



4 January, 2017

## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT

**George Street Land Parcel  
Port Stanley, Ontario,  
Parts 1-8 11R-1261,  
Former Township of Southwold,  
Now Municipality of Central Elgin,  
Elgin County, Ontario**

REVISED REPORT

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**License Number:** P457

**PIF Number:** P457-0028-2016

**Report Number: 1659428-R01**

**Distribution:**

1 PDF and 3 Hard Copies - 2526485 Ontario Inc.  
1 PDF Copy - Ministry of Tourism, Culture and Sport  
1 Hard Copy - Golder Associates Ltd.





## Executive Summary

*The Executive Summary highlights key points from the report only; for complete information and finding the reader should examine the complete report*

Golder Associates Ltd. ("Golder") was contracted by 2526485 Ontario Inc. to conduct a Stage 1 background study and Stage 2 field assessment of a 23.6 hectare (58.32 acre) land parcel (Study Area) on Parts 1-8 11R-1261 in the former Township of Southwold, now Municipality of Central Elgin, Elgin County, Ontario. The Study Area is located on the north side of George Street in the west end of Port Stanley, Ontario (Map 1). This Stage 1-2 assessment was conducted to meet the standard requirements of the the *Planning Act*, R.S.O 1990, c.P.14 (Government of Ontario 1990a), as required by the Municipality of Central Elgin prior to land disturbance.

The Stage 1 background study indicated that the Study Area had archaeological potential for both pre-contact Aboriginal and historical Euro-Canadian sites, and as a result it was determined that a Stage 2 field assessment would be required. The Stage 2 field assessment, which involved a pedestrian survey and test pitting at five metre intervals, resulted in the identification of three artifact producing areas. Location 1 consisted of one isolated piece of chert debitage and Location 3 consisted of two pieces of chert debitage recovered from one test pit and one test unit. Location 2 (AeHh-150) consisted of 18 widely dispersed pre-contact Aboriginal artifacts, including five projectile points and 13 pieces of chert debitage over an area measuring approximately 100 metres east-west by 80 metres north-south. The five projectile points recovered from Location 2 (AeHh-150) included two Early Archaic Nettling-type points, one Late Archaic possible Crawford Knoll projectile point, one Late Woodland Daniels Triangular projectile point, and one indeterminate projectile point fragment.

Based on the isolated nature of the artifact recovered from Location 1 and the artifacts recovered from Location 3, both of these sites were concluded to have no further cultural heritage value or interest and no further archaeological assessments were recommended.

Based on the presence of two Early Archaic projectile points, Location 2 (AeHh-150) was determined to have further cultural heritage value or interest and further archaeological assessment is required (see Section 5.0 for recommendations). Diagnostic artifacts from the Early Archaic period are relatively rare in Ontario and as such are considered artifacts of special interest that meet the criteria for required Stage 3 archaeological assessment under the MTCS 2011 Standards and Guidelines for Consultant Archaeologists. Archaeologists will also engage with First Nation groups expressing interest in the archaeological resources of the area.

The Ontario Ministry of Tourism, Culture and Sport is asked to review the results and recommendations presented herein, accept this report into the Provincial Register of archaeological reports and issue a standard letter of compliance with the Ministry's 2011 Standards and Guidelines for Consultant Archaeologists and the terms and conditions for archaeological licencing.



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### Acknowledgements

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### APPENDICES

#### APPENDIX A

Pre-contact Aboriginal Glossary of Terms/Definitions

#### APPENDIX B

Stage 2 Artifact Catalogues



## **1.0 PROJECT CONTEXT**

### **1.1 Development Context**

Golder Associates Ltd. ("Golder") was contracted by 2526485 Ontario Inc. to conduct a Stage 1 background study and Stage 2 field assessment of a 23.6 hectare (58.32 acre) land parcel (Study Area) on Parts 1-8 11R-1261 in the former Township of Southwold, now Municipality of Central Elgin, Elgin County, Ontario. The Study Area is located on the north side of George Street in the west end of Port Stanley, Ontario (Map 1). This Stage 1-2 assessment was conducted to meet the standard requirements of the the *Planning Act*, R.S.O 1990, c.P.14 (Government of Ontario 1990a), as required by the Municipality of Central Elgin prior to land disturbance.

The Stage 1 and 2 assessment was conducted under professional archaeological licence P457, issued to Lafe Meichenheimer of Golder by the MTCS (PIF# P457-0028-2016). Permission to enter the property to conduct all required archaeological fieldwork activities, including the recovery of artifacts, was granted by Julian Novick of 2526485 Ontario Inc.

### **1.2 Objectives**

The objectives of a Stage 1 assessment, as outlined by the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), are as follows:

- To provide information about the Study Area's geography, history, previous archaeological fieldwork and current land conditions;
- To evaluate in detail the Study Area's archaeological potential; and
- To recommend appropriate strategies for Stage 2 assessment for all or parts of the property, if required.

The objectives of a Stage 2 assessment, as outlined by the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), are as follows:

- To document all archaeological resources within the Study Area;
- To determine whether the property contains archaeological resources requiring further assessment; and
- To recommend appropriate Stage 3 assessment strategies for archaeological sites identified.

### **1.3 Historical Context**

The Study Area is situated in an area of Ontario that exhibits evidence an extended period of human settlement dating back at least 11,000 years. To provide context to the following sections of this report, the nature of this settlement is summarized below beginning with the pre-contact Aboriginal period as it relates to the Elgin County area in general. This is followed by a summary of the historical Euro-Canadian period for Southwold Township in general and the study area specifically.



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### 1.3.1 Pre-Contact Aboriginal Period

Table 1 provides a general outline of the pre- and post-contact culture history for the southern Ontario, drawn from Ellis and Ferris (1990), while Map 2 provides a visual guide to the pre-contact aboriginal history of southern Ontario.

**Table 1: Cultural Chronology for Southern Ontario**

Period	Characteristics	Time	Comments
Early Paleo	Fluted Projectiles	9000 - 8400 B.C.	spruce parkland/caribou hunters
Late Paleo	Hi-Lo Projectiles	8400 – 8000 B.C.	smaller but more numerous sites
Early Archaic	Kirk and Bifurcate Base Points	8000 - 6000 B.C.	slow population growth
Middle Archaic	Brewerton-like points	6000 - 2500 B.C.	environment similar to present
Late Archaic	Narrow Points	2000 - 1800 B.C.	increasing site size
	Broad Points	1800 - 1500 B.C.	large chipped lithic tools
	Small Points	1500 - 1100B.C.	introduction of bow hunting
Terminal Archaic	Hind Points	1100 - 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
Ontario Iroquoian 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
Western Basin Late Woodland	Riviere au Vase	A.D. 500 - 900	introduction of corn
	Young Phase	A.D. 900 - 1200	dense storage pits, proto-settlements
	Springwell Phase	A.D. 1200 - 1400	emergence of agricultural villages
	Wolf Phase	A.D. 1400 - 1550	palisaded villages, tribal warfare and displacement
Contact Aboriginal	Various Algonquian Groups	A.D. 1700 – 1875	early written records and treaties
Historic	Euro-Canadian	A.D. 1796 – present	European settlement

### Paleo Period

The first human occupation of the southern Ontario, known as the Paleo Period, begins just after the end of the Wisconsin Glacial Period. Although there was a complex series of ice retreats and advances which played a large role in shaping the local topography, southwestern Ontario was finally ice free by 12,500 years ago. The first human settlement can be traced back 11,000 years, when this area was settled by Native groups that had been living south of the Great Lakes.

Our current understanding of Early Paleo settlement patterns suggest that small bands, that consisted of probably no more than 25 to 35 individuals followed a pattern of seasonal mobility extending over large territories. One of



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the most thoroughly studied of these groups followed a seasonal round that extended from as far south as Chatham to the Horseshoe Valley north of Barrie. Early Paleo sites tend to be located in elevated locations on well-drained loamy soils. Many of the known sites were located on former beach ridges associated with Lake Algonquin, the post-glacial lake occupying the Lake Huron/Georgian Bay basin.

There are a few extremely large Early Paleo sites, such as one located close to Parkhill, Ontario, which covered as much as six hectares. It appears that these sites were formed when the same general locations were occupied for short periods of time over the course of many years.

Given their placement in locations conducive to the interception of migratory mammals such as caribou, it has been suggested that they may represent communal hunting camps. There are also smaller Early Paleo camps scattered throughout the interior of southwestern Ontario, usually situated adjacent to wetlands.

The most recent research suggests that population densities were very low during the Early Paleo Period, with all of southwestern Ontario being occupied by perhaps only 100 to 200 people (Ellis and Deller 1990:54). Because this is the case, Early Paleo sites are exceedingly rare.

While the Late Paleo Period (8400-8000 B.C.) is more recent, it has been less well researched, and is consequently more poorly understood. By this time the environment of southwestern Ontario was coming to be dominated by closed coniferous forests with some minor deciduous elements. It seems that many of the large game species that had been hunted in the early part of the Paleo Period had either moved further north, or as in the case of the mastodons and mammoths, become extinct.

During the late Paleo Period people continued to cover large territories as they moved about in response to seasonal resource fluctuations. On a province wide basis Late Paleo projectile points are far more common than Early Paleo materials, suggesting a relative increase in population.

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

### **Archaic Period**

During the Early Archaic Period (8000-6000 B.C.), the jack and red pine forests that characterized the Late Paleo environment were replaced by forests dominated by white pine with some associated deciduous trees (Ellis, Kenyon and Spence 1990:68-69). One of the more notable changes in the Early Archaic Period is the appearance of side and corner-notched projectile points. Other significant innovations include the introduction of ground stone tools such as celts and axes, suggesting the beginnings of a simple woodworking industry. The presence of these often large and not easily portable tools suggests there may have been some reduction in the degree of seasonal movement, although it is still suspected that population densities were quite low, and band territories large.

During the Middle Archaic Period (6000-2500 B.C.) the trend towards more diverse toolkits continued, as the presence of net-sinkers suggest that fishing was becoming an important aspect of the subsistence economy. It was also at this time that "bannerstones" were first manufactured. Bannerstones are carefully crafted ground stone devices that served as a counterbalance for "atlatls" or spear-throwers.



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Another characteristic of the Middle Archaic is an increased reliance on local, often poor quality chert resources for the manufacturing of projectile points. It seems that during earlier periods, when groups occupied large territories, it was possible for them to visit a primary outcrop of high quality chert at least once during their seasonal round.

However, during the Middle Archaic, groups inhabited smaller territories that often did not encompass a source of high quality raw material. In these instances lower quality materials which had been deposited by the glaciers in the local till and river gravels were utilized.

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

It is also during the latter part of the Middle Archaic Period that long distance trade routes began to develop, spanning the northeastern part of the continent. In particular, native copper tools manufactured from a source located northwest of Lake Superior were being widely traded (Ellis, Kenyon and Spence 1990:66). By 3500 B.C. the local environment had stabilized in a near modern form (Ellis, Kenyon and Spence 1990:69).

During the Late Archaic (2500-950 B.C.) the trend towards decreased territory size and a broadening subsistence base continued. Late Archaic sites are far more numerous than either Early or Middle Archaic sites, and it seems that the local population had definitely expanded. It is during the Late Archaic that the first true cemeteries appear. Before this time individuals were interred close to the location where they died. During the Late Archaic, if an individual died while his or her group happened to be at some distance from their group cemetery, the bones would be kept until they could be placed in the cemetery. Consequently, it is not unusual to find disarticulated skeletons, or even skeletons lacking minor elements such as fingers, toes or ribs, in Late Archaic burial pits.

The appearance of cemeteries during the Late Archaic has been interpreted as a response to increased population densities and competition between local groups for access to resources. It is argued that cemeteries would have provided strong symbolic claims over a local territory and its resources. These cemeteries are often located on heights of well-drained sandy/gravel soils adjacent to major watercourses such as the Thames River.

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





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### *Woodland Period*

The Early Woodland Period (950-400 B.C.) is distinguished from the Late Archaic Period primarily by the addition of ceramic technology. While the introduction of pottery provides a useful demarcation point for archaeologists, it may have made less difference in the lives of the Early Woodland peoples.

The first pots were very crudely constructed, thick walled, and friable. It has been suggested that they were used in the processing of nut oils by boiling crushed nut fragments in water and skimming off the oil (Spence, Pihl and Murphy 1990:137). These vessels were not easily portable, and individual pots must not have sustained a long use life.

There have also been numerous Early Woodland sites located at which no pottery was found, suggesting that these poorly constructed, undecorated vessels had yet to assume a central position in the day-to-day lives of Early Woodland peoples.

Other than the introduction of this rather limited ceramic technology, the life-ways of Early Woodland peoples show a great deal of continuity with the preceding Late Archaic Period. For instance, birdstones continue to be manufactured, although the Early Woodland varieties have "pop-eyes" which protrude from the sides of their heads. Likewise, the thin, well-made projectile points which were produced during the terminal part of the Archaic Period continue in use. However, the Early Woodland variants were side-notched rather than corner-notched, giving them a slightly altered and distinctive appearance.

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

In terms of settlement and subsistence patterns, the Middle Woodland (400 B.C.-900 A.D.) provides a major point of departure from the Archaic and Early Woodland Periods. While Middle Woodland peoples still relied on hunting and gathering to meet their subsistence requirements, fish became an even more important part of the diet. In addition, Middle Woodland peoples relied much more extensively on ceramic technology. Middle Woodland vessels are often garishly decorated with hastily impressed designs covering the entire exterior surface and upper portion of the vessel interior. Consequently, even very small fragments of Middle Woodland vessels are easily identifiable.

It is also at the beginning of the Middle Woodland Period that rich, densely occupied sites appear on the valley floor of major rivers. While the valley floors of floodplains had been utilized by earlier peoples, Middle Woodland sites are significantly different in that the same location was repeatedly occupied over several hundred years. Because this is the case, rich deposits of artifacts often accumulated.

Unlike earlier seasonally utilized locations, these Middle Woodland sites appear to have functioned as base camps, occupied off and on over the course of the year. There are also numerous small upland Middle Woodland sites, many of which can be interpreted as special purpose camps from which localized resource patches were exploited. This shift towards a greater degree of sedentism continues the trend witnessed from at least Middle Archaic times, and provides a prelude to the developments that follow during the Late Woodland Period.

The Late Woodland Period began with a shift in settlement and subsistence patterns involving an increasing reliance on corn horticulture (Fox 1990:185; Smith 1990; Williamson 1990:312). Corn may have been introduced





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into southwestern Ontario from the American Midwest as early as 600 A.D. However, it did not become a dietary staple until at least three to four hundred years later.

The first agricultural villages in southwestern Ontario date to the 10th century A.D. Unlike the riverine base camps of the Middle Woodland Period, these sites are located in the uplands, on well-drained sandy soils. Categorized as "Early Ontario Iroquoian" (900-1300 A.D.), many archaeologists believe that it is possible to trace a direct line from the Iroquoian groups which inhabited southwestern Ontario at the time of first European contact, to these early villagers.

Village sites dating between 900 and 1300 A.D., share many attributes with the historically reported Iroquoian sites, including the presence of longhouses and sometimes palisades. However, these early longhouses were actually not all that large, averaging only 12.4 metres in length (Dodd et al 1990:349; Williamson 1990:304-305). It is also quite common to find the outlines of overlapping house structures, suggesting that these villages were occupied long enough to necessitate re-building. The Jesuits reported that the Huron moved their villages once every 10-15 years, when the nearby soils had been depleted by farming and conveniently collected firewood grew scarce (Pearce 2010). It seems likely that Early Ontario Iroquoians occupied their villages for considerably longer, as they relied less heavily on corn than did later groups, and their villages were much smaller, placing less demand on nearby resources.

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

The Middle Ontario Iroquoian Period (1300-1400 A.D.) witnessed several interesting developments in terms of settlement patterns and artifact assemblages. Changes in ceramic styles have been carefully documented, allowing the placement of sites in the first or second half of this 100-year period. Moreover, villages, which averaged approximately 0.6 hectares in extent during the Early Ontario Iroquoian Period, now consistently range between one and two hectares.

House lengths also change dramatically, more than doubling to an average of 30 metres, while houses of up to 45 metres have been documented. This radical increase in longhouse length has been variously interpreted. The simplest possibility is that increased house length is the result of a gradual, natural increase in population (Dodd et al 1990:323, 350, 357; Smith 1990). However, this does not account for the sudden shift in longhouse lengths around 1300 A.D. Other possible explanations involve changes in economic and socio-political organization (Dodd et al 1990:357). One suggestion is that during the Middle Ontario Iroquoian Period small villages were amalgamating to form larger communities for mutual defense (Dodd et al 1990:357). If this was the case, the more successful military leaders may have been able to absorb some of the smaller family groups into their households, thereby requiring longer structures.

This hypothesis draws support from the fact that some sites had up to seven rows of palisades, indicating at least an occasional need for strong defensive measures. There are, however, other Middle Ontario Iroquoian villages



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which had no palisades present (Dodd et al 1990). More research is required to evaluate these competing interpretations.

The lay-out of houses within villages also changes dramatically by 1300 A.D. During the Early Ontario Iroquoian Period villages were haphazardly planned at best, with houses oriented in various directions. During the Middle Ontario Iroquoian Period villages are organized into two or more discrete groups of tightly spaced, parallel aligned, longhouses.

It has been suggested that this change in village organization may indicate the initial development of the clans which were a characteristic of the historically known Iroquoian peoples (Dodd et al 1990:358).

Initially at least, the Late Ontario Iroquoian Period (1400-1650 A.D.) continues many of the trends which have been documented for the proceeding century. For instance, between 1400 and 1450 A.D. house lengths continued to grow, reaching an average length of 62 metres. One longhouse excavated on a site southwest of Kitchener stretched an incredible 123 metres (Lennox and Fitzgerald 1990:444-445). After 1450 A.D., house lengths begin to decrease, with houses dating between 1500-1580 A.D. averaging only 30 metres in length.

Why house lengths decrease after 1450 A.D. is poorly understood, although it is believed that the even shorter houses witnessed on historic period sites can be at least partially attributed to the population reductions associated with the introduction of European diseases such as smallpox (Lennox and Fitzgerald 1990:405, 410).

Village size also continued to expand throughout the Late Ontario Iroquoian Period, with many of the larger villages showing signs of periodic expansions. The Late Middle Ontario Iroquoian Period and the first century of the Late Ontario Iroquoian Period was a time of village amalgamation. One large village situated just north of Toronto has been shown to have expanded on no fewer than five occasions. These large villages were often heavily defended with numerous rows of wooden palisades, suggesting that defence may have been one of the rationales for smaller groups banding together.

After 1525 A.D. communities of pre-contact Aboriginals of the Late Ontario Iroquoian Period who had formerly lived throughout southwestern Ontario as far west as the Chatham area moved further east to the Hamilton area. During the late 1600s and early 1700s, the French explorers and missionaries reported a large population of Iroquoian peoples clustered around the western end of Lake Ontario. They called these people the "Neutral", because they were not involved in the ongoing wars between the Huron and the League Iroquois located in upper New York State.

It has been satisfactorily demonstrated that the Late Ontario Iroquoian communities which were located in southwestern Ontario as far west as the Chatham area were ancestral to at least some of the Neutral Nation groups (Lennox and Fitzgerald 1990; Smith 1990:283). For this reason the Late Ontario Iroquoian groups which occupied southwestern Ontario prior to the arrival of the French are often identified as "Prehistoric Neutral". They occupied a large area extending along the Grand River and throughout the Niagara Peninsula as far east as Fort Erie and Niagara Falls (Lennox and Fitzgerald 1990:448).

### 1.3.2 Post-Contact Aboriginal Period

The post-contact Aboriginal occupation of southern Ontario was heavily influenced by the dispersal of various Iroquoian-speaking peoples, such as the Huron and closely related Petun, by the New York State Iroquois and the



## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

subsequent arrival of Algonkian-speaking groups from northern Ontario at the end of the 17<sup>th</sup> century and beginning of the 18<sup>th</sup> century (Schmalz 1991). The nature of their settlement size, population distribution, and material culture shifted as European settlers encroached upon their territory. However, despite this shift, “written accounts of material life and livelihood, the correlation of historically recorded villages to their archaeological manifestations, and the similarities of those sites to more ancient sites have revealed an antiquity to documented cultural expressions that confirms a deep historical continuity to Iroquoian systems of ideology and thought” (Ferris 2009:114). First Nation peoples of southern Ontario have left behind archaeologically significant resources throughout Southern Ontario which show continuity with past peoples, even if they have not been recorded in historical Euro-Canadian documentation.

### 1.3.3 Historical Euro-Canadian Period

The Study Area is a 23.6 hectare (58.32 acre) land parcel located on the north side of George Street in the west end of Port Stanley, Ontario, legally described Parts 1-8 11R-1261, which on historical mapping is part of Lot 15, Range 1 North of Lake Road, part of Lot 15, Range 1 South of Lake Road, and part of Lot D, Range 1 South of Lake Road in the former Township of Southwold, now Municipality of Central Elgin, Elgin County, Ontario. This area first enters the Euro-Canadian historical record as part of Treaty No.2:

*... was made with the O[dawa], Chippew[a], Pottawatom[i] and Huro[n] May 19th, 1790, portions of which nations had established themselves on the Detroit River all of whom had been driven by the Iroquois from the northern and eastern parts of the Province, from the Detroit River easterly to Catfish Creek and south of the river La Tranche [Thames River] and Chenail Ecarte, and contains Essex County except Anderdon Township and Part of West Sandwich; Kent County except Zone Township, and Gores of Camden and Chatham; Elgin County except Bayham Township and parts of South Dorchester and Malahide. In Middlesex County, Del[a]ware and Westminster Townships and part of North Dorchester [are included].*

Morris 1943:17

Originally part of the Western District of Upper Canada, Elgin County was one of the first counties to be formed in 1792. Southwold Township was initially part of Suffolk County, however in 1798, the Western District was divided into new territories. The London District was one of these parts, and was first divided into three counties; Middlesex, Norfolk, and Oxford. Middlesex included what is now Elgin County and the Township of Southwold (Grainger 2008). Elgin County was created by the Territorial Division Act of 1851, with St. Thomas as the county seat (Grainger 2008). Because Elgin County is located on Lake Erie, it began being settled prior to counties further inland. The majority of the original settlers were United Empire Loyalists who fled the American Revolutionary War (Grainger 2008).

Port Stanley was founded in 1812 by Lieutenant-Colonel John Bostwick. It was originally named Kettle Creek after the creek it was settled on, but was renamed Port Stanley in 1824 after the fourteenth Earl of Derby, Edward Smith-Stanley, who visited Port Talbot in the area. Ferry service between Port Stanley and Buffalo started in 1832 and a year later, Port Stanley had a reputation as one of the best harbours on Lake Erie. Transport Canada operated the harbour and supported coal and wood trade between southwestern Ontario and the United States. By the early 1900s, Port Stanley was known as the “Coney Island of the Great Lakes” due to its large sandy beach and other amenities, such as a casino, outdoor theatre, Ferris wheel, and roller coaster (PortStanley.net 2016).



## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

### 1.3.4 Site Specific Historical Context

As previously mentioned, the Study Area is located on Parts 1-8 11R-1261, which on historical mapping is part of Lot 15, Range 1 North of Lake Road, part of Lot 15, Range 1 South of Lake Road, and part of Lot D, Range 1 South of Lake Road in the former Township of Southwold, now Municipality of Central Elgin, Elgin County, Ontario. There are several early historical maps for Southwold Township, including Mahlon Burwell's 1810 map, Thomas Ridout's 1816 map, Burwell's 1819 map, Maitland's 1819 map, and Burwell's 1831 map (Maps 3 to 9). None of these maps show the names of land owners for any of the lots within the Study Area with the exception of Peregrine Maitland's 1819 map; however, the information provided is illegible (Map 6).

A later historical map of Elgin County produced by George R. Tremaine in 1864 shows that S. Mason owned both Lots 15 North and South of Lake Road with a house in the northwestern portion of Lot 15 North of Lake Road. Lot D, Range 1 South of Lake Road is listed as "College Reserve" (Map 8).

The 1877 *Historical Atlas of Elgin County* indicates owners for both Lot 15 North of Lake Road and Lot 15 South of Lake Road (Map 9). Lot 15 North of Lake Road is listed as owned by a Mrs. Jelly, who had a house on the eastern side of the property close to Lake Road. Lot 15 South of Lake Road is listed as owned by S. Mason. The map does not indicate any buildings on this property. This map also shows one R. McCorkel as the owner of the western Lot D, Range 1 South of Lake Road, with no buildings indicated on the map.

## 1.4 Archaeological Context

### 1.4.1 The Natural Environment

The Study Area is situated within the "Norfolk Sand Plain", physiographic region, which is a large area of fine textured, water deposited sands laid down as part of the delta of the glacial Grand River (Chapman and Putnam 1984).

*The sands and silts of this region were deposited as a delta in glacial Lakes Whittlesy and Warren. A great discharge of meltwater from the Grand River area entered the lakes between the ice front and the moraines to the northwest, building the delta from west to east as the glacier withdrew.*

Chapman and Putnam, 1984:154

The Study Area is roughly 190 metres above sea level, rising to 210 metres above sea level in the northwest. The localized topography is varied. In the northwest, there is a flat ridgetop which slopes down to a drainage channel running southwest through the Study Area. To the east of the drainage channel the majority of the Study Area is a flat agricultural field with the exception of a finger ridge that extends into the study area from the eastern edge of the property. The southern aspect of this ridge is gently sloping and has been cleared for agriculture, while the northern aspect is steeper and remains wooded.

Soil types within the Study Area consist of Fox sandy loam, Haldimand silt loam, and unclassified eroded soils that comprise a miscellaneous land unit known as Valley Complex. Fox sandy loam soils are rapidly drained and permeable and are suitable for a wide variety of crops and Haldimand Silt Loam is also well-drained and suitable for agriculture (Schut 1992). The Valley Complex is undifferentiated material composing side walls and terraces or flood plains of valleys associated with rivers and their major tributaries (Schut 1992).



## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

The bedrock deposits in the vicinity date to the Middle and Upper Devonian Periods and consist of the Hamilton Formation (Hewitt 1972). The Hamilton Formation outcrops in portions of Middlesex, Elgin, Lambton, Kent, and Essex Counties of southwestern Ontario. This formation consists predominantly of grey shale with interbeds of grey crystalline cherty limestone and has a thickness ranging between 80 and 300 feet.

Historical mapping indicates that the closest potable water source is an unnamed tributary of Kettle Creek, which runs roughly northeast through the western portion of the Study Area and drains into Kettle Creek approximately 340 metres to the northeast (Maps 5-7). This tributary was engineered into open-channel diversion drain in the 1950s to facility drainage in the area, which until that time was a low-lying wet area.

The Study Area lies within the Mixed-wood Plains ecozone of Ontario (The Canadian Atlas Online 2015). Although largely altered by recent human activity, this ecozone once supported a wide variety of deciduous trees, such as various species of ash, birch, chestnut, hickory, oak, and walnut, as well as a variety of birds and small to large land mammals, such as raccoon, red fox, white tailed deer, and black bear.

At the time of the survey, the Study Area consisted of 15.3 hectares of ploughed agricultural field and a combined total of 8.3 hectares of wooded areas.

### 1.4.2 Previous Archaeological Work

A search of the Ontario Archaeological Sites Database (OASD) indicated that there are no archaeological sites located within a one kilometre radius of Study area.

To the best of our knowledge, no additional archaeological assessments have been conducted within 50 m of the current Study area.

### 1.4.3 Archaeological Potential

#### *Pre-Contact Aboriginal Archaeological Resources*

Archaeological potential is established by determining the likelihood that archaeological resources may be present within a study area. Archaeological potential can be affected by several variables, including: distance to various types of water sources, soil texture and drainage, glacial geomorphology, and the general topographic variability of the area.

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.

In archaeological potential modeling, a distance to water criterion of 300 metres is generally employed for all water sources including lakeshores, rivers, large creeks, swamps and small creeks. As indicated above, the closest potable water source is an unnamed tributary of Kettle Creek, which runs roughly northeast through the western portion of the Study Area and drains into Kettle Creek approximately 340 metres to the northeast (Maps 5-7). This tributary was engineered into open-channel diversion drain in the 1950s to facility drainage in the area, which until that time was a low-lying wet area.



## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

Soil texture can be an important determinant of past settlement, usually in combination with other factors, such as topography. The localized topography of the Study Area is relatively flat at an elevation of 190 to 200 metres above sea level. The soils within the Study Area include Fox sandy loam and Haldimand silt loam soils, which are well drained (Ontario Agriculture College 1930). These soils would have been suitable for pre-contact Aboriginal agricultural practices.

The Ministry of Tourism, Culture and Sport also views the presence of previously identified archaeological sites as an indicator of archaeological potential. A search of the Ontario Archaeological Sites Database (OASD) indicated that there are no documented archaeological sites located within a one kilometre radius of Study Area.

When the above-noted archaeological potential criteria are applied, the Study Area was determined to have archaeological potential for pre-contact Aboriginal sites.

### ***Euro-Canadian Archaeological Resources***

The criteria used by the Ontario Ministry of Tourism, Culture and Sport to determine potential for historical Euro-Canadian archaeological sites includes the presence of: particular, resource-specific features that would have attracted past subsistence or extractive uses; areas of initial, non-Aboriginal settlement; early historical transportation routes; and properties designated under the *Ontario Heritage Act*

The various historical maps of Southwold Township (Maps 3 to 9) indicates that the Study Area is located in the vicinity of the historical town of Port Stanley. Many of the landowners had cultivated large portions of their properties, school houses and churches are depicted in the surrounding area, and the road system is recognizable as the current transportation layout.

The Ministry of Tourism, Culture and Sport also views the presence of previously identified archaeological sites as an indicator of archaeological potential. A search of the Ontario Archaeological Sites Database (OASD) indicated that there are no documented archaeological sites located within a one kilometre radius of Study Area.

Given the archaeological potential criteria noted above, the Study Area is determined to have archaeological potential for historical Euro-Canadian sites.





## **2.0 FIELD METHODS**

### **2.1 Stage 2 Archaeological Assessment**

The Stage 2 archaeological survey of the Study Area was conducted on August 23, 24, and 26, 2016, under archaeological consulting license P457, issued to Lafe Meichenheimer of Golder by the Ministry of Tourism, Culture and Sport (P457-0028-2016).

The weather during the assessment was sunny and warm, with temperatures varying from 20°C to 28°C. At no time were the conditions detrimental to the observation or recovery of archaeological material. Photo locations are illustrated on Map 10. All activities undertaken during the assessment were in compliance with the *Ontario Heritage Act* and the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011).

As outlined in Section 1.4.1 above, the Study Area is 23.6 hectares consisting of 15.3 hectares of ploughed agricultural field and a total of 8.3 hectares of wooded areas. The ploughed agricultural field portion of the Study Area was assessed by the standard pedestrian survey method at five metre intervals (Image 1 to Image 3). The area was recently ploughed and weathered, surface visibility was excellent (approximately 90%) and at no time were the conditions detrimental to the recovery of artifacts. When an artifact was encountered during the pedestrian survey the initial artifact was marked and survey intervals were intensified to one metre within at least a twenty metre radius of the find (Image 4). Any additional artifacts identified while conducting the intensified survey were also marked. This process was continued until the full extent of the surface scatter was defined. To take advantage of good site conditions at the time, a controlled surface pick-up (CSP) that met all requirements outlined in Section 3.2.1 of the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011) was conducted at all locations, as part of the Stage 2 assessment. Once the full extent of a location was defined, all of the artifacts identified in the scatter were retained for laboratory analysis and their positions were documented with a Trimble Nomad GPS unit with a ProXH high accuracy receiver (accuracy between 30 and 60 centimetres). The initial pedestrian survey of the Study Area and CSP of all artifact locations was conducted on August 23, 2016. However, following a significant rain fall on August 25, 2016 a second CSP was conducted to take advantage of the additional weathering that had occurred. In total, two complete CSPs were completed across the artifact locations identified on August 23, 2016.

The wooded areas could not be ploughed and were therefore assessed using the standard shovel test method. Five test pitting areas were defined; Test Pit Area 1-5 (TPA1-5) (Map 11). Test pits were dug by hand and spaced at a five metre interval unless disturbance was encountered. Each test pit was at least 30 centimetres in diameter and was excavated to either a minimum of five centimetres into subsoil in undisturbed areas, or until clear evidence of deep fill deposits were identified. All soil was screened through six millimetre hardware cloth to facilitate the recovery of any cultural material present. Each test pit was examined for stratigraphy, cultural features and fill. The stratigraphy encountered across the Study Area during the test pit survey consisted of dark brown sandy loam topsoil over mottled or yellow-orange sandy subsoil. Occasional pockets of silt loam were encountered. Test pits ranged from 15 to 50 centimetres in depth, and were excavated to within one metre of built structures or until test pits showed evidence of recent ground disturbance or poor drainage. Each test pit was back filled upon completion. When an artifact was encountered, eight additional test pits were dug at a maximum of 2.5 metre intervals within a radius of five metres around the positive pit along with a one-by-one metre test unit over the initial positive test pit as per *Standards and Guidelines* 2.1.3 S2A (Government of Ontario 2011).



## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

Relevant UTM coordinates for Locations 1, 2, and 3 are presented in the Supplementary Documentation, separate from this report. The Supplementary Documentation also contains a Tile showing the specific site locations.

### Test Pitting Areas

Test Pit Area 1 (TPA1) was located near George Street on the southern edge of the Study Area and encompassed an area roughly 30 by 30 metres (Map 11). Topography was flat and vegetation consisted of mainly grass and goldenrod with several small juniper trees (Image 5). Initially, all test pits were spaced at a five metre intervals, as per Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). After consistently identifying fill materials across the south central portion of the Study Area, a decision was made based on professional judgement to increase the survey intervals to ten metres in order to confirm the presence and extent of the identified fill, as per Section 2.1.8 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Clay and gravel fill was encountered in the central portion of TPA1, as well as several concrete platforms (Image 6 to Image 9) (Map 11).

Test Pit Area 2 (TPA2) was a circular patch of land approximately 20 metres in diameter located 20 metres north of George Street on the southern edge of the Study Area, about 110 metres east of TPA1. Topography was flat and vegetation consisted mainly of grass and goldenrod surrounding a cluster of spruce, sumac, and shrubs. As with TPA1, all test pits were initially spaced at a five metre intervals, as per Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). After consistently identifying fill materials across the south central portion of the study area, a decision was made based on professional judgement to increase the survey intervals to ten metres in order to confirm the presence and extent of the identified fill, as per Section 2.1.8 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Clay and gravel fill was encountered in the central portion of TPA2, as well as a circular concrete well cover (Image 10 to Image 12) (Map 11).

Test Pit Area 3 (TPA3) was the wooded portion of the finger ridge which extended out into the Study Area from the eastern boundary, along with the northeast corner of the study area (Map 11). Topography in the north-eastern corner of TPA3 was flat with grass and goldenrod. Several large eastern cottonwood trees had been previously cut down in the area as well (Image 13). The finger ridge portion on TPA3 consisted of slope and flat ground with mixed hardwood vegetation. Approximately 60% of TPA3 was made up of slope greater than 20° (Image 14 and Image 15), and were thus not surveyed, as per *Standards and Guidelines* 2.1 S2aiii (Government of Ontario 2011). All flat areas were surveyed at 5 metre intervals (Image 16 to Image 19). One artifact-bearing test pit yielding one piece of chert debitage was encountered at the base of the slope about 65 metres west of the eastern study area boundary; Location 5. As per S&G 2.1.3 S2, eight additional test pits dug at a maximum of 2.5 metre intervals within a radius of five metres around the positive pit along with a one-by-one metre test unit was excavated over the initial positive test pit (Image 20). The eight test pits produced no artifacts while the test unit produced a single piece of chipping detritus.

Test Pit Area 4 (TPA4) was in the southwest corner of the Study Area along George Street between the ploughed field and the unnamed tributary of Kettle Creek, which has engineered to facilitate drainage (Map 11). This area was relatively flat with mixed vegetation and a few larger hardwood trees throughout. The area also had a semicircular driveway connected to George Street on both ends. All test pits were initially spaced at a five metre intervals, as per Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of





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## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

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Ontario 2011). After consistently identifying fill materials across the south central portion of the study area, a decision was made based on professional judgement to increase the survey intervals to ten metres in order to confirm the presence and extent of the identified fill, as per Section 2.1.8 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Clay and gravel fill was encountered in the central portion of TPA4, as well as one circular concrete platform (Image 21 to Image 23) (Map 11).

Test Pit Area 5 was the northwest corner of the Study Area west of the drainage (Image 24 and Image 25). Approximately 70% of this area consisted of slope greater than 20° and was thus not surveyed, as per *Standards and Guidelines* 2.1 S2aiii (Government of Ontario 2011) (Image 26 to Image 28). The remaining 30% of TPA5 was a flat ridgetop, roughly triangular in shape with mixed vegetation consisting of grass, goldenrod, raspberries, wild grapes, wild roses, sumac, and mixed hardwoods. This flat area was surveyed at 5 metre intervals (Image 29 to Image 32).



## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

### 3.0 RECORD OF FINDS

The Stage 2 Archaeological Assessment was conducted employing the methods described in Section 2.0. Map 10 illustrates the areas assessed and techniques employed, while Image 1 to Image 32 illustrate the Stage 2 survey conditions. The Stage 2 Archaeological Assessment resulted in the documentation of three locations producing pre-contact Aboriginal cultural material.

For a list of terms and definitions regarding the pre-contact Aboriginal cultural material discussed in the present report, see Appendix A.

Material culture recovered from the Stage 2 archaeological assessment is contained in one banker's box and will be temporarily housed at Golder's London office until formal arrangements can be made for its transfer to the Ontario Ministry of Tourism, Culture and Sport collections facility. Table 2 provides an inventory of the documentary record generated in the field.

**Table 2: Inventory of Documentary Record**

Document Type	Current Location of Document	Additional Comments
Field Notes	Golder Office in London	Total of 8 pages from original field book. Hard copies stored in project folder and digitally in project file.
Hand Drawn Maps	Golder Office in London	Six in total from original field book. Hard copies stored in project folder and digitally in project file.
Maps provided by Client	Golder Office in London	One map in total stored in project folder and stored digitally in project file.
Digital Photographs	Golder Office in London	A total of 96 photos stored in project folder and stored digitally in project file.

### 3.1 Location 1

Location 1 was identified during pedestrian survey approximately 35 metres west of the western tip of the finger ridge extending into the Study Area from the eastern boundary. The Stage 2 assessment of Location 1 resulted in the documentation of one piece of Onondaga chert debitage, identified as a primary reduction flake (Image 33). Since lithic debitage is not temporally diagnostic, a period of occupation or cultural affiliation cannot be determined for Location 1.

### 3.2 Location 2 (AeHh-150)

The Location 2 was identified during pedestrian survey on the south aspect of the finger ridge extending into the Study Area from the eastern boundary. The Stage 2 assessment of Location 2 resulted in the documentation of 18 pre-contact Aboriginal artifacts, including five projectile points and 13 pieces of chert debitage diffusely spread over an area measuring approximately 100 metres east-west by 80 metres north-south. Of the five projectile points discovered, one was too broken to be identified, while the other four were able to be identified by type.



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## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

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The majority of the artifacts recovered from Location 2 were manufactured of Onondaga chert, though a small variety of chert types is present in the assemblage, including Selkirk chert, Upper Mercer chert, and Kettle Point chert.

Onondaga and Selkirk cherts are both widely available in southwest Ontario. Onondaga is a high quality raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham (Eley and von Bitter 1989). Selkirk is a moderate quality raw material that outcrops close to the embouchure of the Grand River along the north shore of Lake Erie. Its distribution as a secondary source material is similar to Onondaga chert, and it is frequently encountered as far west as the Chatham area (Eley and von Bitter 1989).

Kettle point chert is a relatively high quality raw material that outcrops between Kettle Point and Ipperwash, on Lake Huron. Currently, Kettle Point occurs as submerged outcrops extending for approximately 1350 metres into Lake Huron. Secondary deposits of Kettle Point chert have been reported in Essex County and in the Ausable Basin (Eley and von Bitter 1989).

Upper Mercer chert is a high quality raw material from the Pottsville Formation within the Pennsylvania system found in Coshcon and Perry Counties in Ohio. It is typically blue-black in colour yet milky white variations are also common (Ellis et al 1990).

Table 3 summaries the artifacts by chert type, while representative samples of the collection are depicted in Image 34 and Image 35.



## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

**Table 3: Location 2 (AeHh-150) Artifacts by Chert Type**

	Primary Reduction		Primary Thinning		Biface Thinning		Fragment		Projectile Points		TOTAL	
Chert	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Onondaga	4	22.2%	2	11.1%	4	22.2%	1	5.6%	2	11.1%	13	72.2%
Selkirk	1	5.6%	1	5.6%	0	0.0%	0	0.0%	1	5.6%	3	16.7%
Kettle Point	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	5.6%	1	5.6%
Upper Mercer	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	5.6%	1	5.6%
TOTAL	5	27.8%	3	16.7%	4	22.2%	1	5.6%	5	27.8%	18	100.0%



## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

### Projectile Points

Five projectile points were recovered from Location 2 (Image 34); their measurements are presented in Table 4 below.

**Table 4: Location 2 Projectile Point Measurements**

Catalogue #	Material	Length (mm)	Width (mm)	Thickness (mm)	Comments
1	Upper Mercer	53.93	27.71	7.47	Early Archaic Nettling-type
2	Kettle Point	38.69	23.91	6.56	Early Archaic Nettling-type
3	Selkirk	35.87	22.56	5.54	Late Archaic Small Point (Crawford Knoll?)
4	Onondaga	27.18	19.71	3.57	Late Woodland Daniels Triangular
5	Onondaga	36.98	29.38	8.52	Indeterminate; likely Archaic

Two of the projectile points have been identified as Early Archaic Nettling-type points (7,500 – 8,000 BC) (Fox 1980). The first one of these is manufactured on what is likely Upper Mercer chert, though the piece has heavy patina. The point has slightly convex margins, corner notching, and a convex base.

The second Early Archaic point, manufactured from Kettle Point chert, is missing its tang, but its measurements and shape are consistent with Nettling-type points. It has convex margins, corner notching, and a lenticular cross section.

Another projectile point was identified as a Late Archaic Small Point projectile point, possibly a Crawford Knoll (1,500 – 500 BC) (Kenyon 1980). This point is manufactured from Selkirk chert and features convex margins and a thin biconvex cross section. It features an expanding base that is flat across the bottom.

The fourth projectile point recovered from Location 2 is a Late Woodland Daniels Triangular point manufactured of Onondaga chert (1,550 – 1,650) (Fox 1981). It has slightly convex margins with a concave base.

The unidentified projectile point is a midsection of a biface of Onondaga chert. It has a lenticular cross section and convex margins. It may have been corner-notched and a portion of the base appears to have been re-worked.

### Lithic Debitage

The remainder of the artifact assemblage recovered from Location 2 consists of lithic debitage (Image 35). As may be seen in Table 3 above, most of the assemblage consists of Onondaga chert, with only a few pieces of debitage being Selkirk chert. As discussed above in Section 3.2, both of these raw materials are widely available in southwest Ontario.



### **3.3 Location 3**

Location 2 was identified during the test pit survey of Test Pit Area 3 (see Section 2.0 above). One biface thinning flake of Onondaga chert was recovered from a test pit. No additional artifacts were recovered from the 5 metre test pitting grid surrounding the positive test pits, so eight cardinal test pits and a test unit were dug in accordance with *Standards and Guidelines 2.1.3 S2A* (Government of Ontario 2011). The eight cardinal test pits yielded no additional artifacts, however the test unit, dug over the positive test pit, produced another biface thinning flake of Onondaga chert (Image 36). Since lithic debitage is not temporally diagnostic, a period of occupation or cultural affiliation cannot be determined for Location 3.



## **4.0 ANALYSIS AND CONCLUSIONS**

The Stage 1 background study indicated that the Study Area has archaeological potential for both pre-contact Aboriginal and historical Euro-Canadian sites, and as a result it was determined that a Stage 2 field assessment would be required. The Stage 2 field assessment, which involved a pedestrian survey and test pitting at five metre intervals, resulted in the identification of three artifact producing areas.

### **4.1 Location 1**

One piece of non-diagnostic pre-contact Aboriginal lithic debitage was recovered during the Stage 2 archaeological assessment of Location 1. The isolated nature of this artifact suggests that it relates to a transient use of the area that occurred during an undetermined time period.

Since fewer than 10 non-diagnostic artifacts were recovered from a 10 metre by 10 metre area, Location 1 is concluded to have no further cultural heritage value or interest as the site does not meet the criterion identified in Section 2.2, Standard 1a of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011) for determining the need for Stage 3 site-specific assessment.

### **4.2 Location 2 (AeHh-150)**

The Stage 2 Archaeological Assessment of Location 2, which included two full CSP collections, resulted in the recovery of five projectile points and 13 pieces of lithic debitage widely dispersed over an area measuring roughly 100 metres east-west by 80 metres north-south. The projectile points included two Early Archaic Nettling-type points, one Late Archaic possible Crawford Knoll point, one Late Woodland Daniels Triangular point, and one indeterminate projectile point fragment.

Based on the presence of two Early Archaic projectile points, Location 2 (AeHh-150) was determined to have further cultural heritage value or interest and further archaeological assessment is required (see Section 5.0 for recommendations). Diagnostic artifacts from the Early Archaic period are relatively rare in Ontario and as such are considered artifacts of special interest that meet the criteria for required Stage 3 archaeological assessment under the MTCS 2011 Standards and Guidelines for Consultant Archaeologists. Location 2 has been registered as a site and was assigned Borden number AeHh-150.

### **4.3 Location 3**

Two pieces of non-diagnostic pre-contact Aboriginal lithic debitage were recovered from a test pit and test unit during the Stage 2 assessment of Location 3. The isolated nature of these artifacts suggests that they relate to a transient use of the area that occurred during an unknown time period.

Since fewer than ten non-diagnostic artifacts were recovered from a 10 metre by 10 metre test pit area, Location 3 is concluded to have no further cultural heritage value or interest as the site does not meet the criterion identified in Section 2.2, Standard 1a of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011) for determining the need for Stage 3 site-specific assessment.



## **5.0 RECOMMENDATIONS**

Based on the results of the Stage 1 background study and the Stage 2 property assessment, it was concluded that the pre-contact Aboriginal material identified at Locations 1 and 3 has no further cultural heritage value or interest, while Location 2 (AeHh-150) does have further cultural heritage value or interest and further archaeological assessment is required.

Given these findings the following recommendations are provided:

- 1) The cultural heritage value or interest of Locations 1 and 3 has been sufficiently assessed and documented, the sites may be considered free of further archaeological concern, and no further archaeological assessment of these sites is required.
- 2) Location 2 (AeHh-150) possesses cultural heritage value or interest and should be subject to a Stage 3 site-specific archaeological assessment prior to any development impacts.
- 3) As outlined in Section 2.0 of the report herein, Golder conducted two CSP collections at Location 2 (AeHh-150) during the Stage 2 assessment that met all requirements outlined in Section 3.2.1 of the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). This was done to take advantage of good site conditions at the time. As such, when the Stage 3 site-specific assessment of Location 2 (AeHh-150) is ready to proceed it is recommended that it begin with the hand excavation of test units as outlined in Section 3.2, as well as Table 3.1, of the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).
- 4) Since Location 2 (AeHh-150) has been identified as a large, diffuse pre-contact Aboriginal site where it is not clearly evident that Stage 4 mitigation of impacts will be required, it is recommended that the test unit excavation strategy should follow Table 3.1, Standards 5, 6, and 7. Specifically, multiple grids of test units should be excavated at 5 metre intervals over areas of artifact concentration. However, as no distinct artifact concentration were identified, despite conducting two CSP collections, it is recommended that the test units should focus on the four diagnostic projectile points. Additional test units amounting to 20% of the initial grid unit total around each point should be excavated between the points to further document the artifact distribution. Finally, test units amounting to 10% of the initial grid unit totals should be excavated on the periphery of the initial test units centres on the projectile points to sample the site periphery. Archaeologists will also engage with First Nation groups expressing interest in the archaeological resources of the area, as per *Engaging Aboriginal Communities in Archaeology* (Government of Ontario 2010).

All units should be excavated into the first five centimetres of subsoil unless a cultural feature is uncovered. Any features identified during the Stage 3 assessment should have their plan view drawn; each feature should be covered with geotextile fabric prior to backfilling. All soil excavated from the test units will be screened through six millimetre hardware cloth to facilitate the recovery of artifacts that may be present. The recovered artifacts will be tagged in the field by their provenience unit and returned to the laboratory for washing, cataloguing and analysis.





## **6.0 ADVICE ON COMPLIANCE WITH LEGISLATION**

This report is submitted to the Minister of Tourism and Culture 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 1990b). The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism and Culture, a letter will be issued by the ministry stating that there are no further concerns with regards to alterations to archaeological sites by the proposed development.

It is an offence under Section 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alterations to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological reports referred to in Section 65.1 of the *Ontario Heritage Act* (Government of Ontario 1990b).

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* (Government of Ontario 1990b).

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33, requires that any person discovering or having knowledge of a burial site shall immediately notify the police or coroner (Government of Ontario 2002). It is recommended that the Registrar of Cemeteries at the Ministry of Consumer Services is also immediately notified.

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 (Government of Ontario 1990b).



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## 8.0 IMAGES



*Image 1: George Street, Port Stanley Stage 1-2; Field walking soil conditions; facing northeast, taken August 23, 2016*



*Image 2: George Street, Port Stanley Stage 1-2; Field walking soil conditions; facing southwest, taken August 23, 2016*





## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO



*Image 3: George Street, Port Stanley Stage 1-2; Field walking; facing southwest, taken August 23, 2016*



*Image 4: George Street, Port Stanley Stage 1-2; Field walking intensification; facing west, taken August 23, 2016*





## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO



*Image 5: George Street, Port Stanley Stage 1-2; Test Pit Area 1; facing west, taken August 23, 2016*



*Image 6: George Street, Port Stanley Stage 1-2; TPA1 concrete pads; facing north, taken August 23, 2016*





## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO



*Image 7: George Street, Port Stanley Stage 1-2; TPA1 test pitting; facing west, taken August 23, 2016*



*Image 8: George Street, Port Stanley Stage 1-2; TPA1 disturbed test pit; facing east, taken August 23, 2016*

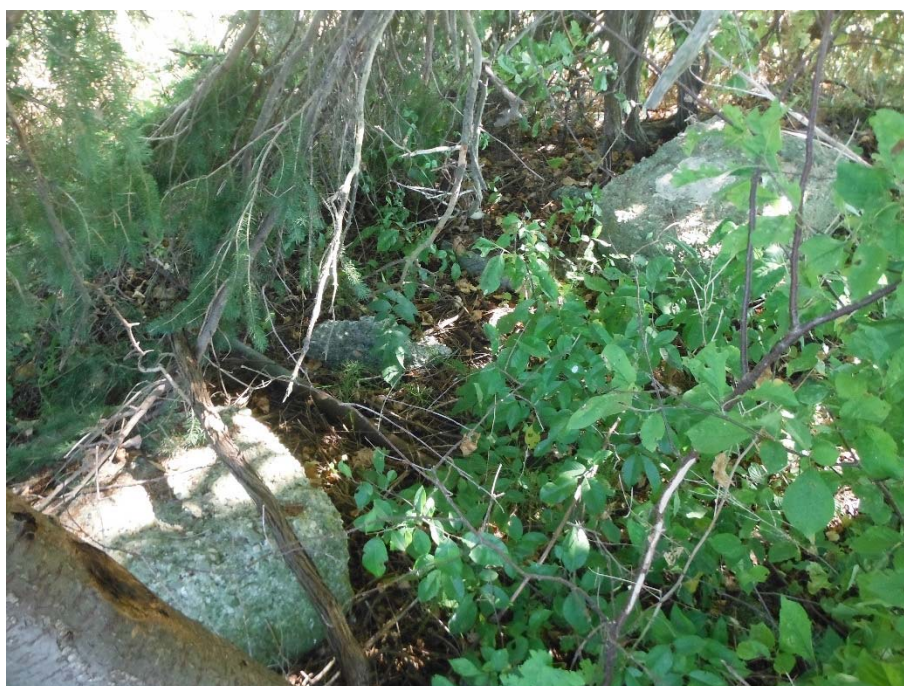




## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO



*Image 9: George Street, Port Stanley Stage 1-2; TPA1 undisturbed test pit; facing north, taken August 23, 2016*



*Image 10: George Street, Port Stanley Stage 1-2; Test Pit Area 2 concrete rubble; facing northwest, taken August 23, 2016*





## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO



*Image 11: George Street, Port Stanley Stage 1-2; TPA2 test pitting; facing west, taken August 23, 2016*



*Image 12: George Street, Port Stanley Stage 1-2; TPA2 undisturbed test pit; facing north, taken August 23, 2016*

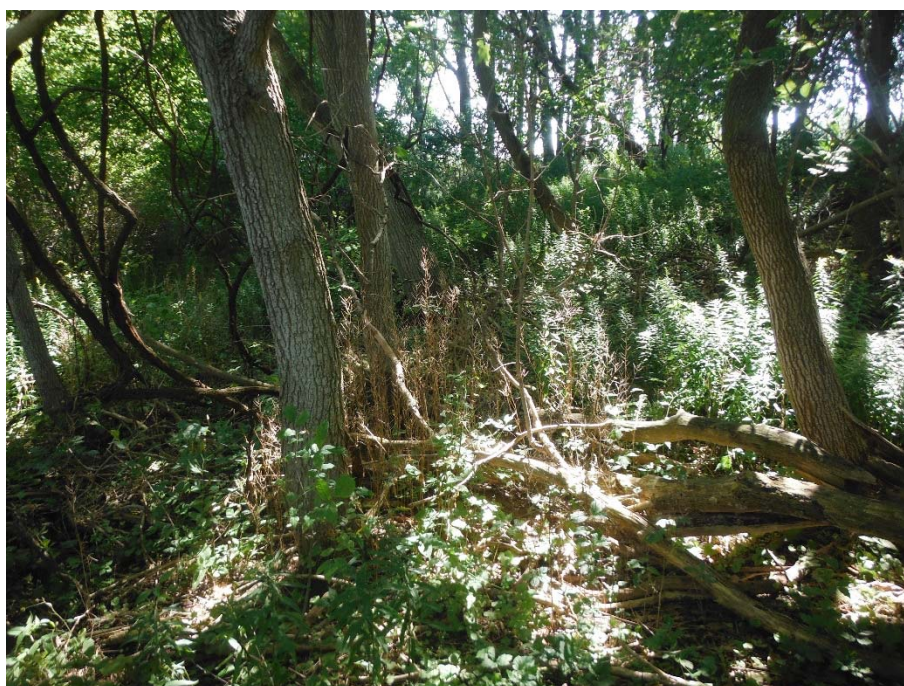




## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO



*Image 13: George Street, Port Stanley Stage 1-2; Test Pit Area 3; facing southwest, taken August 24, 2016*



*Image 14: George Street, Port Stanley Stage 1-2; TPA3 slope; facing southeast, taken August 24, 2016*





## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO



*Image 15: George Street, Port Stanley Stage 1-2; TPA3 slope; facing southeast, taken August 24, 2016*



*Image 16: George Street, Port Stanley Stage 1-2; TPA3 test pitting; facing northeast, taken August 24, 2016*





## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO



*Image 17: George Street, Port Stanley Stage 1-2; TPA3 test pitting; facing north, taken August 24, 2016*



*Image 18: George Street, Port Stanley Stage 1-2; TPA3 test pitting; facing west, taken August 24, 2016*





## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO



*Image 19: George Street, Port Stanley Stage 1-2; TPA3 test pit; facing south, taken August 24, 2016*



*Image 20: George Street, Port Stanley Stage 1-2; TPA3 completed test unit; facing south, taken August 24, 2016*





## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO



*Image 21: George Street, Port Stanley Stage 1-2; Test Pit Area 4 rubble pile; facing east, taken August 24, 2016*



*Image 22: George Street, Port Stanley Stage 1-2; TPA4 disturbed test pit; facing west, taken August 24, 2016*





## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO



*Image 23: George Street, Port Stanley Stage 1-2; TPA4 test pitting; facing east, taken August 24, 2016*



*Image 24: George Street, Port Stanley Stage 1-2; Test Pit Area 5; facing north, taken August 24, 2016*





## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO



*Image 25: George Street, Port Stanley Stage 1-2; Test Pit Area 5; facing southwest, taken August 26, 2016*



*Image 26: George Street, Port Stanley Stage 1-2; TPA5 slope; facing northeast, taken August 24, 2016*





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## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

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*Image 27: George Street, Port Stanley Stage 1-2; TPA5 slope; facing east, taken August 24, 2016*



*Image 28: George Street, Port Stanley Stage 1-2; TPA5 slope; facing northwest, taken August 26, 2016*





## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO



*Image 29: George Street, Port Stanley Stage 1-2; TPA5 test pitting; facing east, taken August 24, 2016*



*Image 30: George Street, Port Stanley Stage 1-2; TPA5 test pitting; facing northwest, taken August 26, 2016*





## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO



*Image 31: George Street, Port Stanley Stage 1-2; TPA5 test pit; facing north, taken August 24, 2016*



*Image 32: George Street, Port Stanley Stage 1-2; TPA5 test pit; facing north, taken August 26, 2016*



**STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT  
GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO**



*Image 33: George Street, Port Stanley Stage 1-2; Location 1 artifact*



*Image 34: George Street, Port Stanley Stage 1-2; Location 2 (AeHh-150; the Finger Ridge Site) Projectile points; (top left to right) Early Archaic Nettling-type, Early Archaic Nettling-type, Late Archaic possible Crawford Knoll; (bottom left to right) Indeterminate projectile point, Late Woodland Daniels Triangular*





## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO



*Image 35: George Street, Port Stanley Stage 1-2; Location 2 (AeHh-150; the Finger Ridge Site) chert debitage; (top) biface thinning flakes, (upper middle) flake fragment, (lower middle) primary thinning flakes, (bottom) primary reduction flakes*



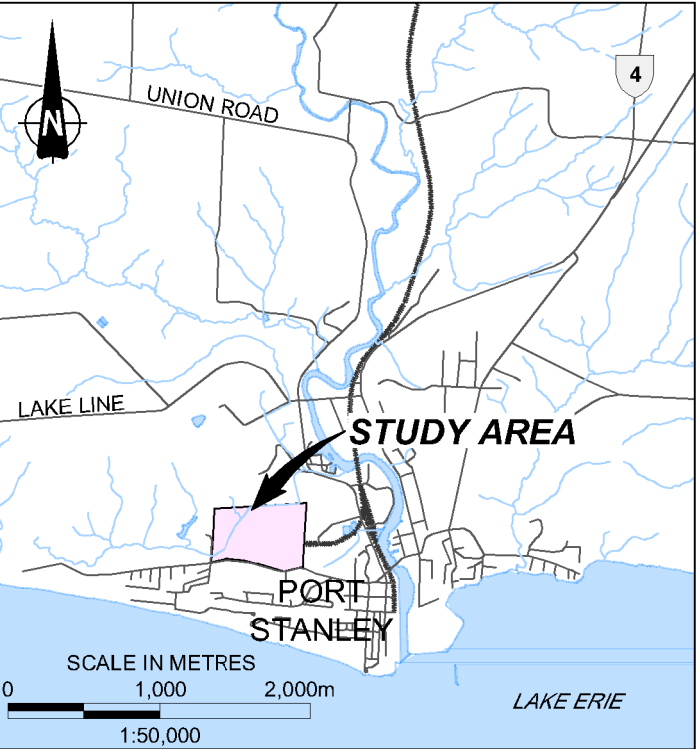
*Image 36: George Street, Port Stanley Stage 1-2; Location 3 artifacts*



## **9.0 MAPS**

All maps follow on the succeeding pages

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REGIONAL MAP

**LEGEND**


--- APPROXIMATE LOCATION OF STUDY AREA

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RESOURCES, © QUEENS PRINTER 2012;  
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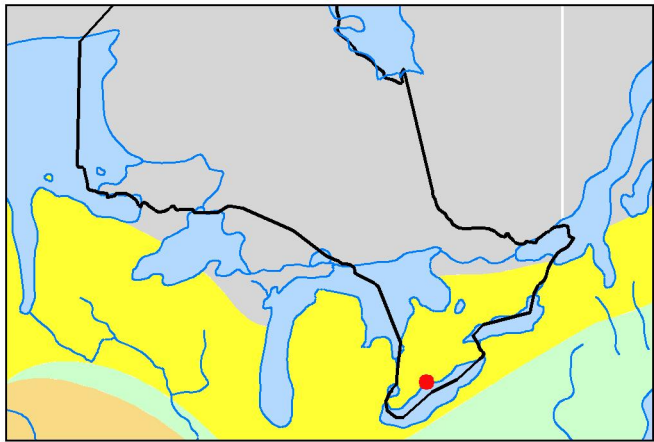
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ALL LOCATIONS ARE APPROXIMATE.

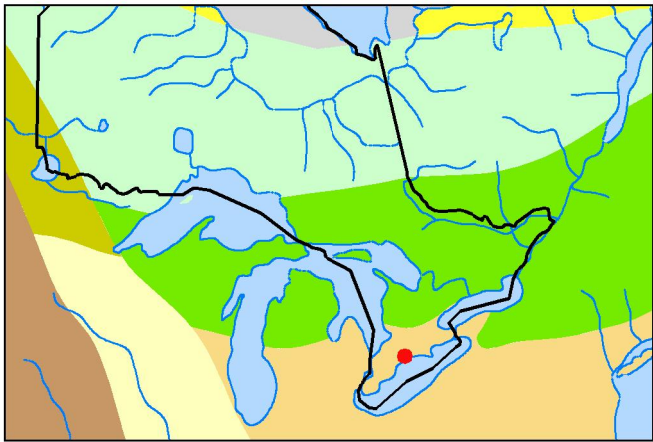
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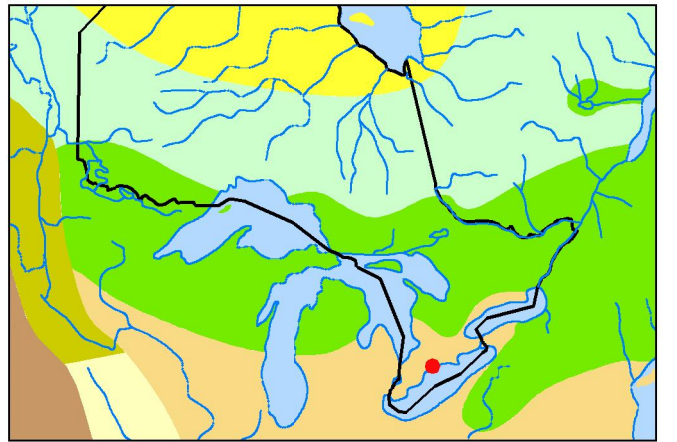
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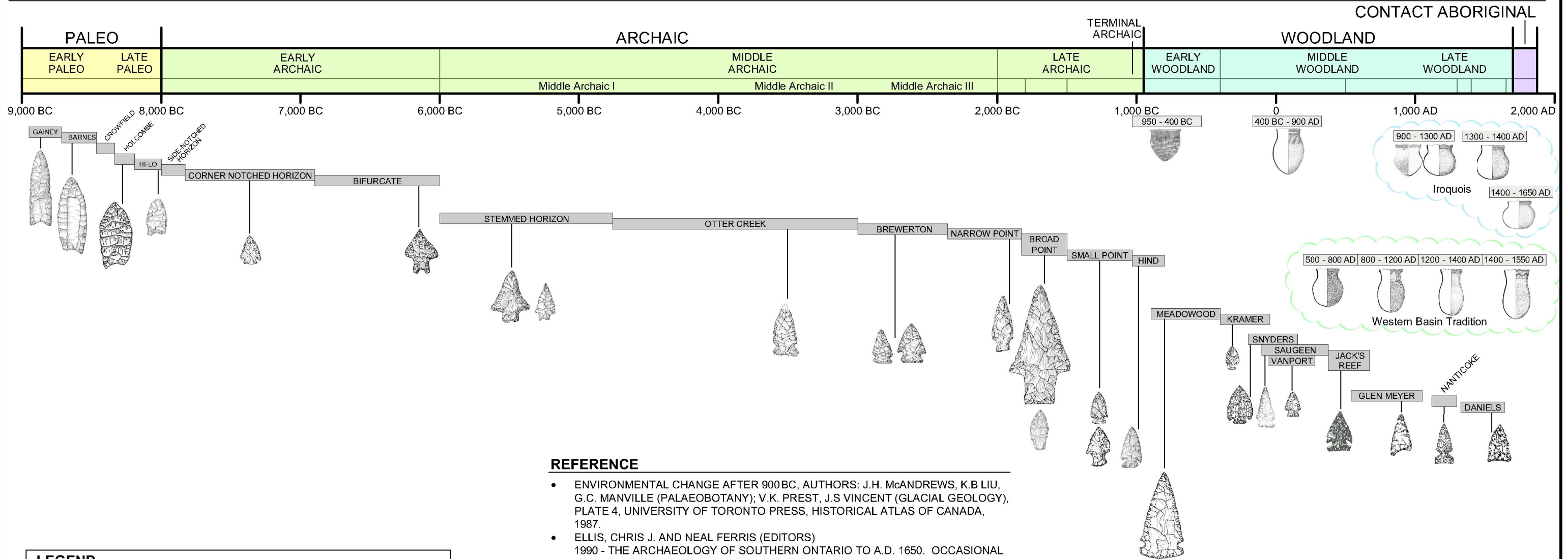
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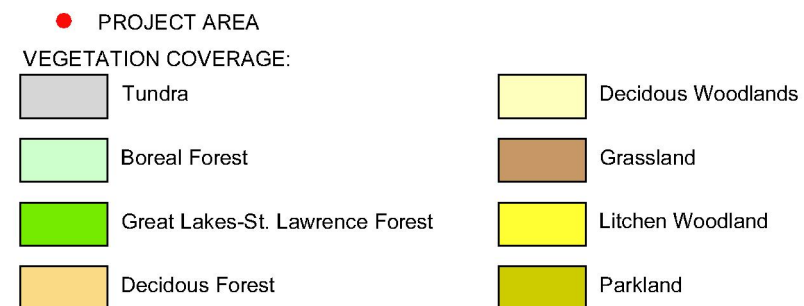
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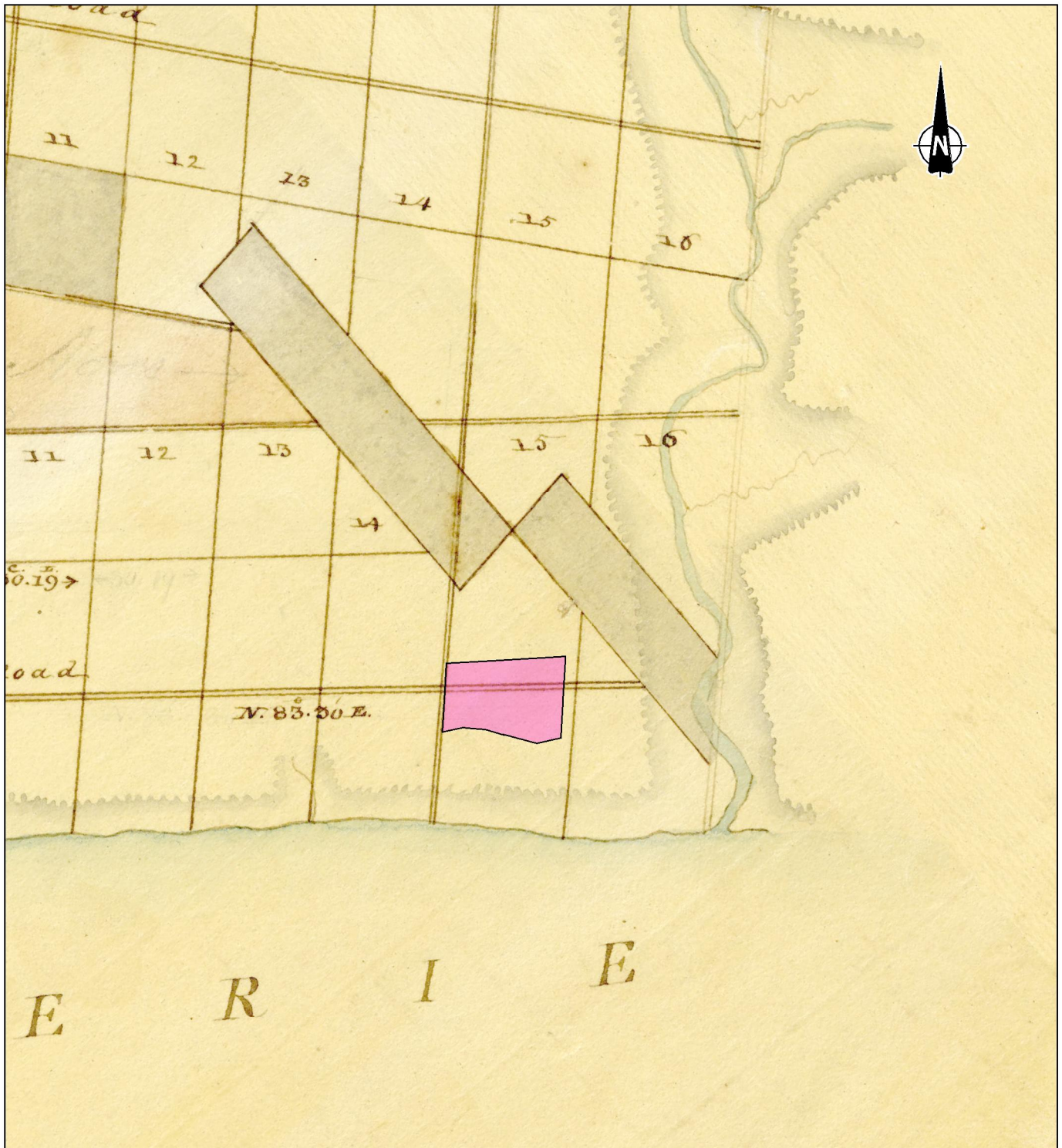
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### LEGEND



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MAP 2			





### LEGEND

 APPROXIMATE LOCATION OF STUDY AREA

### REFERENCE

BURWELL, M, 1810 MAP OF SOUTHWOLD TOWNSHIP.  
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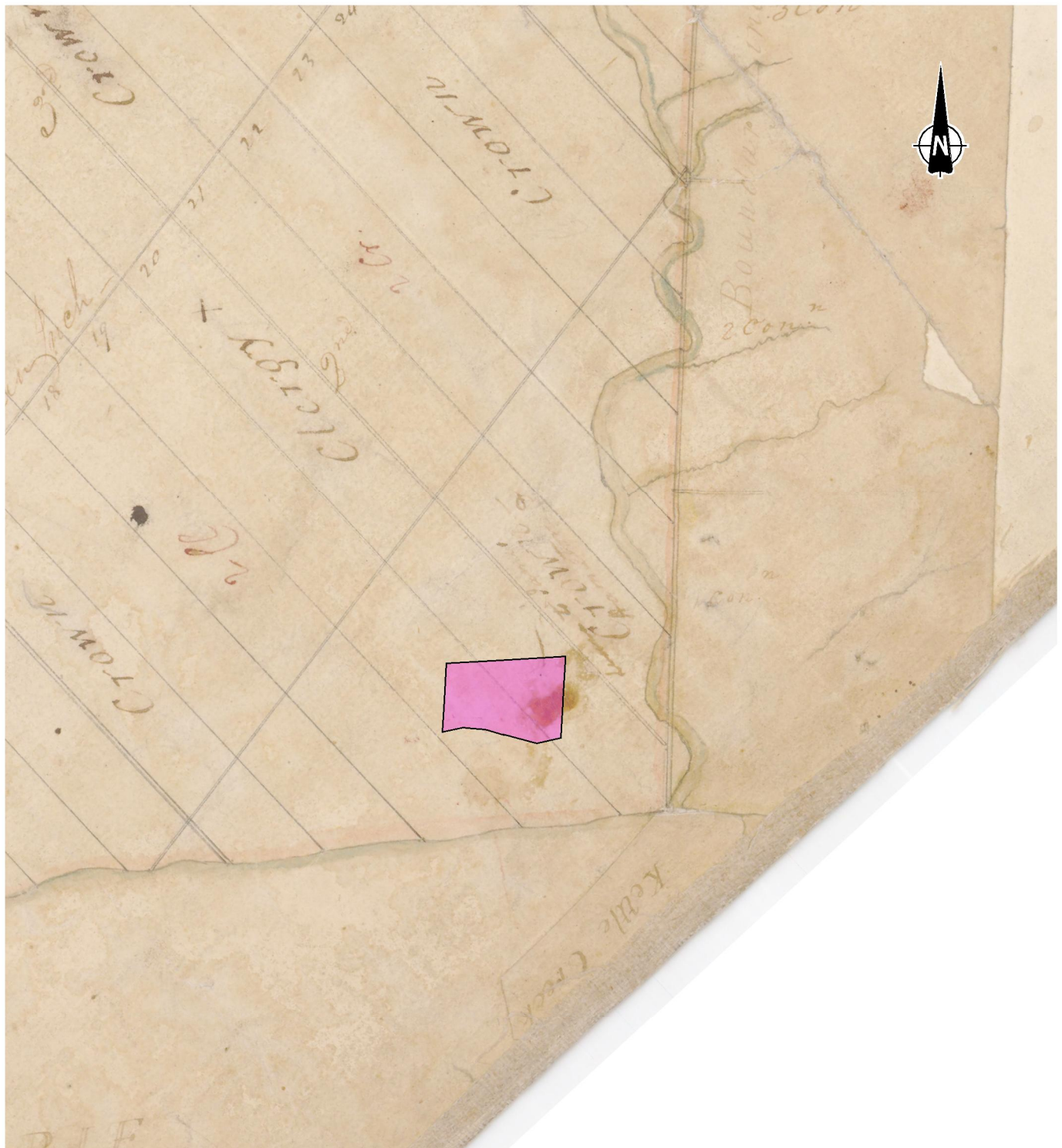
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GEORGE STREET LAND PARCEL  
ELGIN COUNTY, ONTARIO

TITLE  
**A PORTION OF BURWELL'S 1810 MAP OF  
SOUTHWOLD TOWNSHIP**



PROJECT No. 1659428		FILE No. 1659428-R01003	
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## NOTES

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## LEGEND



APPROXIMATE LOCATION OF STUDY AREA

## REFERENCE

BURWELL, M 1819 MAP OF THE FRONT OF THE TOWNSHIP OF SOUTHWOLD. PORT TALBOT.

## NOTES

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GEORGE STREET LAND PARCEL  
ELGIN COUNTY, ONTARIO

TITLE

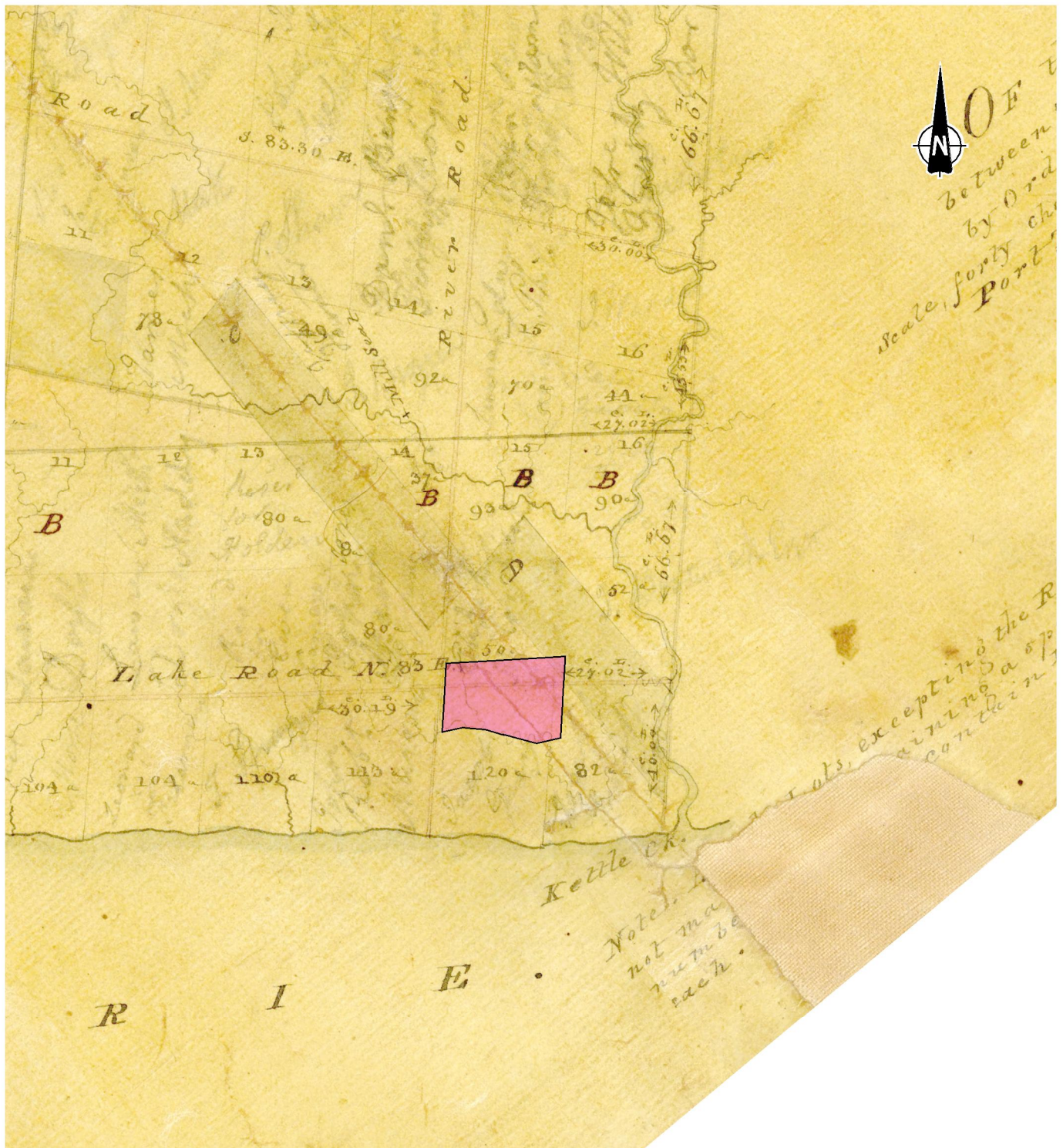
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SOUTHWOLD TOWNSHIP



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MAP 5





## LEGEND



APPROXIMATE LOCATION OF STUDY AREA


## REFERENCE

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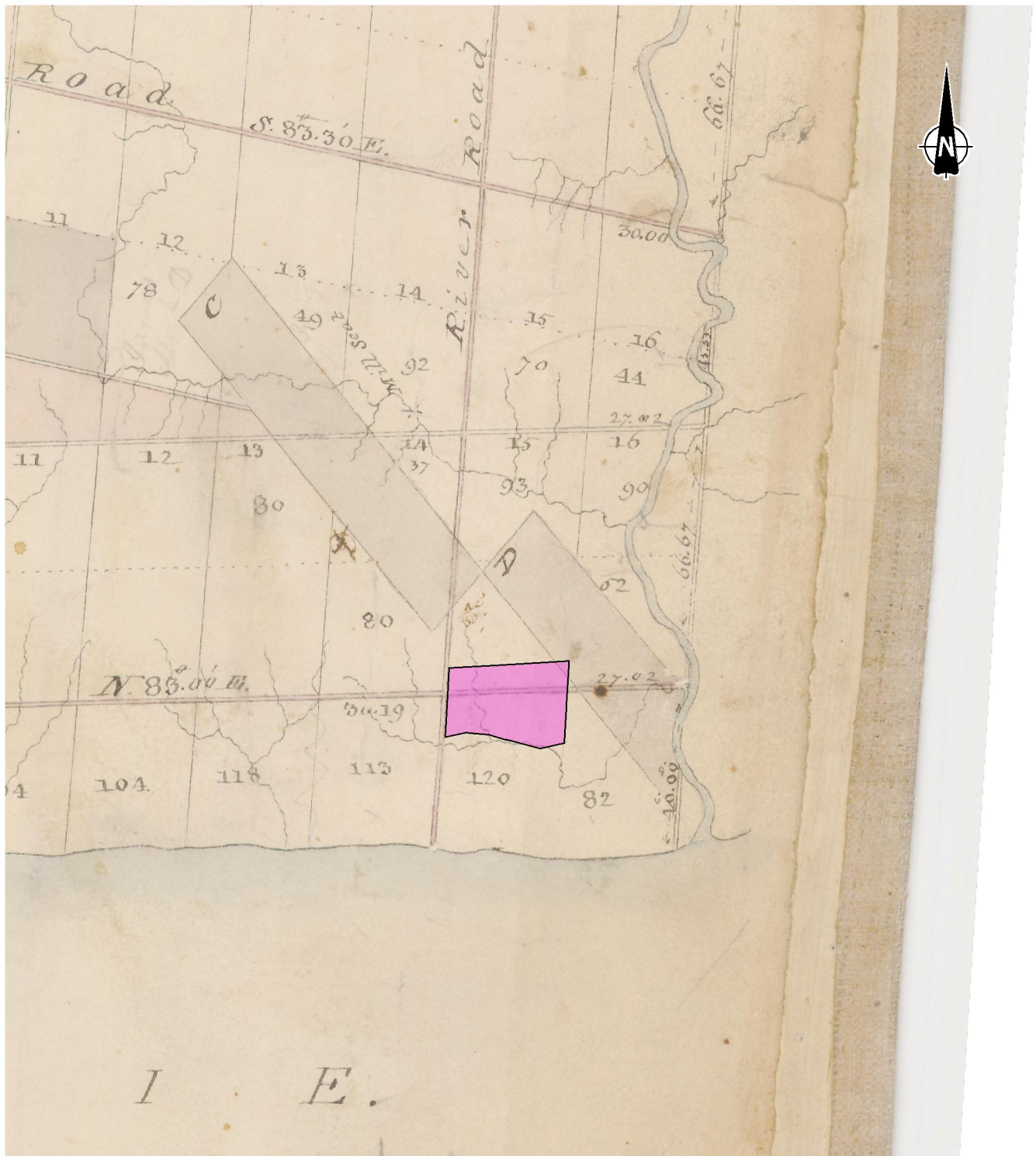
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CHECK		Sept. 19/16					
				<b>MAP 6</b>			





## LEGEND

APPROXIMATE LOCATION OF STUDY AREA

## REFERENCE

BURWELL, M, 1831 MAP OF SOUTHWOLD TOWNSHIP.  
YORK.

## NOTES

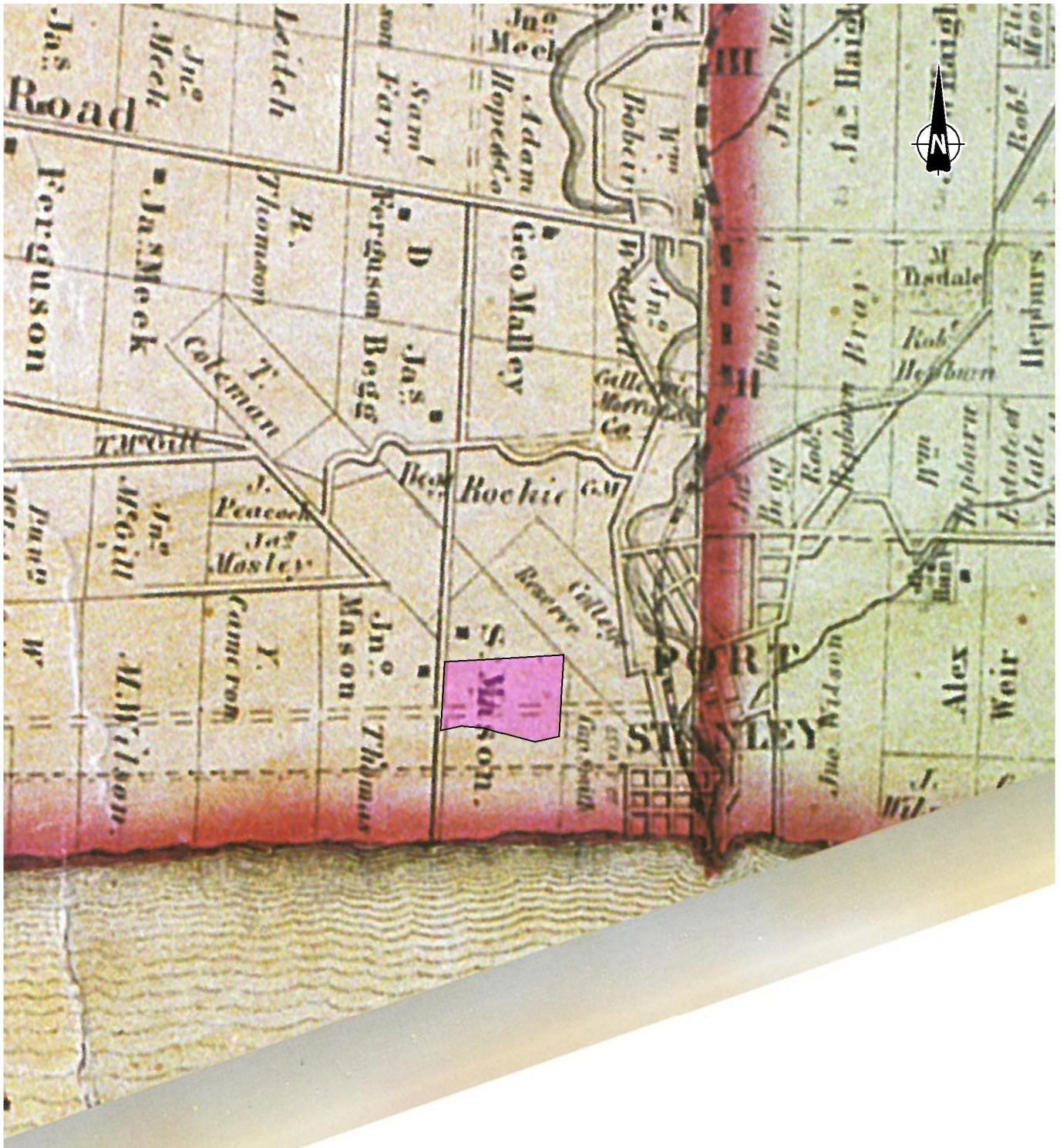
THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE  
READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE ONLY.

PROJECT				STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL ELGIN COUNTY, ONTARIO			
TITLE				A PORTION OF BURWELL'S 1831 MAP OF SOUTHWOLD TOWNSHIP			
PROJECT No.		1659428		FILE No.		1659428-R01003	
CADD		LMK		SCALE		N.T.S. REV. 0	
CHECK		Sept. 19/16					
				MAP 7			







## LEGEND



APPROXIMATE LOCATION OF STUDY AREA


## REFERENCE

TREMINE, GEORGE R., 1864 TREMINE'S MAP OF THE COUNTY OF ELGIN, CANADA WEST. TORONTO.

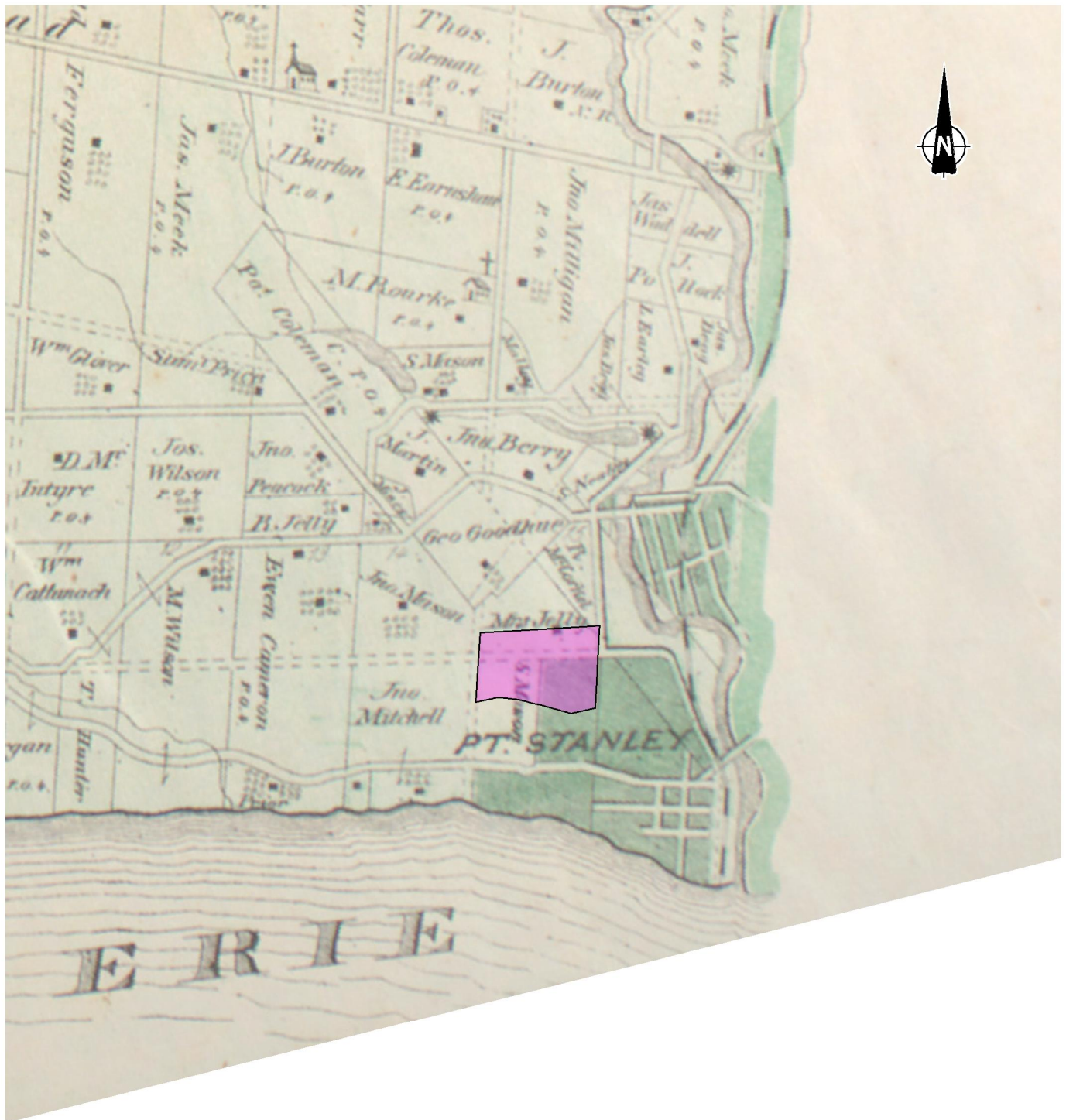
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ALL LOCATIONS ARE APPROXIMATE ONLY.

PROJECT		STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL ELGIN COUNTY, ONTARIO						
TITLE		A PORTION OF TREMAINE'S 1864 MAP OF SOUTHWOLD TOWNSHIP						
 <b>Golder Associates</b>		PROJECT No.		1659428	FILE No.	1659428-R01003		
					SCALE	N.T.S.	REV.	0
		CADD	LMK	Oct. 12/16	MAP 8			
		CHECK						





### LEGEND



### APPROXIMATE LOCATION OF STUDY AREA

## REFERENCE


PAGE, H.R. & CO., 1877, ILLUSTRATED HISTORICAL  
ATLAS OF THE COUNTY OF ELGIN. TORONTO.

## NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE  
READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE ONLY.

PROJECT	<b>STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL ELGIN COUNTY, ONTARIO</b>
TITLE	<b>A PORTION OF THE 1877 HISTORICAL ATLAS MAP OF SOUTHWOLD TOWNSHIP</b>

 <div style="display: inline-block; vertical-align: middle;"> <b>Golder Associates</b> </div>	PROJECT No. <b>1659428</b>	FILE No. <b>1659428-R01003</b>	
	CADD <b>LMK/ZJE</b>	SCALE <b>N.T.S.</b>	
	CHECK <b>Oct. 12/16</b>	<div style="font-size: 2em; font-weight: bold;">MAP 9</div>	



Drawing file: 1659428-R01010.dwg Nov 07, 2016 -- 9:43am



LEGEND

1 PHOTOGRAPH LOCATION, VIEWING DIRECTION, AND PLATE NUMBER

ASSESSMENT METHOD

- TEST PIT SURVEY AT 5m INTERVALS
- DISTURBED TEST PIT SURVEY AT 10m INTERVALS
- PEDESTRIAN SURVEY AT 5m INTERVALS
- SLOPE

REFERENCE

DRAWING BASED ON 2015 AERIAL IMAGE PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE WITH THE ONTARIO MINISTRY OF NATURAL RESOURCES © QUEEN'S PRINTER FOR ONTARIO, 2016; WASTELL HOMES, 41703-100-T1 - UNCONFIRMED BOUNDARY.DWG, AUGUST 31, 2016; AND CANMAP STREETFILES V2008.4.

NOTES

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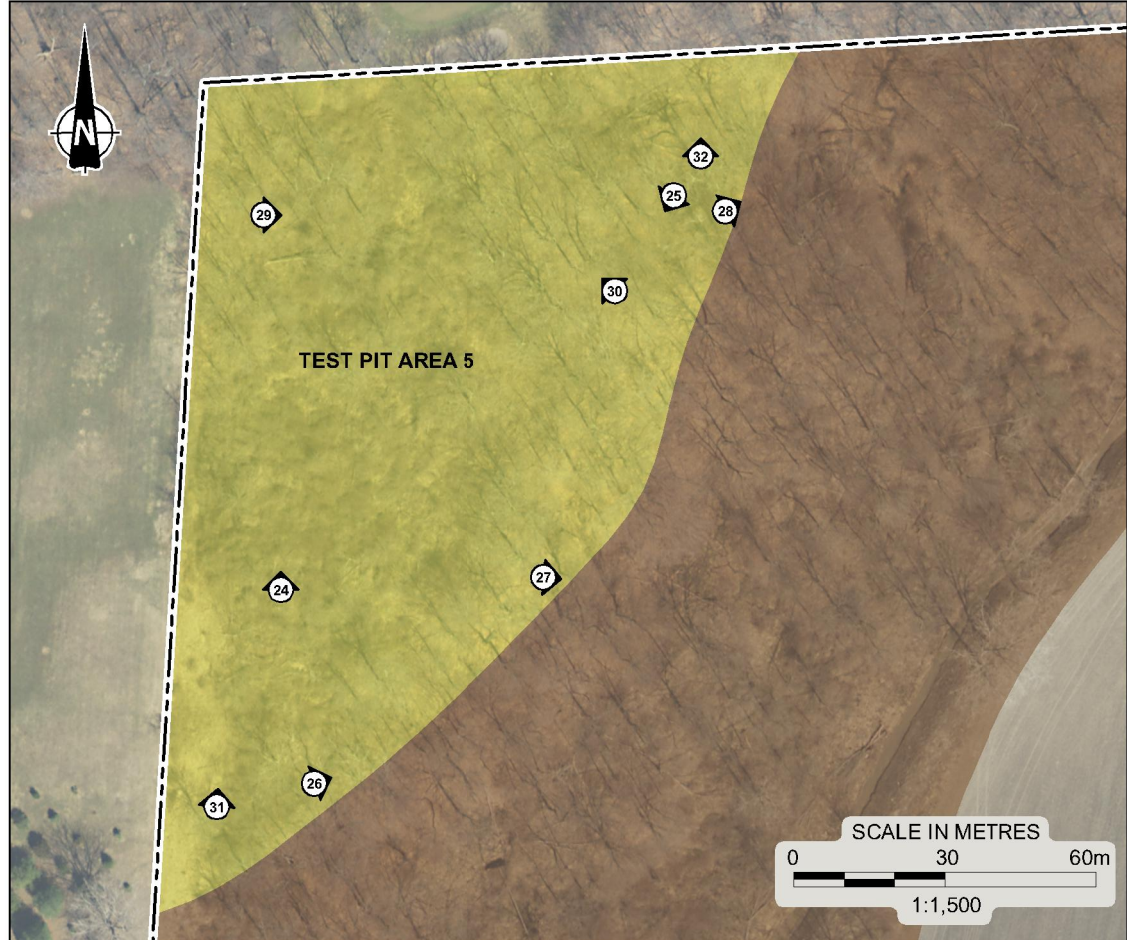
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TITLE				STAGE 2 METHODS AND RESULTS			
PROJECT No.		1659428		FILE No.		1659428-R01010	
CADD		LMK/ZJB		Nov. 7/16		SCALE AS SHOWN	
CHECK						REV.	
						MAP 10	



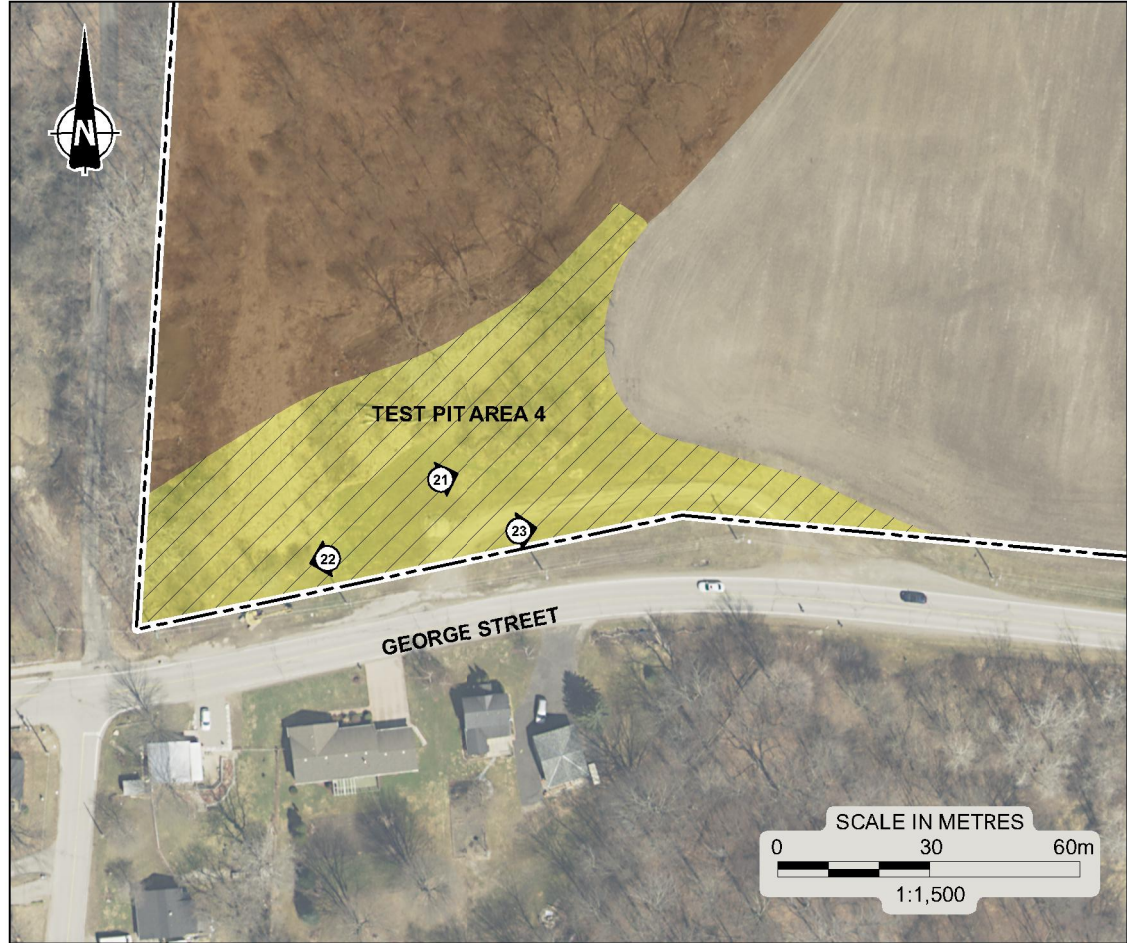


Drawing file: 1659428-R01011.dwg Nov 07, 2016 - 9:43am

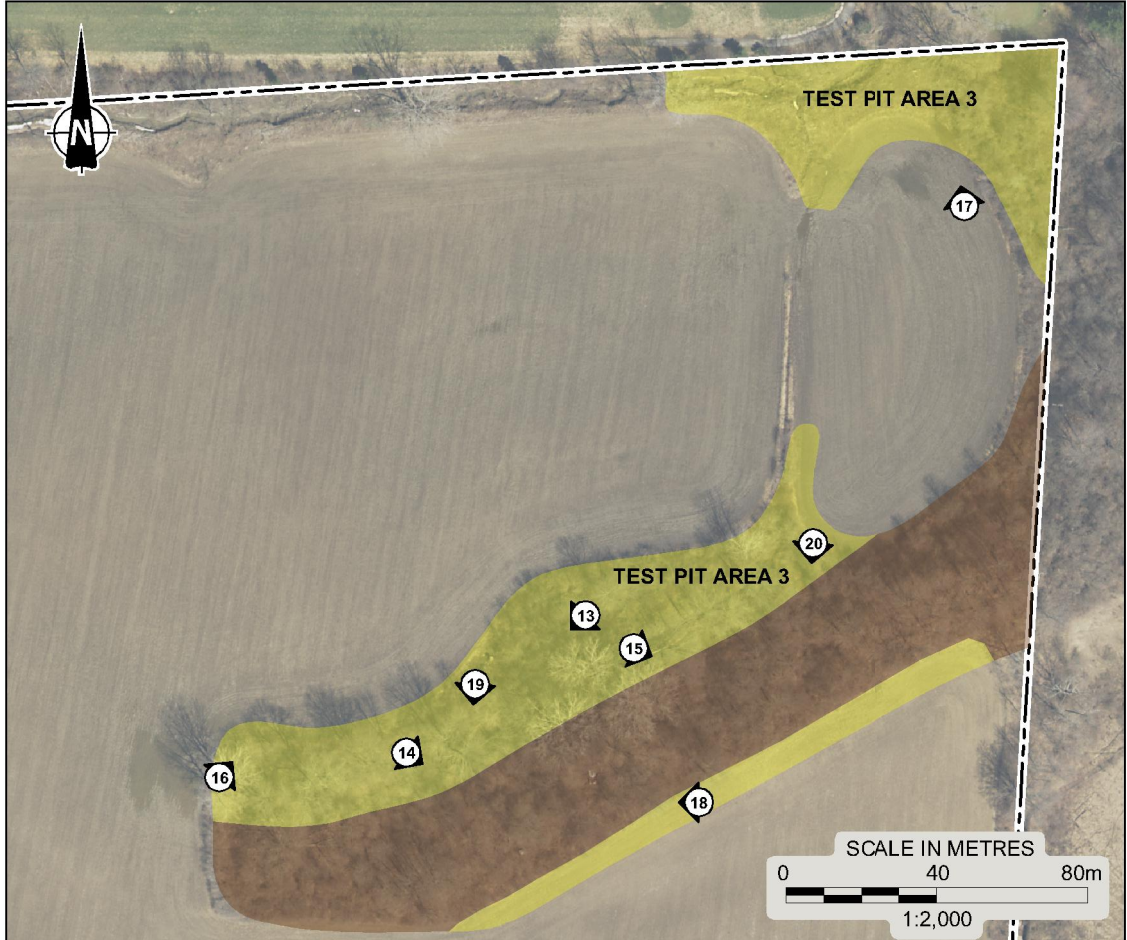
INSET A



INSET C



INSET B



INSET D



LEGEND

- 1 PHOTOGRAPH LOCATION, VIEWING DIRECTION, AND PLATE NUMBER
- ASSESSMENT METHOD
  - UNDISTURBED
  - TEST PIT SURVEY AT 5m INTERVALS
  - DISTURBED
  - TEST PIT SURVEY AT 10m INTERVALS
  - SLOPE

REFERENCE

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REFER TO MAP 10 FOR INSET LOCATIONS.  
ALL LOCATIONS ARE APPROXIMATE.

PROJECT			
STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL ELGIN COUNTY, ONTARIO			
TITLE			
STAGE 2 TEST PIT AREAS METHODS AND RESULTS			
PROJECT No. 1659428		FILE No. 1659428-R01011	
CADD	DCH/LMK	Nov. 7/16	SCALE AS SHOWN
CHECK			REV.
Golder Associates		MAP 11	





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## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

### 11.0 CLOSURE

We trust that this report meets your current needs. If you have any questions, or if we may be of further assistance, please contact the undersigned.

#### GOLDER ASSOCIATES LTD.

Lafe Meichenheimer, M.A.  
Archaeological Field Director

Carla Parslow, Ph.D.  
Associate, Senior Archaeologist

LCM/MT/CP/ly

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# **APPENDIX A**

## **Pre-contact Aboriginal Glossary of Terms/Definitions**





## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

Chipped lithic tools and debitage were found at the site (or sites) described in this report. Some of the more common chert types found on pre-contact Aboriginal sites in southern Ontario are described below.

**Kettle Point chert:** a relatively high quality raw material found within the Upper Devonian age Kettle Point Formation that outcrops between Kettle Point and Ipperwash, on Lake Huron. Currently, Kettle Point occurs as submerged outcrops extending for approximately 1,350 metres into Lake Huron. Secondary deposits of Kettle Point chert have been reported in Essex County and in the Ausable River watershed (Eley and von Bitter 1989; Fox 2009:362).

**Onondaga chert:** a high quality raw material found within the Onondaga Formation that outcrops along the north shore of Lake Erie west of the mouth of the Grand River as far west as Nanticoke, east of the mouth of the Grand River as far east as Fort Erie, and along the Onondaga Escarpment between Cayuga and Hagersville (Telford and Tarrant 1975). This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham (Eley and von Bitter 1989; Fox 2009:361-362).

**Selkirk chert:** a moderate to relatively high quality raw material that occurs within the Dundee Formation; it outcrops along Sandusk Creek and its tributaries just west of the village of Selkirk (Telford and Tarrant 1975). The chert ranges in colour from mottled or banded grey to a predominantly brown colour, the latter of which being of relatively more vitreous fabric than the former. Its distribution as a secondary source material is similar to Onondaga chert and it is frequently encountered as far west as the Chatham area (Eley and von Bitter 1989; Fox 2009:362).

**Non-chert:** some materials other than chert were occasionally used for the manufacture of chipped tools, and consequently some pieces of non-chert debitage may occur on some sites. Materials in the non-chert category may include quartzite, quartz-like materials, schist and slate or shale.

All chert types discussed herein were identified visually by comparison to reference materials located in Golder's London offices. The flake assemblage was subject to morphological analysis following the classification scheme described by Lennox et al. (1986) and expanded upon by Fisher (1997), with the exception that no attempt was made to distinguish "primary" from "primary bipolar" flakes.

With reference to the analysis of lithic debitage, the following overview provides descriptions of the various types of cores and debitage commonly found on pre-contact Aboriginal sites.

**Cores:** Pieces of stone (usually chert) from which flakes or blades have been removed. A core may be uni-faceted (flake removed from one surface or edge only) or multi-faceted (flakes removed from two or more surfaces or edges). A core may retain a segment of its exterior, weathered surface.

**Primary Reduction Flakes:** are by-products of the initial stages of the reduction of lithic material, they are derived from cores and are generally attributed to direct hard hammer percussion. Primary flakes may exhibit a large cortical striking platform. This platform may appear on an otherwise unmodified flake scar or a crushed flake margin. Where measureable the striking platform – ventral surface angle is approximately 90 degrees, usually un-faceted and large. Ventral surface attributes are usually well pronounced while the dorsal surface consists of 50-100% cortex, implying little or no modification of the core prior to the removal of the primary flake.

**Primary Thinning Flake:** a large, thick flake with an unprepared striking platform and few to no flake scars on its dorsal (exterior) surface. These flakes are typically thinner than Primary Reduction Flakes. Their platform is



## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

usually large, flat or minimally faceted, and close to 90 degrees. A Large bulb of percussion is common on the ventral side. Primary Thinning Flakes are typically associated with the hard hammer percussion method from the initial stage of chipped stone tool production.

**Biface Thinning Flake:** a moderately thick to thin flake with a small platform that can be ground and/or faceted to some degree. The platform angle is usually acute or less than 90 degree. The dorsal side of the flake often has several shallow intersecting scars with no cortex material remaining. Biface Thinning Flakes are associated with the medial stage of biface reduction where a stone tool is thinned through the removal of flakes from opposing surfaces.

**Retouch Flakes:** small, thin flakes removed from the edge of a stone tool or larger flake through pressure flaking. These flakes tend to have a small, lipped platform that may exhibit crushing or part of a dulled bifacial edge. The dorsal surface typically displays flake scars from previous removals and lacks cortex material. They are associated with the final stage of chipped stone tool production when edges are sharpened and notches for hafting are created. They are also associated with maintenance activities where tools are re-sharpened and broken edges rejuvenated.

**Shatter:** usually consists of thick, blocky pieces of chert which lack striking platforms and ventral flake surface attributes. This category of debitage is thought to be a by-product of the initial stages of reduction through the uncontrolled breakage of the raw material along structural faults or irregularities. They commonly result from the use of horizontally and vertically flawed material, these flaws apparently a result of stresses occurring to the material while still within its primary deposit. A relatively high incidence of shatter is usually associated with the bipolar reduction strategy.

**Flake Fragments:** are broken flakes with no platform or proximal end. They cannot be convincingly linked to any particular lithic activity. As such, they have very little analytical value.

**Micro flake:** Very small broken flakes are classed as micro flakes, less than 3mm in size. These flakes are small and generally only recovered from floatation samples.

The following glossary defines some of the terms for some of the formal and informal chipped lithic tools from the sites discussed in this report. All of the definitions are derived from a reputable online sources such as [www.archaeologywordsmith.com](http://www.archaeologywordsmith.com) . and [www.wvculture.org/shpo/glossary.html](http://www.wvculture.org/shpo/glossary.html).

**Artifact:** “any object made, modified or used by people”.

**Biface:** “a stone tool which has been flaked on both surfaces or sides”; frequently made as roughed-out blanks or preforms intended for further reduction into finished tools such as projectile points or knives.

**Burin:** “from the French word *burin*, meaning cold chisel. A specialized engraving tool ... that is cut or ground [or flaked] diagonally downward to form a diamond-shaped point at the tip... In its most characteristic form, the working tip is a narrow transverse edge formed by the intersection of two flake scars produced by striking at an angle to the main axis of the blade... Burins were used to carve or engrave softer organic materials such as antler, bone... or wood”.

**Debitage:** “the by-products or waste materials left over from the manufacture of stone tools”.

**Diagnostic artifact:** “an item that is indicative of a particular time period or cultural group”.





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## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

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**Drill:** “a tool used to drill holes through or into wood, stone or bone”.

**Ecofact:** “nonartifactual evidence that has not been technologically altered but that has cultural relevance.”

**Graver:** “a stone tool manufactured from a flake by chipping (pressure-flaking) it on two edges at one end so as to leave a sharp point. Gravers were used to cut or score organic materials such as bone, shell, wood and antler; perhaps for punching leather, and other purposes”.

**Lithic:** “stone, or made of stone”.

**Knife:** a purposefully formed cutting tool.

**Perforator:** “a flint [chert] tool for piercing holes”, or, “a small chipped stone implement with a rather long and slender point and usually a broad base, supposed to have been used for drilling or boring holes”. Perforators are sometimes referred to as borers.

**Projectile point:** “a general term for points [usually stone] that were hafted to darts, spears or arrows”; commonly referred to as either spearhead or arrowhead.

**Retouched flake:** “a flake that has had small flakes removed to blunt, sharpen, refine the outline or prepare the edge of the tool”.

**Scraper:** a stone tool formed by chipping [flaking] the end or side of a flake which can then be used to scrape animal hides or wood.

**Spokeshave:** “a stone tool with a semi-circular concavity on the edge, used for smoothing spear or arrow shafts; a drawknife or small transverse plane for planning convex surfaces”.

**Utilized flake:** “a piece of stone debitage that is used for cutting or slicing. The edge may be damaged from use, but not deliberately”.

**Wedge:** “an object used to split, force open or keep open another object; a tool used to split wood”.



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## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

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### **Stages of Reduction for Chert Bifaces** (based on Fisher 1997:25-29)

There have been several different approaches to the definition of the stages of biface reduction, in both Eurasia (Andrefsky 2005:32) and North America (i.e. Callahan 1979: 30-31). Many Ontario-based researchers have adopted the classification scheme used by Fisher (1997: 25-29), which was based largely on Callahan (1979: 30-31). Fisher's definitions of Stage 1 (initial) through Stage 4 (final) bifaces take into consideration characteristics such as number and size of flakes removed, length and depth of flake scars, cross-section, length-width ratio, and edge configuration.

Stage 1: During this initial stage of biface reduction specimens are only roughly shaped. The biface cross-section is hexagonal, irregular to thick lenticular, and is not plano-convex at all (Callahan 1979:36). Biface thinning flake scars are deep, large and generally do not cross half of the biface width, leaving remnants of the original material surface. From a lateral view, the edge of the biface is jagged and highly irregular.

Stage 2: At this stage the biface is still relatively thick compared to its width, with more lateral flake removals crossing over half the biface width, leaving less of the original surface present. As well, thinning flakes are more numerous and smaller. The edge of the biface is still irregular, but less jagged.

Stage 3: This stage of reduction produces a biface with a lenticular cross-section, thinning flakes are shallow and are consistently greater than half the biface width. Also, there is a greater regularity to the edge, and bases may be formed, if only incipiently, on some specimens.

Stage 4: Stage 4 is represented by an almost finished projectile point with a relatively high width to thickness ratio, a relatively regular or even edge, some retouch, and a shaped base. Some items classed as Stage 4 specimens may have been finished projectile points. However, they are not as finely crafted as the definitive finished projectile points, perhaps due to material or knapping flaws, or skills of knappers





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**STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT  
GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO**

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# **APPENDIX B**

## **Stage 2 Artifact Catalogues**



## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

**Table 1: Location 1 Stage 2 Artifact Catalogue**

Cat. #	Surface Find #	Material 1	Material 2	Function 1	Function 2	Object	Fragment	Manufacture	# of Artifacts
1	1	stone	chert: Onondaga	tools and equipment	debitage	biface thinning flake	proximal end	chipped	1

**Table 2: Location 2 (AeHh-150; the Finger Ridge Site) Stage 2 Artifact Catalogue**

Cat. #	Surface Find #	Material 1	Material 2	Function 1	Function 2	Object	Fragment	Attribute 1	Attribute 2	Manufacture	# of Artifacts	Comments
1	4.6	stone	chert: Upper Mercer (possible)	tools and equipment	tool	projectile point	complete	corner notched	patina	chipped	1	Early Archaic Nettling-type
2	3.4	stone	chert: Kettle Point	tools and equipment	tool	projectile point	missing tang	corner notched		chipped	1	Early Archaic Nettling-type
3	3.1	stone	chert: Selkirk	tools and equipment	tool	projectile point	broken tang	corner notched		chipped	1	Late Archaic Small Point (Crawford Knoll?)
4	2.3	stone	chert: Onondaga	tools and equipment	tool	projectile point	complete	triangular		chipped	1	Late Woodland Daniels Triangular
5	6.1	stone	chert: Onondaga	tools and equipment	tool	projectile point	midsection			chipped	1	Indeterminate; likely Archaic
6	3.6	stone	chert: Onondaga	tools and equipment	debitage	biface thinning flake	proximal end			chipped	1	
7	3.8	stone	chert: Onondaga	tools and equipment	debitage	flake fragment	distal end			chipped	1	
8	3.7	stone	chert: Selkirk	tools and equipment	debitage	primary reduction flake	complete			chipped	1	
9	3.5	stone	chert: Onondaga	tools and equipment	debitage	primary reduction flake	proximal end	cortex		chipped	1	



## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

Cat. #	Surface Find #	Material 1	Material 2	Function 1	Function 2	Object	Fragment	Attribute 1	Attribute 2	Manufacture	# of Artifacts	Comments
10	4.4	stone	chert: Onondaga	tools and equipment	debitage	primary reduction flake	complete			chipped	1	
11	4.2	stone	chert: Onondaga	tools and equipment	debitage	biface thinning flake	proximal end			chipped	1	
12	4.3	stone	chert: Onondaga	tools and equipment	debitage	primary thinning flake	proximal end			chipped	1	
13	3.2	stone	chert: Selkirk	tools and equipment	debitage	primary thinning flake	complete			chipped	1	
14	3.3	stone	chert: Onondaga	tools and equipment	debitage	biface thinning flake	midsection			chipped	1	
15	4.1	stone	chert: Onondaga	tools and equipment	debitage	primary reduction flake	complete			chipped	1	
16	4.5	stone	chert: Onondaga	tools and equipment	debitage	biface thinning flake	complete			chipped	1	
17	2.2	stone	chert: Onondaga	tools and equipment	debitage	primary reduction flake	complete	cortex		chipped	1	nodule
18	2.1	stone	chert: Onondaga	tools and equipment	debitage	primary thinning flake	complete			chipped	1	





## STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT GEORGE STREET LAND PARCEL, ELGIN COUNTY, ONTARIO

**Table 3: Location 3 Stage 2 Artifact Catalogue**

Cat. #	Surface Find #	Material 1	Material 2	Function 1	Function 2	Object	Fragment	Manufacture	# of Artifacts
1	TP1	stone	chert: Onondaga	tools and equipment	debitage	biface thinning flake	complete	chipped	1
2	TU1	stone	chert: Onondaga	tools and equipment	debitage	biface thinning flake	midsection	chipped	1

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