lakes and along Georgian Bay, however, Métis people have historically lived throughout Ontario (Métis Nation of Ontario 2016; Stone and Chaput 1978: 607-608).

The study area is situated within the limits of the 1792 Between the Lakes Purchase by a 1784 indenture between the Government of Canada ("the Crown") and the Mississauga Nation [*sic*] (Indigenous and Northern Affairs Canada 2016: Figure 2).

The study area is situated within the Haldimand Tract (Figure 2). This original tract consisted of approximately 273,000 hectares and occupied an approximately 10 kilometre (six miles) deep tract on either side of the Grand River from mouth to source. This tract was granted by the Crown to the Mohawks "and such others of the Six Nations Indians as wish to settle in that quarter" (Government of Canada 1905) in restitution for the loss of their homeland following the American War of Independence and in recognition of their loyalty to the Crown during that war. The original Six Nations (Haudenosaunee) settlers were also accompanied by a number of Delaware, Nanticoke, Tutelo, Creek, and Cherokee who had previously settled with the Haudenosaunee prior to the beginning of the war. Initial controversy existed over the sovereignty of the Haudenosaunee, with the Crown asserting that the lands granted were non-transferrable. The assertion was made in 1792 with the Simcoe patent, stipulating that all land transactions required Crown approval. This patent was rejected by the Haudenosaunee and subsequently more than 142,000 hectares were leased or sold to Euro-Canadian inhabitants. In 1834, a Crown investigation was held. The Crown concluded that removal of the Euro-Canadian settlers would be too costly and the leases were confirmed as legal (Weaver 1978: 525).

Further controversy existed over the description of the extent of the tract, specifically regarding the headwaters of the Grand River beyond Nichol Township (in present day Wellington County). Despite the Grand headwaters extending beyond, the Crown asserted that the tract ended at Nichol Township on the basis of the description of the extent of land purchased in 1784 from the Mississauga (Weaver 1978: 525). The inconsistency between the description of the Haldimand Tract in the 1784 treaty and the surveyed extent of the Tract asserted by the Crown continues into the modern day to be a grievance (Six Nations Lands & Resources Department 2015). The Haudenosaunee and accompanying Aboriginal peoples settled in villages along the Grand River; no Aboriginal groups settled initially north of Brantford. In the area around Brantford, villages were occupied by the Mohawk, (Upper) Cayuga, Oneida, Tutelo, and Tuscarora Nations. In the late 1820s, and into the 1830s, itinerant Christian missionaries became increasingly active across the Tract and many Haudenosaunee who had settled upriver converted to Christianity. While clan and lineage affiliations under the Longhouse social organization had been important aspects of Haudenosaunee society, this affiliation became rare among Christians for whom the nuclear family became the primary social and economic unit (Weaver 1978: 525-527).

From 1830 onward, the government of Canada pursued an active assimilation policy, such as in 1869 with the statutorily enacted patrilineal kinship, which was contrary to traditional matrilineal kinship. Despite these policies, Longhouse traditionalism persisted into the late 19th century. By the late 1830s, most of the Haudenosaunee population had left the original villages and settled farms along the Tract. Haudenosaunee economy in the 19th century was comparable to that of neighbouring Euro-Canadian inhabitants, cultivating maize, only on a small scale, with larger scale cultivation of cash crops such as wheat, oats, hay, and peas. With the continued piecemeal sales of lands, in 1841 the remaining approximately 89,000 hectares of the Tract was surrendered to the Crown and the Six Nations Reserve was established (Weaver 1978: 525-526).

1.2.2 Euro-Canadian Resources

The study area is situated within the former Geographic Township of Waterloo, Regional Municipality of Waterloo (formerly known as Waterloo County), Ontario. The earliest transportation corridors in this part of the Regional Municipality of Waterloo included trails along the Grand River, and the Grand River itself. Erb Street, which runs just to the south of the study area, was surveyed as part of the road grid in the early 19th century. Joseph Schoerg and Samuel Betzner Jr., two Mennonite brothers-in-law from Franklin County, Pennsylvania, settled in the area in 1800. The German Company Tract was created in 1805 by land purchased from Richard Beasley by the Pennsylvania Mennonites. The Germany Company Tract consisted of 60,000 acres of land which would become Waterloo Township in 1853. The purchase was completed by the Pennsylvania Mennonites in order to settle a Mennonite colony to practice religious ideals (English and McLaughlin 1996). Settlers typically came from Pennsylvania by Conestoga wagons. Most settlers purchased land title deeds directly from Richard Beasley. However, it was later found out that Richard Beasley did not have clear title to Block 2, as he shared it with Joseph Wilson and John B. Roseau, and these deeds were judged to be invalid. The settlers were forced to ask for financial relief from the United States. Additional funds were raised to purchase outright the 60,000 acres Tract (Parsell & Co. 1881).

The War of 1812 interrupted settlement in Waterloo Township. The Mennonite settlers refused to carry arms, so were employed in camps and hospital and as teamsters in transport service during the war. By 1856, the village of Williamsburg had been established immediately to the north of the study area by a mixture of Mennonite, German, and English settlers (Parsell & Co. 1881: 41-42). The county of Waterloo was created in the year 1863 after separation from what is now known as Brant County (Irwin and Burnham 1867). The county contains ten municipalities: Galt, Berlin, Hespeler, New Hamburg, Preston, Waterloo, North Dumfries, Wellesley, Wilmot and Woolwich (Parsell & Co. 1881).

The 1861 (Tremaine 1861) and 1881 (Parsell & Co. 1881) maps were reviewed for this Stage 1 archaeological assessment. The landowner information illustrated on these maps for the applicable portion of each lot is summarized in Tables 1 and 2 below.

Table 1: Applicable Landowner Information from the 1861 Historic Map

Tract	Lot	Landowner	Historic Features
German Co.	13	D. Snider	None illustrated
		Dr. Joseph Good	None illustrated
	14	J. Snider	Mill pond (J. Snider mill owner)
	23	Menno Snider	None illustrated
	24	Jacob C. Snider	None illustrated

Table 2: Applicable Landowner Information from the 1881 Historic Map

Tract	Lot	Landowner	Historic Features
German Co.	13	John Ungerr	None illustrated
	14	None illustrated	Structure shown to east of study area; Town of Waterloo developed up to southeast corner of study area
	23	None illustrated	None illustrated
	24	Amos Weber	Structure at far north-west corner, outside of study area

Historical county atlases were produced primarily to identify factories, offices, residences and landholdings of subscribers and were funded by subscription fees. Landowners who did not subscribe were not always listed on the maps (Caston 1997:100). As such, all structures were not necessarily depicted or placed accurately (Gentilcore and Head 1984).

1.3 ARCHAEOLOGICAL CONTEXT

1.3.1 The Natural Environment

The study area is located within the Waterloo Hills physiographic region of southern Ontario within kame moraine landform (Chapman and Putnam 1984). The Waterloo Hills physiographic region consists of approximately 768 square kilometres centred on the Region of Waterloo. The hills consist of a combination of sandy till ridges and kame moraine deposits, with sandy outwash deposits between hills. The surface horizons across the region are predominantly fine sand. The Grand River valley through the region is characterized by extensive alluvial terraces. Upland soils are typically well-drained. The natural forest covers consisted of pine, sugar maple, beech, wild cherry, and red oak (Chapman and Putnam 1984: 136).

Moraines are glacial features which consist of glacial till deposited at the forefront of the glacier following a halt in its advance. Moraines are characterized topographically by a "knob and kettle" landscape, consisting of a series of hills with shallow interstitial lakes formed when blocks of ice became marooned in the sediments and melted in place (Chapman and Putnam 1984: 11-12). Kame moraines possess the typical terrain features of all moraines however are formed by glacial meltwaters depositing sand and gravel on the ice front and are typically stratified (Chapman and Putnam 1984: 12).

The study area is underlain by a variety of quaternary deposits (Ontario Geological Survey 2010). These are summarized in Table 3.

Table 3: Surficial Geology Underlying Study Area

Deposit type	Description	Primary Texture	Secondary Texture
Till	Few stones, overlying Paleozoic terrain	Sand	Silt

Deposit type	Description	Primary Texture	Secondary Texture
Ice-contact	Stratified	Sand and gravel	Silt, clay, and till
Alluvial	Holocene	Clay, silt, sand, gravel	Organic

Detailed soils information is not mapped within the study area due to the extensive urban development of the City of Waterloo disturbing the natural soils (Agriculture and Agri-Food Canada 1996).

The study area includes Laurel Creek and Silver Lake, a historic millpond. Laurel Creek is a subwatershed of the Grand River, and drains an area of approximately 74 square kilometres (Grand River Conservation Authority 2004). The Grand River itself drains an area of approximately 6,734 square kilometres and is approximately 290 kilometres long. The upper reaches and tributaries of the Grand River occupy former spillways, whereas the lower channel transits a former lake plain. The Grand River has always been an important river for human settlement (Chapman and Putnam 1984: 95-98).

1.3.2 Pre-contact Aboriginal Resources

It has been demonstrated that Aboriginal people began occupying southern Ontario as the Laurentide glacier receded, as early as 9,000 B.C. (Ellis and Ferris 1990:13). Much of what is understood about the lifeways of these Aboriginal peoples is derived from archaeological evidence and ethnographic analogy. In Ontario, Aboriginal culture prior to the period of contact with European peoples has been distinguished into cultural periods based on observed changes in material culture. These cultural periods are largely based in observed changes in formal lithic tools, and separated into the Early Paleo-Indian, Late Paleo-Indian, Early Archaic, Middle Archaic, and Late Archaic periods. Following the advent of ceramic technology in the Aboriginal archaeological record, cultural periods are separated into the Early Woodland, Middle Woodland, and Late Woodland periods, based primarily on observed changes in formal ceramic decoration. It should be noted that these cultural periods do not necessarily represent specific cultural identities but are a useful paradigm for understanding changes in Aboriginal culture through time. The current understanding of Aboriginal archaeological culture is summarized in Table 4 below, based on Ellis and Ferris (1990).

Table 4: Cultural Chronology for Southern Ontario

Cultural Period	Characteristics	Time Period	Comments
Early Paleo-Indian	Fluted Projectiles	9,000 – 8,400 B.C.	spruce parkland/caribou hunters
Late Paleo-Indian	Hi-Lo Projectiles	8,400 – 8,000 B.C.	smaller but more numerous sites
Early Archaic	Kirk and Bifurcate Base Points	8,000 – 6,000 B.C.	slow population growth

Cultural Period	Characteristics	Time Period	Comments
Middle Archaic	Brewerton-like points	6,000 – 2,500 B.C.	environment similar to present
Late Archaic	Lamoka (narrow points)	2,500 – 1,800 B.C.	increasing site size
	Broad Points	1,800 – 1,500 B.C.	large chipped lithic tools
	Small Points	1,500 – 1,100 B.C.	introduction of bow hunting
Terminal Archaic	Hind Points	1,100 - 950 B.C.	emergence of true cemeteries
Early Woodland	Meadowood Points	950 - 400 B.C.	introduction of pottery
Middle Woodland	Dentate/Pseudo-Scallop Pottery	400 B.C. - A.D. 500	increased sedentism
	Princess Point	A.D. 550 - 900	introduction of corn
Late Woodland	Early Ontario Iroquoian	A.D. 900 - 1300	emergence of agricultural villages
	Middle Ontario Iroquoian	A.D. 1300 - 1400	long longhouses (100m +)
	Late Ontario Iroquoian	A.D. 1400 - 1650	tribal warfare and displacement
Contact Aboriginal	Various Algonkian Groups	A.D. 1700 - 1875	early written records and treaties
Late Historic	Euro-Canadian	A.D. 1796 - present	European settlement

Between 9,000 and 8,000 B.C., Aboriginal populations were sustained by hunting, fishing and foraging and lived a relatively mobile existence across an extensive geographic territory. Despite these wide territories, social ties were maintained between groups, one method in particular was through gift exchange, evident through exotic lithic material documented on many sites (Ellis 2013: 35-40).

By approximately 8,000 B.C., evidence exists and becomes more common for the production of ground-stone tools such as axes, chisels and adzes. These tools themselves are believed to be indicative specifically of woodworking. This evidence can be extended to indicate an increase in craft production and arguably craft specialization. This latter statement is also supported by evidence, dating to approximately 7,000 B.C. of ornately carved stone objects which would be laborious to produce and have explicit aesthetic qualities (Ellis 2013: 41). This is indirectly indicative of changes in social organization which permitted individuals to devote time and effort to craft specialization. Since 8,000 B.C., the Great Lakes basin experienced a low-water phase, with shorelines significantly below modern lake levels (Stewart 2013: Figure1.1.C). It is presumed that the majority of human settlements would have been focused along these former shorelines. At approximately 6,500 B.C. the climate had warmed considerably since the recession of the glaciers and the environment had grown more similar to the present day. By approximately 4,500 B.C., evidence exists from southern Ontario for the utilization of native copper (naturally occurring pure copper metal) (Ellis 2013: 42). The known origin of this material along the north shore of Lake Superior indicates the existence of extensive exchange networks across the Great Lakes basin.

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At approximately 3,500 B.C., the isostatic rebound of the North American plate following the melt of the Laurentide glacier had reached a point which significantly affected the watershed of the Great Lakes basin. Prior to this, the Upper Great Lakes had drained down the Ottawa Valley via the French-Mattawa river valleys. Following this shift in the watershed, the drainage course of the Great Lakes basin had changed to its present course. This also prompted a significant increase in water-level to approximately modern levels (with a brief high-water period); this change in water levels is believed to have occurred catastrophically (Stewart 2013:28-30). This change in geography coincides with the earliest evidence for cemeteries (Ellis 2013: 46). By 2,500 B.C., the earliest evidence exists for the construction of fishing weirs (Ellis *et al.* 1990: Figure 4.1). Construction of these weirs would have required a large amount of communal labour and are indicative of the continued development of social organization and communal identity. The large scale procurement of food at a single location also has significant implications for permanence of settlement within the landscape. This period is also marked by further population increase and by 1,500 B.C. evidence exists for substantial permanent structures (Ellis 2013: 45-46).

By approximately 950 B.C., the earliest evidence exists for populations using ceramics. Populations are understood to have continued to seasonally exploit natural resources. This advent of ceramic technology correlated, however, with the intensive exploitation of seed foods such as goosefoot and knotweed as well as mast such as nuts (Williamson 2013: 48). The use of ceramics implies changes in the social organization of food storage as well as in the cooking of food and changes in diet. Fish also continued to be an important facet of the economy at this time. Evidence continues to exist for the expansion of social organization (including hierarchy), group identity, ceremonialism (particularly in burial), interregional exchange throughout the Great Lakes basin and beyond, and craft production (Williamson 2013: 48-54).

By approximately A.D. 550, evidence emergences for the introduction of maize into southern Ontario. This crop would have initially only supplemented Aboriginal peoples diet and economy (Birch and Williamson 2013: 13-14). Maize-based agriculture gradually became more important to societies and by approximately A.D. 900 permanent communities emerge which are primarily focused on agriculture and the storage of crops, with satellite locations oriented toward the procurement of other resources such as hunting, fishing and foraging. By approximately A.D. 1250, evidence exists for the common cultivation of all the historic Aboriginal cultigens, including maize, beans, squash, sunflower and tobacco. The cultural affiliation of populations within the region of the study area at this time period would have spoken a form of Iroquoian language. The extant archaeological record demonstrates many cultural traits similar to historic Aboriginal nations (Williamson 2013: 55).

The study area is located within the Kitchener Neutral settlement cluster, which has documented occupation during the 15th and 16th centuries (Lennox and Fitzgerald 1990: 412).

1.3.3 Previously Identified Archaeological Sites and Surveys

In Canada, archaeological sites are registered within the Borden system, a national grid system designed by Charles Borden in 1952 (Borden 1952). The grid covers the entire surface area of Canada and is divided into major units containing an area that is two degrees in latitude by four degrees in longitude. Major units are designated by upper case letters. Each major unit is subdivided into 288 basic unit areas, each containing an area of 10 minutes in latitude by 10 minutes in longitude. The width of basic units reduces as one moves north due to the curvature of the earth. In southern Ontario, each basic unit measures approximately 13.5 kilometres east-west by 18.5 kilometres north-south. In northern Ontario, adjacent to Hudson Bay, each basic unit measures approximately 10.2 kilometres east-west by 18.5 kilometres north-south. Basic units are designated by lower case letters. Individual sites are assigned a unique, sequential number as they are registered. These sequential numbers are issued by the MTCS who maintain the *Ontario Archaeological Sites Database*. The study area is located within Borden block AjHd.

Information concerning specific site locations is protected by provincial policy, and is not fully subject to the *Freedom of Information and Protection of Privacy Act* (Government of Ontario 1990b). The release of such information in the past has led to looting or various forms of illegally conducted site destruction. Confidentiality extends to all media capable of conveying location, including maps, drawings, or textual descriptions of a site location. The MTCS will provide information concerning site location to the party or an agent of the party holding title to a property, or to a licensed archaeologist with relevant cultural resource management interests.

An examination of the ASDB has shown that there are six previously registered archaeological sites within a one-kilometre radius of the study area (Table 5; Government of Ontario 2017).

Table 5: Previously Registered Archaeological Site Registered within One Kilometre of the Study Area

Borden Number	Site Name	Site Type	Cultural Affiliation
AiHd-1	Waterloo	Village	Aboriginal (Middle-Late Woodland); Neutral Nation
AiHd-19*	Boyle Earthwork	Earthwork	Unknown (probably ancestral Neutral Nation)
AiHd-21	Uni-Wat	Campsite	Aboriginal (Early Woodland)
AiHd-100	WLU-Shantz	House	Euro-Canadian
AiHd-105	**Good**	**House**	**Euro-Canadian**
AiHd-169	King Street Corduroy Road	Road	Euro-Canadian

* - Location of site unknown

Site in **bold** is within 300 metres of study area

Four previous archaeological assessments have been completed within 50 metres of the study area. Table 6 provides a listing of these previous archaeological assessments.

Table 6: Previous Archaeological Assessments Reviewed

Year	Consultant	Report Title	PIF
2007	Archeoworks Inc.	*Stage 1 Archaeological Assessment (AA) for: The Proposed Waterloo Rapid Transit System Regional Municipality of Waterloo Ontario*	P029-385-2007
2011	Archeoworks Inc.	*Stage 2 Archaeological Assessment for: Region of Waterloo Rapid Transit Project Regional Municipality of Waterloo Ontario*	P334-065-2011
2015	Golder Associates Ltd.	*Stage 1 Archaeological Assessment Bridgeport Road/Caroline Street, King Street to Erb Street and Erb Street, Caroline Street to King Street, Part of Lot 14, German Co. Tract, City of Waterloo, Waterloo County, Ontario*	P1021-0001-2014
2016	Golder Associates Ltd.	*Stage 2 Archaeological Assessment Bridgeport Road/Caroline Street, King Street to Erb Street and Erb Street, Caroline Street to King Street, Part of Lot 14, German Co. Tract, City of Waterloo, Waterloo County, Ontario*	P362-0120-2015

Archeoworks Inc. (2007) completed a Stage 1 archaeological assessment for the proposed Waterloo Rapid Transit System in the Regional Municipality of Waterloo, under the project direction of Kim Slocki. This assessment identified lands within the study area as possessing archaeological potential.

Archeoworks Inc. (2011) completed a Stage 2 archaeological assessment for the proposed Waterloo Rapid Transit System alignment in the Regional Municipality of Waterloo, under the project direction of Jessica Marr. This assessment did not assess any lands within the study area.

Golder Associates Ltd. (Golder 2015) completed a Stage 1 archaeological assessment of part of Bridgeport Road/Caroline Street and part of Erb Street in the City of Waterloo under the project direction of Monica Maika. This assessment recommended part of the study area as not possessing archaeological potential on the basis of the recommendations of the Region of Waterloo's (1989) *Archaeological Facilities Master Plan.*

Golder (2016) completed a Stage 2 archaeological assessment of part of Bridgeport Road/Caroline Street and part of Erb Street in the City of Waterloo, under the project direction of Dr. Peter Popkin. This assessment did not assess any lands within the study area.

1.3.4 Archaeological Management Plan

The Region of Waterloo's (1989) *Archaeological Facilities Master Plan* was reviewed as part of the archaeological assessment. The Master Plan indicates that the study area includes areas of archaeological potential. This archaeological potential will be further investigated in Section 3.0.

1.3.5 Existing Conditions

The study area consists of Waterloo Park, in the City of Waterloo, Ontario. It is bounded, approximately, by University Avenue West in the west, Father David Bauer Drive in the south, Caroline Street North in the east, and Seagram Drive in the north. The study area is bisected by the Waterloo LRT ROW which runs from Seagram Drive to Erb Street West. The west half of the study area consists primarily of open park land as well as several sports fields, parking areas, and paved areas with various facilities. The east half of the study area consists of Silver Lake, the Perimeter Institute, the Eby Farm zoo, a water park, ornamental gardens, sports fields, indoor sports facilities, and parking areas. The study area is situated within the core of the City of Waterloo and consists of approximately 50 hectares in area.

2.0 FIELD CONDITIONS

Initial background research compiled the available information concerning any known and/or potential archaeological resources within the study area. A property inspection was conducted under archaeological consulting license P392 issued to Paul David Ritchie, MA, of Stantec by the MTCS. The property inspection was completed on June 7, 2017, under PIF P392-0206-2017 in accordance with Section 1.2 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The property inspection involved examining the entirety of the study area to identify the presence or absence of any features of archaeological potential. During the property inspection the weather was sunny and visibility of land features was good.

The photography from the property inspection is presented in Section 7.2 and confirm that the requirements for a Stage 1 property inspection were met, as per Section 1.2 and Section 7.7.2 Standard 1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Figure 5 illustrates photo locations and the results of the property inspection of the study area.

As noted above, a large portion of the study area comprises the existing facilities, parking areas, and sports fields. Photos 4-9, 11-13, 15-21, 25, 27-30, 32, 33, 36-40, and 42-54 illustrate these areas throughout the study area, which have been extensively modified by grading, the installation of buried utilities and infrastructure, and other construction activities. Overall, modern disturbances comprise approximately 40.6% of the study area. Approximately 7.8% of the study area has possibly been previously disturbed by grading (Photos 13, 22, 26, and 28) but this was not conclusively determined from the property inspection. Approximately 6.1% of the study area is documented as possessing low and wet conditions (Photos 1, 10, 14, 23, and 24) and approximately 1% of the study area is documented to possess steep slope (Photo 34). The remainder of the study area, approximately 39.4%, is determined to retain archaeological potential (Photos 2, 3, 5, 7, 18-21, 27, 36, 41, 3, and 54). Five percent (5%) of the study area is occupied by Silver Lake.

3.0 ANALYSIS AND CONCLUSIONS

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Stantec applied archaeological potential criteria commonly used by the MTCS (Government of Ontario 2011) to determine areas of archaeological potential within the region under study. These variables include proximity to previously identified archaeological sites, distance to various types of water sources, soil texture and drainage, glacial geomorphology, elevated topography and the general topographic variability of the area. However, it is worth noting that extensive land disturbance can eradicate archaeological potential (Wilson and Horne 1995).

Potable water is the single most important resource for any extended human occupation or settlement and since water sources in Ontario have remained relatively stable over time, proximity to drinkable water is regard as a useful index for the evaluation of archaeological site potential. In fact, distance to water is one of the most commonly used variables for predictive modeling of archaeological site locations. Distance to modern or ancient water sources is generally accepted as the most important determinant of past human settlement patterns and, considered alone, may result in a determination of archaeological potential. However, any combination of two or more other criteria, such as well-drained soils or topographic variability, may also indicate archaeological potential.

As discussed above, distance to water is an essential factor in archaeological potential modeling. When evaluating distance to water it is important to distinguish between water and shoreline, as well as natural and artificial water sources, as these features affect site location and type to varying degrees. The MTCS categorizes water sources in the following manner:

- Primary water sources: lakes, rivers, streams, creeks;
- Secondary water sources: intermittent streams and creeks, springs, marshes and swamps;
- Past water sources: glacial lake shorelines, relic river or stream channels, cobble beaches, shorelines of drained lakes or marshes; and
- Accessible or inaccessible shorelines: high bluffs, swamp or marshy lake edges, sandbars stretching into marsh.

The closest source of potable water is Laurel Creek which meanders through the study area. For Euro-Canadian sites, archaeological potential can be extended to areas of early Euro-Canadian settlement, including places of military or pioneer settlements; early transportation routes; and properties listed on the municipal register or designated under the *Ontario Heritage Act* (Government of Ontario 1990a) or property that local histories or informants have identified with possible historical events, activities or occupations. Historical mapping demonstrates that the study area includes the historic road network as well as historic Euro-Canadian settlement.

Considering the above, the pre-contact Aboriginal, post-contact Aboriginal, and Euro-Canadian archaeological potential of the study area is judged to be moderate to high. However, as noted above, extensive and deep land alteration can eradicate archaeological potential. The Stage 1 property inspection has determined approximately 40.6% of the study area has been subject to extensive land disturbance which has eradicated archaeological potential. This disturbance is resulted from the installation of buried utilities or underground infrastructure, grading associated with sports fields or parking areas, or the construction of existing facilities. Approximately 7.8% of the study area is considered to have been possibly previously disturbed (by probably grading based on terrain and ortho-imagery) but further assessment is required to confirm this previous disturbance.

Approximately 6.1% of the study area was documented to possess low and wet conditions and 1% was documented as being steeply sloped. These areas therefore possess low archaeological potential. However, the remaining approximate 47.3% of the study area retains potential for the identification and documentation of archaeological resources. Figure 5 illustrates the results of the Stage 1 property inspection.

In summary, while the archaeological potential for pre-contact Aboriginal, post-contact Aboriginal, and Euro-Canadian sites is deemed to be moderate to high within the study area based on historical documentation, the Stage 1 property inspection has determined that approximately 47.7% of the study area retains low to no archaeological potential due to modern disturbance from property development, low and permanently wet areas, or steep slope. These portions do not require further archaeological work. The remaining portion of the study area, approximately 47.3%, retains potential for the identification and documentation of archaeological resources and further work is required. Five percent (5%) of the study area is occupied by Silver Lake.

4.0 RECOMMENDATIONS

Stantec was retained by the City of Waterloo to complete a Stage 1 archaeological assessment, for the Class EA addendum of Silver Lake and Laurel Creek in Waterloo Park, City of Waterloo, Ontario. The Stage 1 archaeological assessment, involving background research and a property inspection, resulted in the determination that much of the study area, approximately 47.7%, retains no or low archaeological potential. However, the remaining portion of the study area, approximately 47.3%, retains potential for the identification and documentation of archaeological resources. Thus, in accordance with Section 1.3 and Section 7.7.4 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), **portions of the study area which retain archaeological potential and any area of archaeological potential that will be subject to construction disturbance must be subject to a Stage 2 archaeological assessment prior to construction. It has also been determined that portions of the study area do not retain or possess low archaeological potential and no further archaeological assessment is recommended for those areas (Figure 5).**

The objective of the Stage 2 archaeological assessment will be to document archaeological resources within the study area and to determine whether these archaeological resources require further assessment. The Stage 2 archaeological assessment of the study area will consist of test pit survey. Areas to be subjected to test pit survey that are within woodlots, scrubland, or areas that cannot be ploughed will be assessed according to Sections 2.1.2 and 2.1.8, of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), where appropriate (Figure 5). If the archaeological field team judges any lands to be low and wet, steeply sloped, or disturbed during the course of the Stage 2 field work, those areas will not require assessment, but will be photographically documented instead in accordance with Section 2.1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

The MTCS is asked to review the results presented and to accept this report into the Ontario Public Register of Archaeological Reports. Additional archaeological assessment is still required for portions of the study area and so these portions recommended for further archaeological fieldwork remain subject to Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990a) and may not be altered, or have artifacts removed, except by a person holding an archaeological license.

5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18 (Government of Ontario 1990a). 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 study area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* (Government of Ontario 1990a) 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 fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the *Ontario Heritage Act* (Government of Ontario 1990a).

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* (Government of Ontario 1990a). 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* (Government of Ontario 1990a).

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (Government of Ontario 2002) requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Government and Consumer Services.

Additional archaeological assessment is still required for portions of the study area and so these portions recommended for further archaeological fieldwork remain subject to Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990a) and may not be altered, or have artifacts removed, except by a person holding an archaeological license.

6.0 BIBLIOGRAPHY AND SOURCES

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7.0 IMAGES

Images
April 5, 2018

Photo 1: General view of low and wet area of study area, facing southeast

Photo 2: General view of edge of study area at University Avenue West ROW, facing northeast

Photo 3: General view of edge of study area at Westmount Road North ROW, facing southeast

Photo 4: General view of entrance and driveway to Waterloo Park, facing northeast

Photo 5: General view of study area from top of ROW cut, facing northeast

Photo 6: General view of disturbed Father David Bauer Drive ROW, facing northeast

Photo 7: General view of graded pedestrian entrance to Waterloo Park from Father David Bauer Drive, facing northwest

Photo 8: General view of Waterloo Park, facing north

Photo 9: General view of disturbed parking area in Waterloo Park, facing northeast

Photo 10: General view of low and wet area (across river), facing northeast

Photo 11: General view of graded and disturbed study area, facing northwest

Photo 12: General view of graded and disturbed sports field, facing northeast

Photo 13: General view of study area, facing northeast. Area possibly graded and requires Stage 2 test-pit survey at judgmental intervals to confirm possible previous disturbance

Photo 14: General view of low and wet area, facing northeast

Photo 15: General view of parking lot at Waterloo Park, facing northwest

Photo 16: General view of Waterloo Park driveway toward park facility, facing southwest

Photo 17: General view of park facility, facing north

Photo 18: General view of gazebo and paved area, facing south

Photo 19: General view of study area, facing southwest. Area possibly graded and requires Stage 2 test-pit survey at judgmental intervals to confirm possible previous disturbance

Photo 20: General view of study area, facing northwest. Area possibly graded and requires Stage 2 test-pit survey at judgmental intervals to confirm possible previous disturbance

Photo 21: General view of bandshell, facing north

Photo 22: General view of Waterloo Park, facing northwest. Area possibly graded and requires Stage 2 test-pit survey at judgmental intervals to confirm previous disturbance.

Photo 23: General view of low and wet area, facing southeast

Photo 24: View of low and wet area, facing northwest

Photo 25: General view of study area, facing north. Area possibly graded and requires Stage 2 test-pit survey at judgmental intervals to confirm possible previous disturbance

Photo 26: General vie of study area, facing southeast. Area possibly graded and requires Stage 2 test-pit survey at judgmental intervals to confirm previous disturbance

Photo 27: General view of graded and disturbed laneway, facing southwest

Photo 28: General view of graded and disturbed parking area, facing southeast

Photo 29: General view of study area, facing northeast. Area possibly graded and requires Stage 2 test-pit survey at judgmental intervals to confirm possible previous disturbance

Photo 30: General view of existing building with extensively graded property, facing east

Photo 31: General view of historic train station adjacent to study area, facing southwest

Photo 32: General view of parking lot, facing north

Photo 33: General view of replica mill and mill pond, facing north

Photo 34: General view along edge pf study area from Caroline Street North, facing west. Edge of study area is steeply sloped

Photo 35: General view of Silver Lake, facing northeast

Photo 36: General view of Waterloo Park, facing west. Gardens are extensively landscaped but lawn area retains archaeological potential

Photo 37: General view of edge of study area along Young Street ROW, facing northeast

Photo 38: General view of Waterloo Park driveway and storm-drain grate, facing southwest

Photo 39: General view of study area, facing northwest. Area possibly graded and requires Stage 2 test-pit survey at judgmental intervals to confirm possible previous disturbance

Photo 40: General view of parking lot, facing east

Photo 41: General view of historic structures within Waterloo Park, facing southeast. Immediate surroundings retain archaeological potential

Photo 42: General view of roadway within Waterloo Park, facing northwest.

Photo 43: General view of graded pathways and washroom facility in Waterloo Park, facing north

Photo 44: General view of landscaped and graded pathways and zoo area of Waterloo Park, facing west

Photo 45: General view of graded pathways and zoo area of Waterloo Park, facing southeast

Photo 46: General view of graded pathways and zoo area of Waterloo Park, facing northwest

Photo 47: General view of parking lot along edge of Seagram Drive ROW, facing northeast

Photo 48: General view of parking lot, curling club, and indoor tennis courts, facing southeast

Photo 49: General view of graded and disturbed sports field, facing south

Photo 50: General view of Waterloo Tennis club parking lot and tennis courts, facing north

Photo 51: General view of study area, facing northeast. Area possibly graded and requires Stage 2 test-pit survey at judgmental intervals to confirm possible previous disturbance

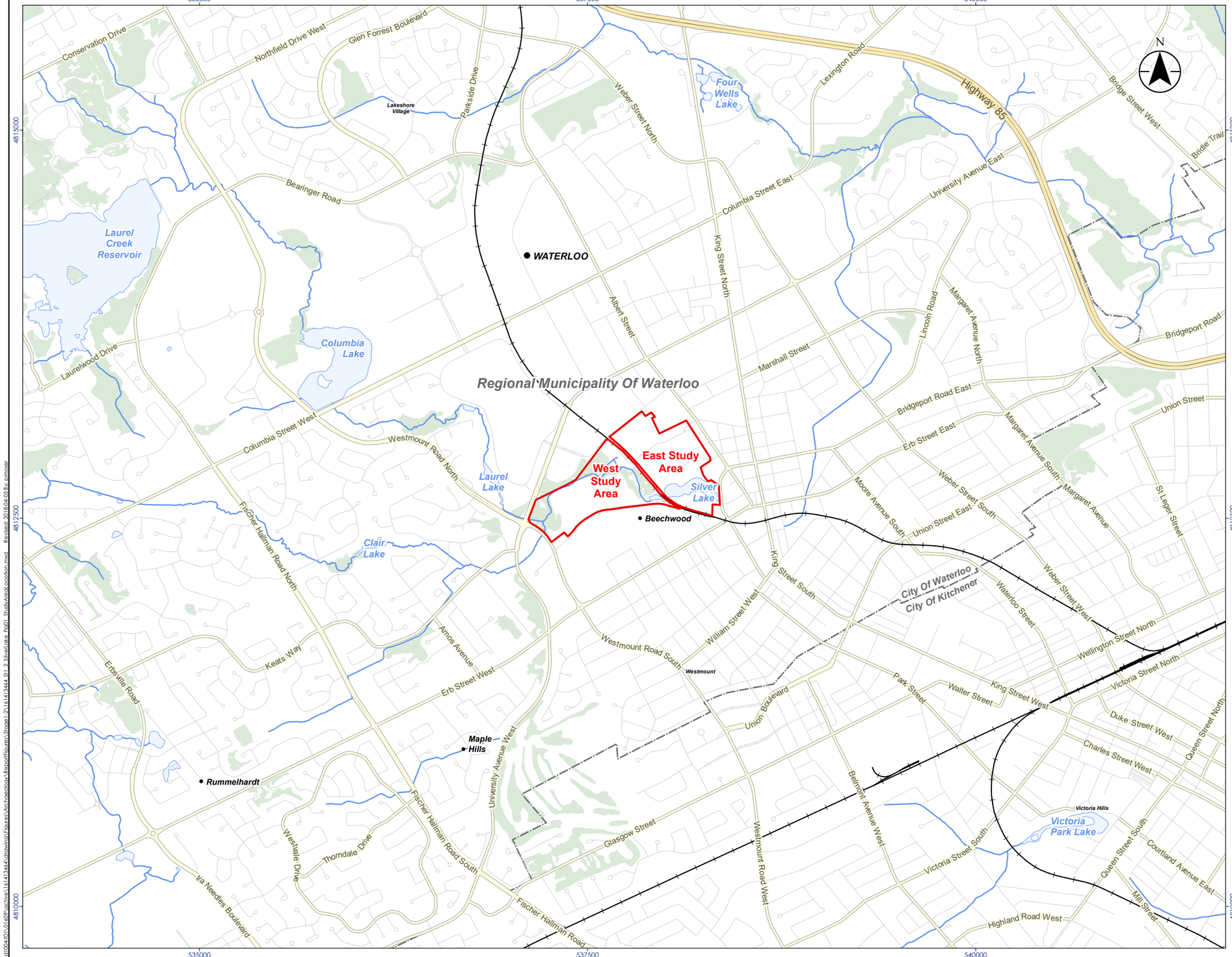
Photo 52: General view of parking lot, facing northeast

Photo 53: General view of wooded edge of study area, facing northwest. Area retains archaeological potential

Photo 54: General view of graded and disturbed pedestrian pathway, facing southeast

8.0 MAPS

All mapping will follow on succeeding pages.



Stantec

Legend

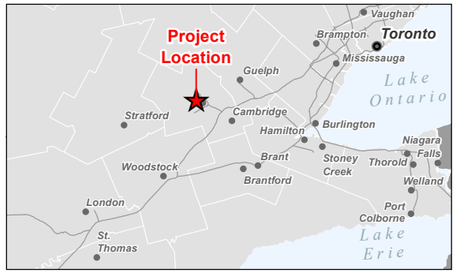
- Study Area
- Expressway / Highway
- Major Road
- Minor Road
- Railway
- Watercourse
- Waterbody
- Wooded Area
- Municipal Boundary - Lower Tier
- Municipal Boundary - Upper Tier

0 500 1,000 m

1:25,000 (At original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2016.



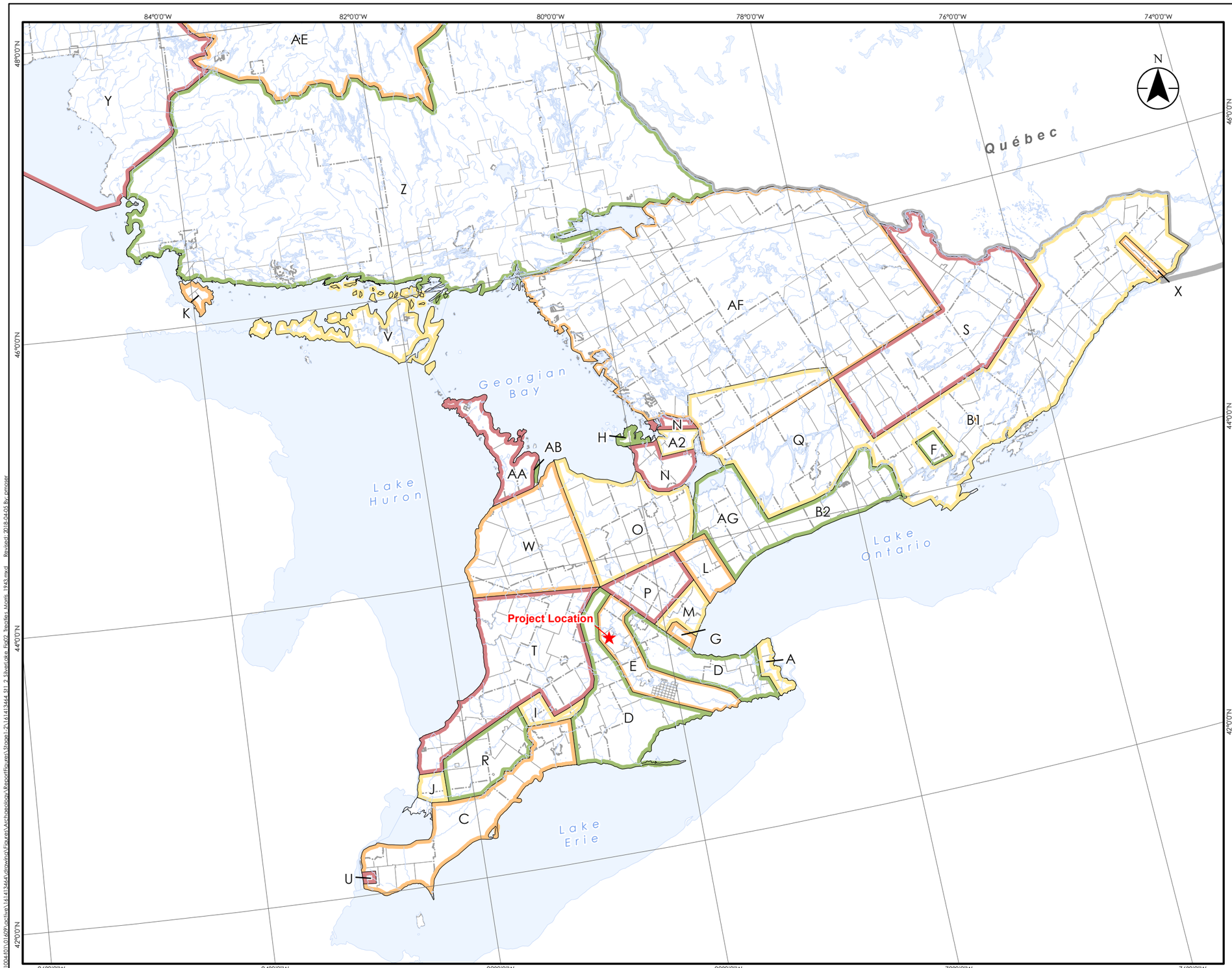
Project Location
Waterloo, Ontario

161413464 REVA
Prepared by PRM on 2018-04-05
Technical Review by PR on 2018-04-05

Client/Project
CITY OF WATERLOO
SILVER LAKE EA ADDENDUM
STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT

Figure No.
1

Title
Study Area Location



Stantec

Legend

- Project Location
- Watercourse
- Waterbody
- Municipal Boundary - Lower or Single
- Municipal Boundary - Upper

A Treaty No. 381, May 9th, 1781 (Mississauga and Chippewa)
B Crawford's Purchase, October 9th, 1783 (Algonquin and Iroquois)
B1 Crawford's Purchase, October 9th, 1783 (Mississauga)
B2 Crawford's Purchases, 1784, 1787 And 1788 (Mississauga)
A2 John Collins' Purchase, 1785 (Chippewa)
C Treaty No. 2, May 19th, 1790 (Odawa, Chippewa, Pottawatomi, and Huron)
D Treaty No. 3, December 2nd, 1792 (Mississauga)
E Haldimand Tract:from the Crown to the Mohawk, 1793
F Tyendinaga:from the Crown to the Mohawk, 1793
G Treaty No. 3 3/4:from the Crown to Joseph Brant, October 24th, 1795
H Treaty No. 5, May 22nd, 1798 (Chippewa)
I Treaty No. 6, September 7th, 1796 (Chippewa)
J Treaty No. 7, September 7th, 1796 (Chippewa)
L Treaty No. 13, August 1st, 1805 (Mississauga)
M Treaty No. 13A, August 2nd, 1805 (Mississauga)
N Treaty No.16, November 18th, 1815 (Chippewa)
O Treaty No. 18, October 17th, 1818 (Chippewa)
P Treaty No. 19, October 28th 1818 (Chippewa)
Q Treaty No. 20, November 5th, 1818 (Chippewa)
R Treaty No. 21, March 9th, 1819 (Chippewa)
S Treaty No. 27, May 31st, 1819 (Mississauga)
T Treaty No. 27½, April 25th, 1825 (Ojibwa and Chippewa)
U Treaty No. 35, August 13th, 1833 (Wyandot or Huron)
V Treaty No. 45, August 9th, 1836 (Chippewa and Odawa, "For All Indians To Reside Thereon")
W Treaty No. 45½, August 9th, 1836 (Saugeen)
X Treaty No. 57, June 1st, 1847 (Iroquois of St. Regis)
Z Treaty No. 61, September 9th, 1850 (Robinson Treaty:Ojibwa)
AA Treaty No. 72, October 30th, 1854 (Chippewa)
AB Treaty No. 82, February 9th, 1857 (Chippewa)
AF Williams Treaty, October 31st and November 15th, 1923 (Chippewa and Mississauga)
AG Williams Treaty, October 31st, 1923 (Chippewa)

0 100 200 km

1:3,000,000 (At original document size of 11x17)

Notes
1. Coordinate System: NAD 1983 Statistics Canada Lambert
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012.
3. Treaty boundaries adapted from Morris 1943 (1964 reprint). For cartographic representation only.

Project Location
Waterloo, Ontario

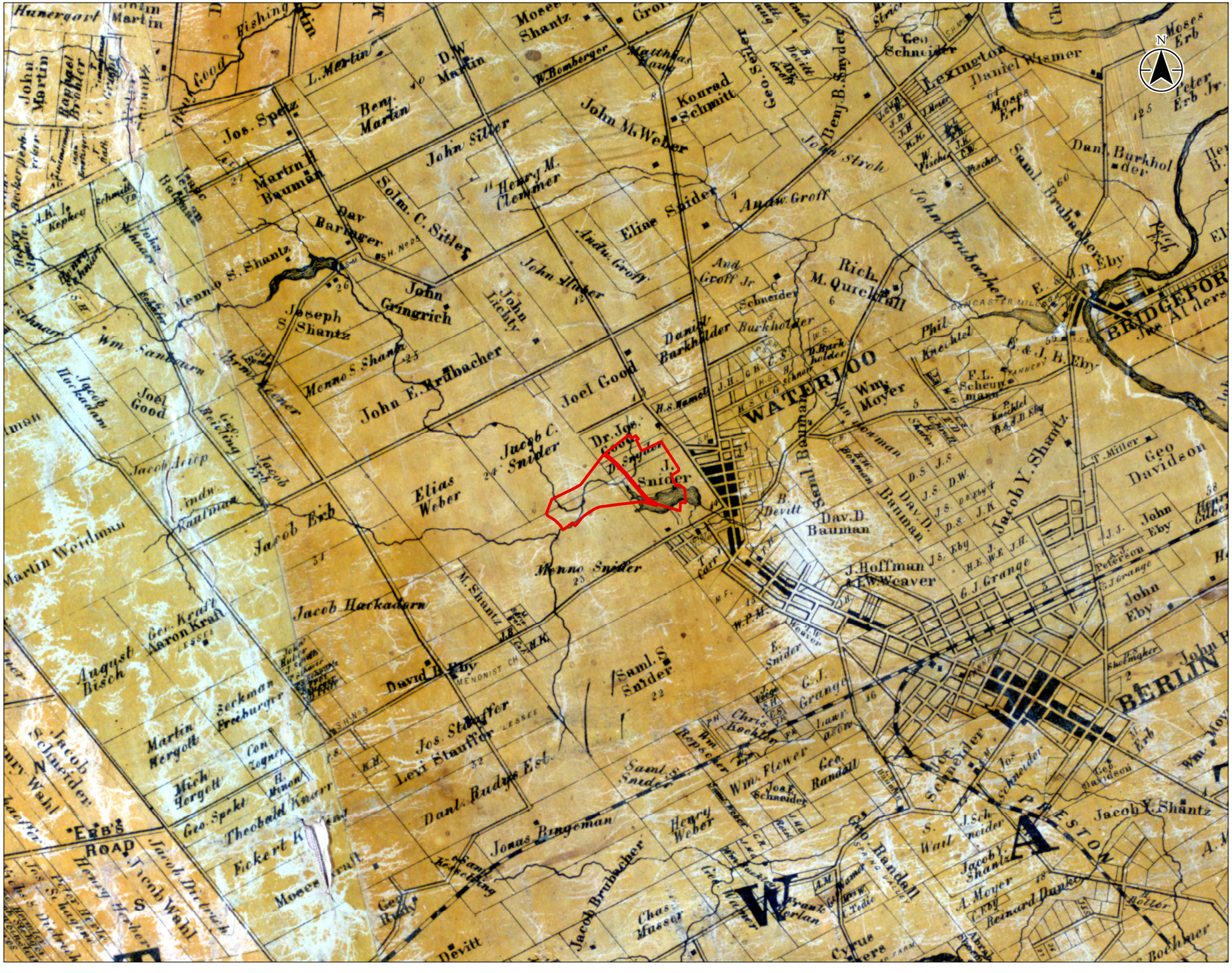
161413464 REVA
Prepared by PRM on 2018-04-05
Technical Review by PR on 2018-04-05

Client/Project
CITY OF WATERLOO
SILVER LAKE EA ADDENDUM
STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT

Figure No.
2

Title
Treaties and Purchases (Adapted from Morris 1943)

\\cd1004401\01409\active\161413464\drawings\Figures\Archaeology\ReportFigures\Stage1-2\161413464_S1-2_SilverLake_Fig02_Treaties_Morris_1943.mxd Revised: 2018-04-05 By: prmoser



Stantec

Legend

Study Area

Notes

1. Scale as shown.
2. Parsell, H. & Co. 1881. Illustrated Historical Atlas of Waterloo County. Toronto.

Project Location Waterloo, Ontario	161413464 REVA Prepared by PRM on 2018-04-05 Technical Review by PR on 2018-04-05

Client/Project

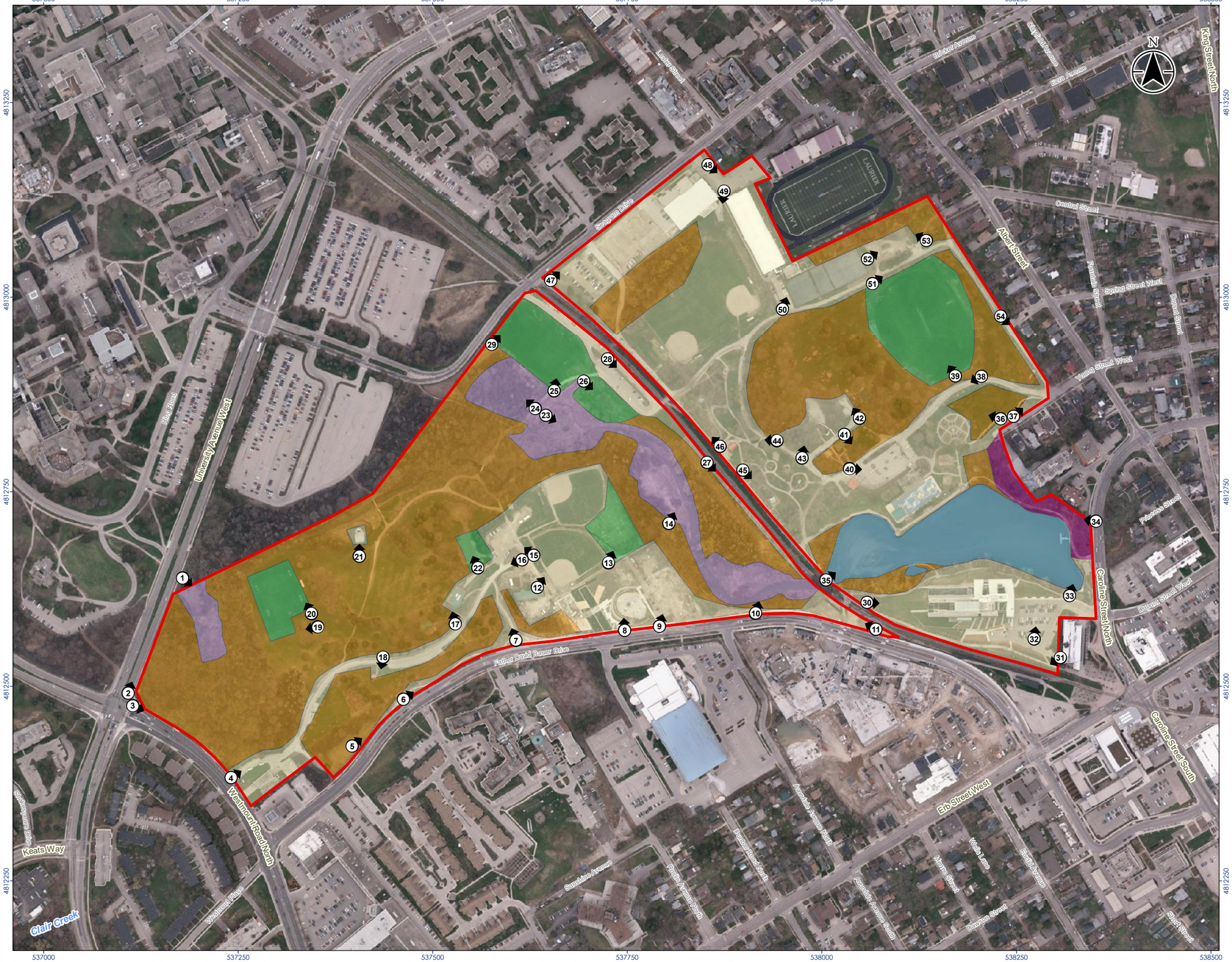
CITY OF WATERLOO
SILVER LAKE EA ADDENDUM
STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT

Figure No.

4

Title

Portion of 1881 map of Waterloo Township



Stantec

Legend

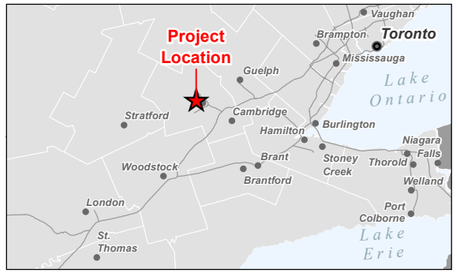
- Study Area
- Photo Location
- Low Potential (Disturbed)
- Low Potential (Steeply sloped)
- Low Potential (Low and Wet)
- Potential (Requires Stage 2 test-pit survey at judgmental intervals)
- Potential (Requires Stage 2 test-pit survey at five metre intervals)
- Waterbody

0 100 200 m

1:5,000 (At original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2016.
3. Orthoimagery © First Base Solutions, 2014. Image Date 2014.



Project Location
Waterloo,
Ontario

161413464 REVA
Prepared by PRM on 2018-04-05
Technical Review by PR on 2018-04-05

Client/Project
CITY OF WATERLOO
SILVER LAKE EA ADDENDUM
STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT

Figure No.
5

Title
Property Inspection Results

9.0 CLOSURE

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties, or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential archaeological resources associated with the identified property.

All information received from the client or third parties in the preparation of this report has been assumed by Stantec to be correct. Stantec assumes no responsibility for any deficiency or inaccuracy in information received from others.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report, and are based solely on the scope of work described in the report, the limited data available, and the results of the work.

The conclusions are based on the conditions encountered by Stantec at the time the work was performed. Due to the nature of archaeological assessment, which consists of systematic sampling, Stantec does not warrant against undiscovered environmental liabilities nor that the sampling results are indicative of the condition of the entire property.

This report has been prepared for the exclusive use of the client identified herein and any use by any third party is prohibited. Stantec assumes no responsibility for losses, damages, liabilities or claims, howsoever arising, from third party use of this report. We trust this report meets your current requirements. Please do not hesitate to contact us should you require further information or have additional questions about any facet of this report.

Quality Review _____
(signature)

Colin Varley, MA, RPA

Independent Review _____
(signature)

Jim Wilson, MA