



10 August 2017

STAGE 2 ARCHAEOLOGICAL ASSESSMENT

**Albion Vaughan Road and King Street
Intersection, Part of Lot 7, Concession
8, Geographic Township of Albion,
County of Peel, Part of Lots 5 and 6,
Concession 11, Geographic Township
of King, County of York, now Region
of Peel and Region of York, Ontario**

ORIGINAL REPORT

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Executive Summary

A Stage 2 archaeological assessment was conducted on behalf of the Region of Peel through CIMA+, by Golder Associates Ltd. (Golder), in advance of improvements to the Albion Vaughan Road and King Street Intersection. The Stage 2 assessment was conducted in support of a Municipal Class Environmental Assessment (Schedule B) for improvements to the intersection. The subject property is located on part of Lot 7, Concession 8, Geographic Township of Albion, County of Peel and Part of Lots 5 and 6, Concession 11, Geographic Township of King, County of York, now Region of Peel and Region of York, Ontario. Preliminary areas of impact related to the proposed intersection improvements are illustrated on Map 6.

The objectives of the Stage 2 archaeological assessment were to provide an overview of archaeological resources on the property and to determine whether any of the resources might be artifacts and archaeological sites with cultural heritage value or interest and to provide specific direction for the protection, management and/or recovery of these resources, consistent with Ministry of Tourism, Culture and Sport (MTCS) guidelines (MTCS 2011).

The Stage 2 assessment of portions of the Project Area, as illustrated in Map 6, was undertaken by test pit survey at an interval of five metres. No archaeological resources were identified in the areas subject to Stage 2 assessment and no further archaeological assessment is recommended for these areas. If the Project detailed design phase identifies any areas outside of the current alignment for construction, further archaeological assessment of these additional areas may be required.

The MTCS is asked to review the results and recommendations presented herein and accept this report into the Provincial Register of archaeological reports. The MTCS is also asked to provide a letter concurring with the results presented herein.

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



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1.0 PROJECT CONTEXT

1.1 Development Context

A Stage 2 archaeological assessment was conducted on behalf of the Region of Peel through CIMA+, by Golder Associates Ltd. (Golder), in advance of improvements to the Albion Vaughan Road and King Street Intersection. The Stage 2 assessment was conducted in support of a Municipal Class Environmental Assessment (Schedule B) for improvements to the intersection. The subject property is located on part of Lot 7, Concession 8, Geographic Township of Albion, County of Peel and Part of Lots 5 and 6, Concession 11, Geographic Township of King, County of York, now Region of Peel and Region of York, Ontario. Preliminary areas of impact related to the proposed intersection improvements are illustrated on Map 6. Approximately 6.2 ha was previously subject to Stage 1 archaeological assessment (Golder 2017); an area of approximately 0.5 ha was subject to Stage 2 archaeological assessment based on the preliminary areas of impact for the proposed intersection improvements.

The objectives of the Stage 2 archaeological assessment were to provide an overview of archaeological resources on the property and to determine whether any of the resources might be artifacts and archaeological sites with cultural heritage value or interest and to provide specific direction for the protection, management and/or recovery of these resources. In compliance with the provincial standards and guidelines set out in the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011), the objectives of the Stage 2 property assessment are as follows:

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

The Stage 2 survey was conducted on July 12, 2017 under archaeological consulting licence P1056, issued to Jamie Lemon of Golder. Permission to enter the Region of Peel's ROW to conduct the Stage 2 survey was provided by Sargon Sifo of the Region of Peel.

1.2 Historical Context

1.2.1 Post-contact Indigenous Context

The post-contact Indigenous occupation of southern Ontario was heavily influenced by the dispersal of various Iroquoian-speaking peoples by the New York State Iroquois and the subsequent arrival of Algonkian-speaking groups from northern Ontario at the end of the seventeenth century and beginning of the eighteenth century (Schmalz 1991).

Following the introduction of European's to North America, the nature of First Nations settlement size, population distribution, and material culture shifted as settlers began to colonize the land. Despite this shift in First Nations life ways, "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). As a result, First Nation peoples of southern Ontario have left behind



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archaeologically significant resources throughout southern Ontario which show continuity with past peoples, even if this connection has not been recorded in historical Euro-Canadian documentation.

The Project Area appears to be on the border of two Indigenous treaties: Treaty 13 and Treaty 19. Treaty 13, known as the Toronto Purchase, was a 1787 treaty between the Mississaugas and the Crown:

On the 23rd day of September, 1787, ... Sir John Johnson, representing the King and Wabukanyne, Neace and Paquan, Principal Chief and Warchiefs of the Mississa[auga] Nation at the Carrying Place, did execute an agreement for the purpose of conveying a tract of land to the King, but it has been ascertained that the Instrument was defective and imperfect, and nothing was done about carrying it out until the first day of August, 1805, an Indenture was made, at the Rive Credit at Lake Ontario, between William Claus, Esquire, Deputy Superintendent General and Deputy Inspector General of Indians and of their Affairs, for and in behalf of Our Sovereign Lord the King and the Principal Chiefs, Warriors and people of the Mississa[uga] Nation of Indians. This purchase ..., is known at the Toronto Purchase and described as follows: "Commencing at the east bank of the south outlet of the Rive Etobicoke; thence up the same following the several windings and turnings of the said river to a maple tree, blazed on 4 sides at a distance of three quarters in a straight line from the mouth of the said river; thence north twenty-two degrees west twenty-four miles and one quarter; thence north sixty-eight degrees east fourteen miles; thence south twenty-two degrees east twenty-eight miles more or less to Lake Ontario; then westerly along the waters edge of Lake Ontario, to the eastern bank of the south outlet of the River Etobicoke, being the pace of beginning, together with all the woods and waters thereon." This last described parcel is only a small portion of the parcel, supposed to have been conveyed by the Indians, September 23rd, 1787, and the consideration demanded by the Indians was only ten shillings.

Morris 1943: 21-22

Treaty 19 was an 1818 treaty between the Mississauga and the Crown; Treaty 19:

...was made by the Honourable William Claus, Deput-Superintendent-General of Indian Affairs on behalf of His Majesty, and the Principal Men of the Mississaga Nation of Indians, inhabiting the River Credit, Twelve and Sixteen Mile Creeks on the north shore of Lake Ontario, within the Home District, whereas the said Indians were to receive 522 pounds and ten shillings, yearly for the said tract, described as follows: "A tract of land in the Home District called the Mississague Tract, bounded southerly by the purchase made in 1806; on the east by the Townships of Etobicoke, Vaughn and King; on the south west by the Indian Purchase, extending from the outlet of Burlington Bay, north forty-five degrees west, fifty miles; and from thence north seventy-four degrees east or thereabouts, to the north west angle of the Township of King.

Morris 1943: 24

1.2.2 Euro-Canadian Context

Following the Toronto Purchase, the Province of Quebec was divided into four political districts: Lunenburg, Mechlenburg, Nassau and Hesse. When the Province of Upper Canada was formed in 1791, the names of the



four districts were changed to Eastern, Midland, Home and Western, respectively. The Project Area fell within Home District.

Home District was reorganized in 1798 to include the counties of Simcoe and York. In 1850, the Municipal Council of York County was formed comprising Reeves and Deputy-Reeves of the different townships (Miles and Co. 1878:11). A year later, Peel County was created from a portion of York County, and a provisional council was formed in 1865, with the village of Brampton elected as the capital of the new county two years later.

The west side of the Project Area intersection was located along the edge of Albion Township, within the County of Peel. The east side of the Project Area intersection was located along the edge of King Township, within the County of York.

Albion Township was surveyed for settlement in 1819 by William Chewett, using the double-front system. In this system half lots of 100 acres were the common units; each full 200 acre lot fronted on different concession roads. Every five lots was an allowance for a side road. As with Euro-Canadian settlement throughout southern Ontario, settlement in Albion initial began around mill sites on the Humber River. The Town of Bolton became the largest town centre in the Township in the 19th century. Albion Township amalgamated with Caledon Township and the northern half of Chinguacousy Township on January 1, 1974 to become the Town of Caledon.

King Township was first settled by Europeans in the late 1700s. The initial settlers were comprised primarily of United Empire Loyalists (UEL) who were fleeing the newly formed United States following the American war of independence. In addition to being UELs many of the early settlers to King Township were Quaker, who were happy to erect new settlements on the fertile lands of King Township (Township of King 2015).

The 1859 Tremaine's Map of the County of Peel identifies William Shields as the owner of Lot 7, Concession 8, Township of Albion (west side of intersection); a creek is illustrated as bisecting the property, but no structures are illustrated (Map 2). The property is at this time in close proximity to the communities of Nunnville and Bolton. The 1877 Illustrated Historical Atlas of the County of Peel illustrates Lot 7 as owned by a member of the Shields family, though the first name is illegible; no structures are illustrated on the lot (Map 3). The 1860 Tremaine's Map of the County of York identifies James B. Hall as the owner of Lot 5, Concession 11, Township of King (southeast quadrant of intersection); a creek is illustrated as bisecting the property and one structure is illustrated, outside the Project Area. The 1878 Illustrated Historical Atlas of the County of York illustrates Lot 5 as owned by George Beamish; one structure is illustrated on the lot, outside the Project Area. The 1860 Tremaine's Map of the County of York identifies J. H. Nunn as the owner of part of Lot 6, Concession 11, Township of King (northeast quadrant of intersection); no structure are illustrated on this part of Lot 6. The 1878 Illustrated Historical Atlas of the County of York illustrates Lot 6 as owned by Francis Beamish; one structure and orchard is illustrated on the lot, outside of the Project Area (Map 3).

1.3 Archaeological Context

1.3.1 Natural Environment

The Project Area is situated within the South Slope physiographic region, described as:

The South Slope is the southern slope of the Oak Ridges Moraine but it includes the strip south of the Peel plain. ...it rises 300 to 400 feet in an average width of 6 or 7 miles. Extending from



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the Niagara Escarpment to the Trent River it covers approximately 940 square miles. The central portion is drumlinized...The streams flow directly down the slope; being rapid they have cut sharp valleys in the till...Bare grey slopes, where soil is actively eroding are common in this area

Chapman and Putnam 1984:172-174

The soils of the study corridor consist predominantly of King Clay Loam, which exhibits good natural drainage. These types of soils would have been acceptable for pre-contact Indigenous agricultural practices. The closest potable water source in pre-contact times would have been Cold Creek, a tributary of the Humber River watershed, which bisects the Project Area. The topography of the area is gently rolling.

1.3.2 Pre-contact Indigenous Context

A general outline of the culture history for south-central Ontario is presented in Table 1 (based on Ellis and Ferris 1990).

Table 1: General Cultural Chronology for South-Central Ontario

Period	Characteristic Elements	Time Period	Comments
Early Palaeo-Indian	Fluted Projectiles	9000 - 8400 BC	spruce parkland/caribou hunters
Late Palaeo-Indian	Hi-Lo Projectiles	8400 – 8000 BC	smaller but more numerous sites
Early Archaic	Kirk and Bifurcate Base Points	8000 - 6000 BC	slow population growth
Middle Archaic	Brewerton-like points	6000 - 2500 BC	environment similar to present
Late Archaic	Lamoka (narrow points)	2000 - 1800 BC	increasing site size
	Broadpoints	1800 - 1500 BC	large chipped lithic tools
	Small Points	1500 – 1100 BC	introduction of bow hunting
Terminal Archaic	Hind Points	1100 - 950 BC	emergence of true cemeteries
Early Woodland	Meadowood Points	950 - 400 BC	introduction of pottery
Middle Woodland	Dentate/Pseudo-Scallop Pottery	400 BC - AD 550	increased sedentism
	Princess Point	AD 550 - 900	introduction of corn
Late Woodland	Early Ontario Iroquoian	AD 900 - 1300	emergence of agricultural villages
	Middle Ontario Iroquoian	AD 1300 - 1400	long longhouses (100m +)
	Late Ontario Iroquoian	AD 1400 - 1650	tribal warfare and displacement
Contact Period	Various Algonkian Groups	AD 1700 - 1875	early written records and treaties
Historic	Euro-Canadian	AD 1796 - present	European settlement

1.3.3 Pre-contact Indigenous Documentation

Previous archaeological assessments and research surveys have demonstrated that Albion and King Townships were intensively occupied by pre-contact Indigenous people.

The following subsections outline the cultural or temporal periods recognized for southern Ontario more generally.



1.3.3.1 Paleo-Indian Period

The first human occupation of south-central Ontario begins just after the end of the Wisconsin Glacial Period. Although there were a complex series of ice retreats and advances which played a large role in shaping the local topography, south-central 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. The period of these early Native inhabitants is known as the Paleo-Indian Period (Ellis and Deller 1990).

Our current understanding of settlement patterns of Early Paleo-Indian peoples suggests that small bands, consisting of probably no more than 25-35 individuals, followed a pattern of seasonal mobility extending over large territories. One of 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-Indian 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 glacial lakes. There are a few extremely large Early Paleo-Indian 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-Indian camps scattered throughout the interior of southwestern and south-central Ontario, usually situated adjacent to wetlands.

The most recent research suggests that population densities were very low during the Early Paleo-Indian Period (Ellis and Deller 1990:54). Archaeological examples of Early Paleo-Indian sites are rare.

The Late Paleo-Indian Period (8400-8000 BC) has been less well researched, and is consequently more poorly understood. By this time the environment of south-central 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-Indian Period had either moved further north, or as in the case of the mastodons and mammoths, become extinct.

Like the early Paleo-Indian peoples, late Paleo-Indian peoples covered large territories as they moved about in response to seasonal resource fluctuations. On a province wide basis Late Paleo-Indian projectile points are far more common than Early Paleo-Indian materials, suggesting a relative increase in population.

The end of the Late Paleo-Indian 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.

1.3.3.2 Archaic Period

During the Early Archaic Period (8000-6000 BC), the jack and red pine forests that characterized the Late Paleo-Indian environment were replaced by forests dominated by white pine with some associated deciduous trees (Ellis *et al.* 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



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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 BC) the trend to more diverse toolkits continued, as the presence of netsinkers 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. 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 forced a reorganization of Native subsistence practices, as more people had to be supported from the resources of a smaller area. 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 *et al.* 1990:66). By 3500 B.C. the local environment had stabilized in a near modern form (Ellis *et al.* 1990:69).

During the Late Archaic (2500-950 BC) 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.

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.



1.3.3.3 Woodland Period

The Early Woodland Period (950 to 400 BC) 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. These vessels were not easily portable, and individual pots must not have enjoyed 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 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 southwestern Ontario.

In terms of settlement and subsistence patterns, the Middle Woodland (400 BC to AD 500) 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 were becoming 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 heavily 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 along the margins of major rivers and lakes. While these areas had been utilized by earlier peoples, Middle Woodland sites are significantly different in that the same location was occupied off and on for as long as several hundred years and large 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 into southwestern Ontario from the American Midwest as early as AD 600 or a few centuries before. Corn did not



become a dietary staple, however, until at least three to four hundred years later, and then the cultivation of corn gradually spread into south-central and southeastern Ontario.

During the early Late Woodland, particularly within the Princess Point Complex (*circa* AD 500-1050), a number of archaeological material changes have been noted: the appearance of triangular projectile point styles, first seen during this period begin with the Levanna form; cord-wrapped stick decorated ceramics using the paddle and anvil forming technique take over from the mainly coil-manufactured and dentate stamped and pseudo-scallop shell impressed ceramics; and if not appearance, increasing use of maize (*Zea mays*) as a food source (e.g. Bursey 1995; Crawford *et al.* 1997; Ferris and Spence 1995:103; Martin 2004 [2007]; Ritchie 1971:31-32; Spence *et al.* 1990; Williamson 1990:299).

The Late Woodland Period is widely accepted as the beginning of agricultural life ways in south-central Ontario. Researchers have suggested that a warming trend during this time may have encouraged the spread of maize into southern Ontario, providing a greater number of frost-free days (Stothers and Yarnell 1977). Further, shifts in the location of sites have also been identified with an emphasis on riverine, lacustrine and wetland occupations set against a more diffuse use of the landscape during the Middle Woodland (Dieterman 2001).

The first agricultural villages in southern Ontario date to the 10th century. 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), many archaeologists believe that it is possible to trace a direct line from the Iroquoian groups which later inhabited southern Ontario at the time of first European contact, back to these early villagers.

Village sites dating between 900 and 1300, 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) 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 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. 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 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. During the Early Ontario Iroquoian Period villages were haphazardly planned, 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) continues many of the trends which have been documented for the preceding century. For instance, between 1400 and 1450 house lengths continue to grow, reaching an average length of 62 metres. One longhouse excavated on a site southwest of Kitchener was an incredible 123 metres (Lennox and Fitzgerald 1990:444-445). After 1450, house lengths begin to decrease, with houses dating between 1500-1580 averaging 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 Historical 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 continues 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. 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.

1.3.4 Previous Archaeological Research

In order that an inventory of archaeological resources within the vicinity of the subject property could be compiled, the Ontario Archaeological Sites Database, maintained by the MTCS, was consulted (MTCS 2016a). This database contains archaeological sites registered according to the Borden system. Under the Borden system, Canada is divided into grid blocks based on latitude and longitude. A Borden block is approximately 13 km east to west and approximately 18.5 km north to south. Each Borden block is referenced by a four-letter designator and sites within a block are numbered sequentially as they are found. The subject property is within Borden block A/Gw.



STAGE 2 ARCHAEOLOGICAL ASSESSMENT - ALBION VAUGHAN ROAD AND KING STREET INTERSECTION

Three archaeological sites are registered in the Ontario Archaeological Sites Database within one kilometre of the Project Area (Table 2) (MTCS 2017); it is assumed that AIGv-240 was incorrectly attributed to a different Borden block, or is perhaps a duplicate of AIGw-88. Both are located at the same location, and no site record form appears to exist in the OASD for AIGv-240.

AIGw-68 is located within 300 metres of the Project Area, but is not within the Project Area. AIGw-68 was identified during a 2002 Stage 1 and 2 archaeological assessment of the Albion-Vaughan Road corridor, including the ROW running north through the Project Area intersection (ASI 2002); the ROW was identified as previously disturbed. AIGw-68 is located close to the intersection of Albion Vaughan Road and Old King Road, south of the Project Area intersection. No other known archaeological assessments have been conducted adjacent to the Project Area

Table 2: Registered Archaeological Sites Within 1 km of the Project Area

Borden #	Site Name	Site Type	Cultural Affiliation
AIGw-88	N/A	Isolated Find Spot	Pre-Contact
AIGw-68	Hall	Cabin	Euro-Canadian
AIGv-240	N/A	Unknown	Pre-Contact

The Stage 1 archaeological assessment found the Project Area to exhibit potential for the recovery of intact archaeological deposits (Golder 2017). The following methods were recommended for the Stage 2 property survey (Map 5):

- 1) Areas of manicured lawn and overgrown areas that appear to be relatively undisturbed exhibit archaeological potential for the recovery of archaeological remains. Stage 2 test pit survey at an interval of five metres was recommended for these areas prior to ground disturbance activities.
- 2) Areas of slope exhibit low potential for the recovery of archaeological remains. No further assessment was recommended for these areas.
- 3) Areas of previous disturbance exhibit low potential for the recovery of archaeological remains. No further assessment was recommended for these areas.



2.0 FIELD METHODS

2.1 Existing Conditions and Land Use

The Project Area consists of road ROWS, areas of slope, areas of manicured lawn, areas of overgrown growth adjacent to ditches and tree cover (Map 4). The Stage 2 survey was conducted on July 12, 2017 under archaeological consulting license P1056, issued to Jamie Lemon of Golder. The field work was directed by Ms. Sarah Kivisto (R1169) also of Golder. Ms. Kivisto was delegated the responsibility of undertaking the archaeological fieldwork at the study area as per Section 12 of the MTCS 2013 *Terms and Conditions for Archaeological Licences*, issued in accordance with clause 48(4)(d) of the *Ontario Heritage Act*.

The weather at the time of the property visit was clear skies with warm temperatures. Lighting conditions during the assessment were excellent and at no time were field conditions found to be detrimental to identification and recovery of archaeological remains.

2.2 Stage 2 Test Pit Survey

The Stage 2 test pit assessment of areas determined to exhibit archaeological potential was conducted by test pit survey at a five metre interval. For the test pit survey, each test pit was a minimum of 30 centimetres in diameter and excavated five centimetres into subsoil. All test pit soil was screened through 6mm hardware cloth to facilitate the recovery of artifacts. Excavated test pits in the northeast quadrant of the intersection consisted of medium brown silty clay over grey clay subsoil, with evidence of previous disturbance identified in the test pits. Excavated test pits in the southeast quadrant of the intersection consisted of medium brown sandy loam topsoil with lots of gravel pieces over grey clay subsoil; evidence of previous disturbance was also identified in the test pits in this quadrant. All test pits were backfilled and returned to grade.

Prior to undertaking the Stage 2 test pit survey subsurface utilities locates; locates were identified on the northwest quadrant of the intersection, as well as the northeast quadrant (Map 6). During the course of the Stage 2 survey, additional areas of slope (artificial and natural), poor drainage, and previous disturbance due to grading were also identified (Map 6).

If an artifact was recovered from a test pit, the five metre survey interval would have been maintained to determine the size of the artifact scatter and artifact recovery frequency. If an insufficient number of artifacts were recovered to inform a recommendation for further archaeological assessment, the survey interval would have been reduced to 2.5 metres around one or more of the positive test pits, and up to eight additional test pit and a single one-metre square unit excavated.

Any recovered artifacts would have been inventoried by find spot locations recorded in the field with a Garmin GPSMap62s handheld GPS, using the North American Datum (NAD) 83, with a minimal accuracy of three metres. A field log was maintained for the duration of the investigations detailing pertinent information and digital photographs were taken of the surveyed areas and topography.

Concurrent with the Stage 2 survey undertaken by Golder and reported on herein; Toronto Regional Conservation Authority (TRCA) conducted a Stage 2 test pit survey on July 12, 2017 on TRCA property in the southeast quadrant of the Project Area; the area subject to Stage 2 survey by TRCA is outside the area subject to Stage 2 survey by Golder, but within the Project Area subject to Stage 1 archaeological assessment for the current Project (P1056-



STAGE 2 ARCHAEOLOGICAL ASSESSMENT - ALBION VAUGHAN ROAD AND KING STREET INTERSECTION

0083-2017). The Stage 2 test pit survey conducted by TRCA was completed on lands that are not currently planned to be impacted by the Project road improvements. The Stage 2 test pit survey conducted by TRCA did not result in the recovery of any archaeological resources; results and mapping related to the TRCA survey will be reported on under PIF P303-0459-2017; Golder's Stage 2 survey results reported on herein were also shared with TRCA.

Images 1-10 illustrate all aspects of the Stage 2 field work conducted as well as all field conditions encountered.



3.0 RECORD OF FINDS

Table 3 provides an inventory of the documentary record generated in the field.

Table 3: Inventory of Documentary Record

Document Type	Current Location of Document	Additional Comments	Quantity
Field Notes	Golder office in Whitby :100 Scotia Court, Whitby, ON, L1N 8Y6	In original field book and photocopied in project file	2 pages in original field book
Hand Drawn Maps	Golder office in Whitby :100 Scotia Court, Whitby, ON, L1N 8Y6	In project file	1
Maps Provided by Client	Golder office in Whitby :100 Scotia Court, Whitby, ON, L1N 8Y6	Stored digitally in project file	1
Digital Photographs	Golder office in Whitby :100 Scotia Court, Whitby, ON, L1N 8Y6	All photos stored digitally in project file	58 .jpeg files



4.0 ANALYSIS AND CONCLUSIONS

The Stage 1 archaeological assessment for the Project Area previously identified portions of the Project Area to exhibit archaeological potential for the identification of pre- and post-contact Indigenous and historical Euro-Canadian resources (Map 5) (Golder 2017).

The Stage 2 assessment of portions of the Project Area, as illustrated in Map 6, was undertaken by test pit survey at an interval of five metres; only areas where impacts from proposed road improvements will occur were subject to the Stage 2 survey. Test pits were excavated in the northeast and southeast quadrants of the intersection; in both instances the soil encountered in the test pits exhibited evidence of previous disturbance, which is not surprising given the areas of previous disturbance identified within the Project Area during the Stage 1 archaeological assessment, and the current Stage 2 archaeological assessment. In addition to the test pit survey, areas of slope (artificial and natural), areas of poor drainage and areas of previous disturbance related to subsurface utilities and grading were identified.

Although portions of the Project Area were identified as exhibiting archaeological potential, no archaeological resources were identified in the areas subject to Stage 2 assessment. It is possible if an archaeological site existed in any of the areas subject to Stage 2 (including areas identified during the Stage 2 survey as previously disturbed) it may have been impacted by previous disturbance associated road maintenance, grading or the installation of subsurface utilities. It is also possible no site ever existed in these areas.

No further archaeological assessment is recommended for the areas subject to Stage 2 assessment. If the Project detailed design phase identifies any areas outside of the current alignment for construction further archaeological assessment of these additional areas will be required, as per Map 5.



5.0 RECOMMENDATIONS

The Stage 2 survey did not result in the identification of any archaeological resources; as such no further assessment is recommended in areas subject to Stage 2 assessment, per Map 6.

Should the design of the intersection improvements be altered to impact areas not included in the Stage 2 survey, additional Stage 2 archaeological assessment may be required.

Despite best efforts and all due diligence, no archaeological assessment can necessarily account for all potential archaeological resources. Should deeply buried archaeological resources be identified during ground disturbance activity associated with future development of the Project Area, ground disturbance activities should be immediately halted and the Archaeology Division of the Culture Programs Unit of the MTCS notified.

The MTCS is asked to review the results and recommendations presented herein and accept this report into the Provincial Register of archaeological reports. The MTCS is also asked to provide a letter concurring with the results presented herein.



6.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c O.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

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

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*.

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. 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.



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8.0 IMAGES



Image 1: Test pit survey at five metre intervals, facing southeast



Image 2: Area of slope and poor drainage, no test pit survey undertaken, facing south-southeast



STAGE 2 ARCHAEOLOGICAL ASSESSMENT - ALBION VAUGHAN ROAD AND KING STREET INTERSECTION



Image 3: Area of slope down to creek, facing south-southeast



Image 4: Area of previous disturbance, artificial slope and subsurface utilities, facing west-southwest



STAGE 2 ARCHAEOLOGICAL ASSESSMENT - ALBION VAUGHAN ROAD AND KING STREET INTERSECTION



Image 5: Area of previous disturbance, artificial slope and subsurface utilities, facing west-southwest



Image 6: Area of slope and previous disturbance, facing west-southwest



STAGE 2 ARCHAEOLOGICAL ASSESSMENT - ALBION VAUGHAN ROAD AND KING STREET INTERSECTION



Image 7: Area of previous disturbance, subsurface utilities and slope to right of retaining wall, facing west-southwest



Image 8: Test pit survey at five metre intervals, facing east-northeast



STAGE 2 ARCHAEOLOGICAL ASSESSMENT - ALBION VAUGHAN ROAD AND KING STREET INTERSECTION



Image 9: Test pit survey at five metre intervals, facing south-southeast

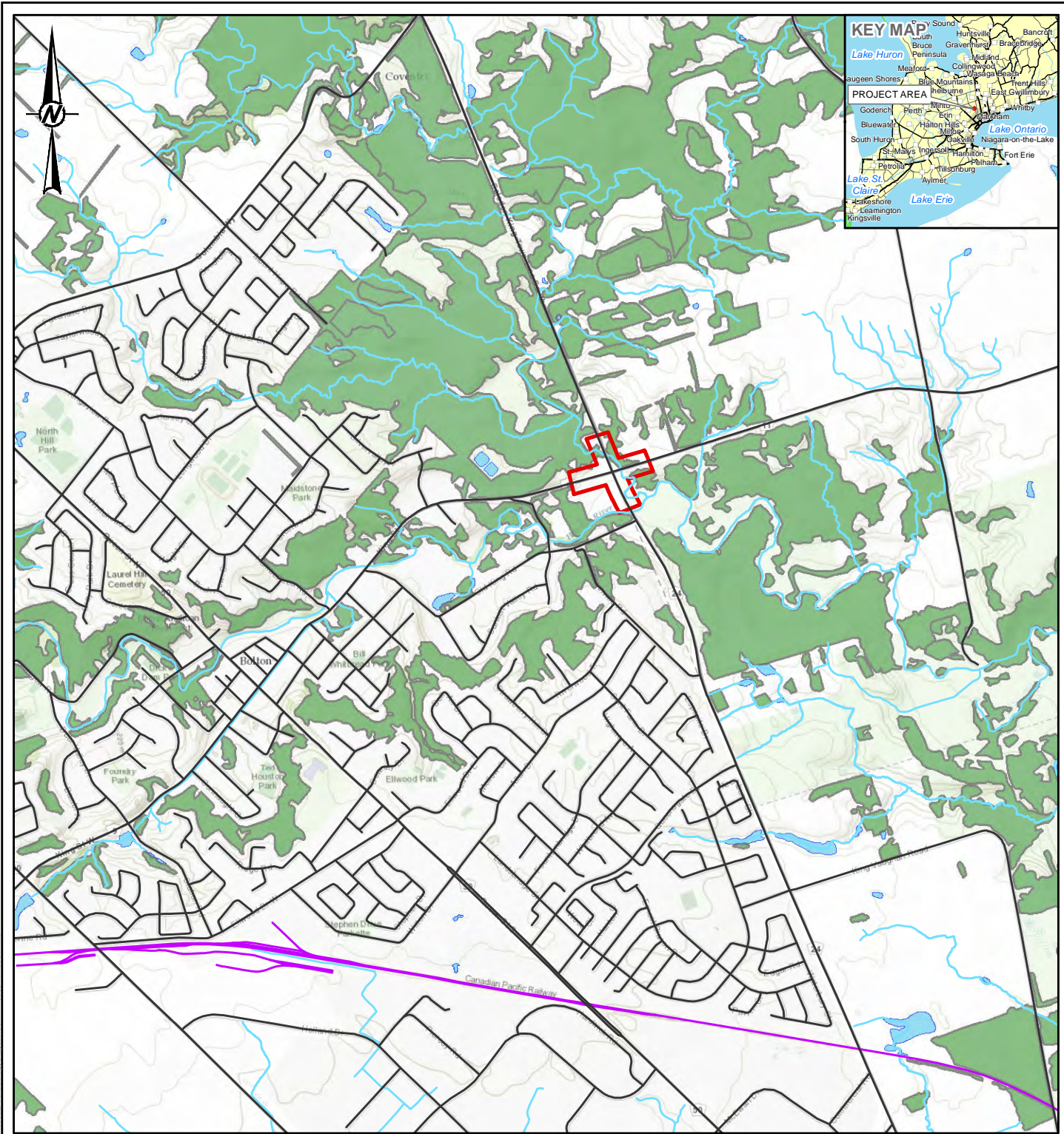


Image 10: Area of slope down to creek, facing south-southeast



9.0 MAPS

All maps will follow on succeeding pages.

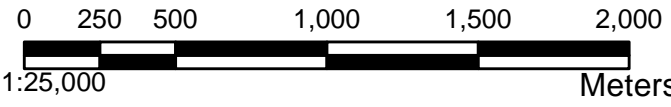


- LEGEND**
- ROAD
 - RAILWAY
 - WATERCOURSE
 - WATERBODY
 - WOODED AREA
 - PROJECT AREA

CLIENT
REGION OF PEEL

PROJECT
STAGE 2 ARCHAEOLOGICAL ASSESSMENT OF ALBION VAUGHAN ROAD & KING STREET, TOWN OF CALEDON

TITLE
LOCATION OF PROJECT AREA



CONSULTANT

YYYY-MM-DD	2017-08-01
DESIGNED	SFC
PREPARED	SFC
REVIEWED	JL
APPROVED	BD

REFERENCE(S)
 BASE DATA - MNR LIO, OBTAINED 2016
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 ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2016
 PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17

PROJECT NO. 1664714 CONTROL 0005 REV. A MAP 1

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LEGEND

 -Project Area


REFERENCE

DRAWING BASED ON Tremaine 1859, 1860

NOTES

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

ALL LOCATIONS ARE APPROXIMATE.

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TITLE		Portions of the 1859-1860 Tremaine's Maps	
PROJECT No.	1664714	FILE No.	1664714-3000-R02
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LEGEND

 -Project Area


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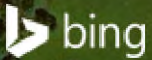
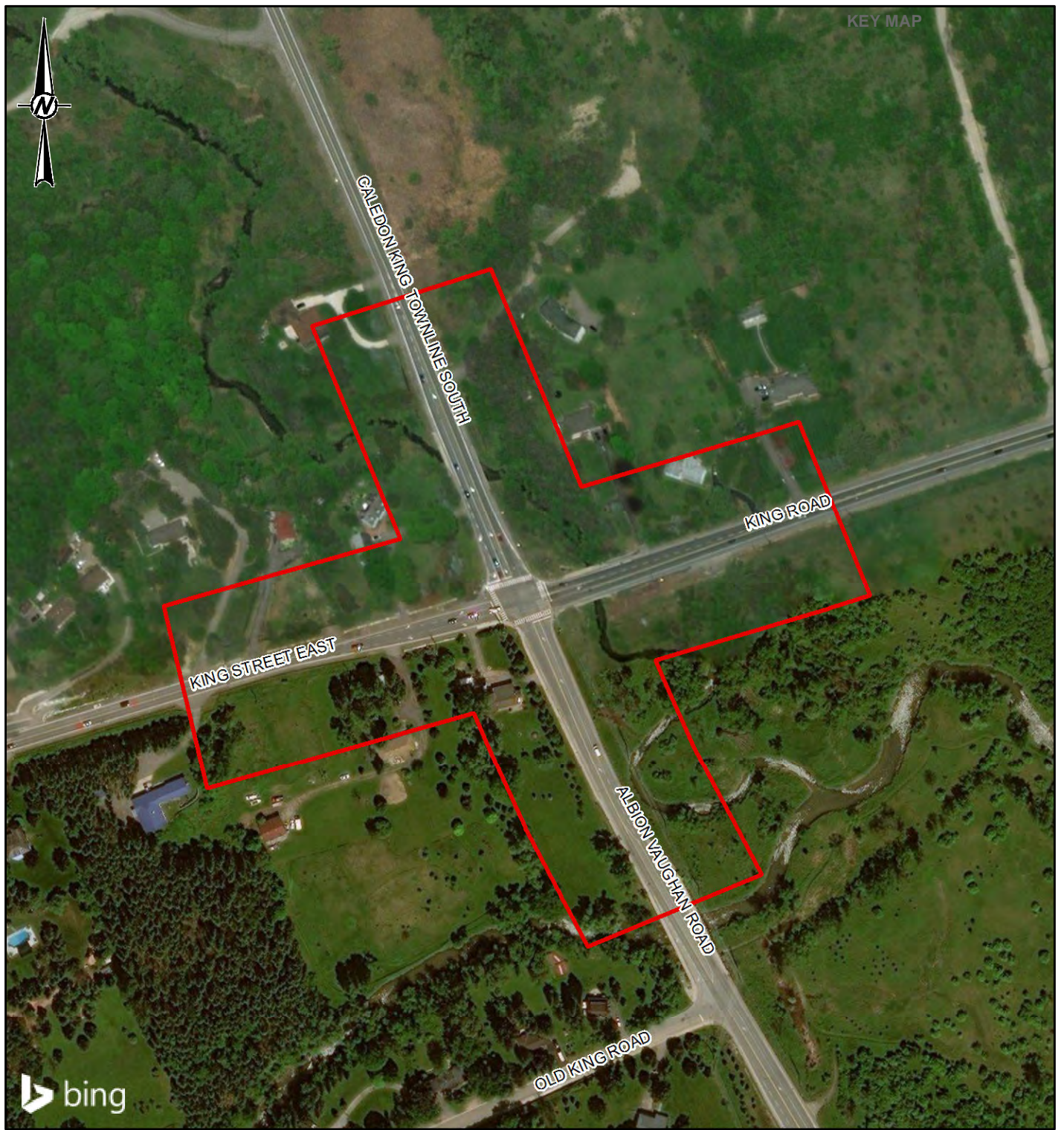
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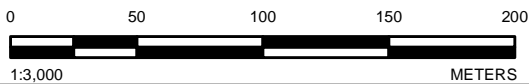
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PROJECT No.	1664714	FILE No.	1664714-3000-R03
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CHECK	Mar. 9/17	Map 3	
			



LEGEND

 PROJECT AREA



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CLIENT
 REGION OF PEEL

PROJECT
 STAGE 2 ARCHAEOLOGICAL ASSESSMENT OF ALBION VAUGHAN ROAD & KING STREET, TOWN OF CALEDON

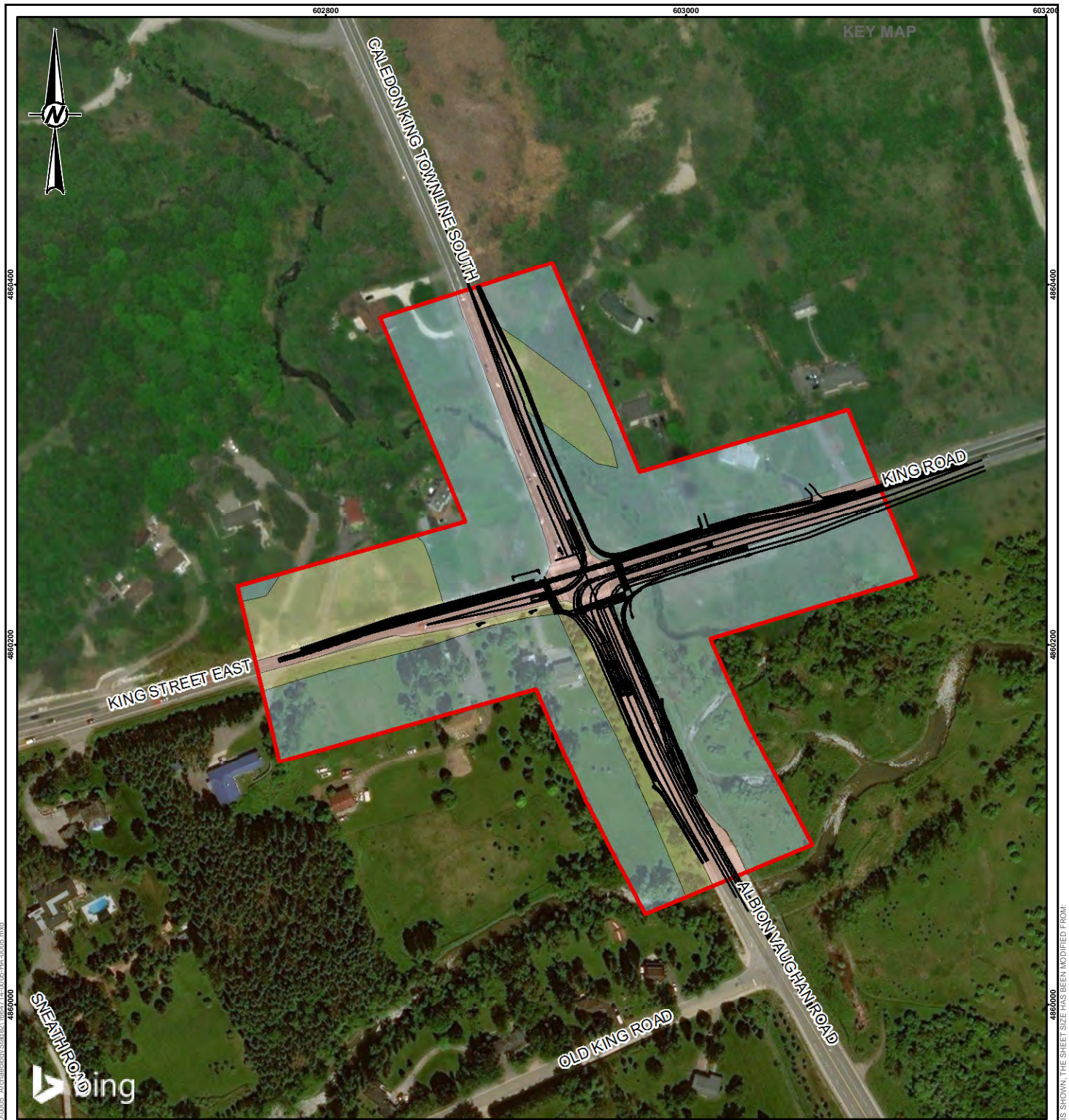
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 AERIAL IMAGE OF PROJECT AREA

CONSULTANT
 YYYY-MM-DD 2017-08-01



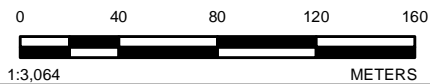
DESIGNED	SFC
PREPARED	SFC
REVIEWED	JL
APPROVED	BD

PROJECT NO. 1664714	CONTROL 0005	REV. A	MAP 4
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LEGEND

- ROAD IMPROVEMENTS
- PROJECT AREA
- AREA OF ARCHAEOLOGICAL POTENTIAL, STAGE 2 TEST PIT SURVEY RECOMMENDED
- AREA OF PREVIOUS DISTURBANCE, NO FURTHER ARCHAEOLOGICAL ASSESSMENT RECOMMENDED
- AREA OF SLOPE, NO FURTHER ARCHAEOLOGICAL ASSESSMENT RECOMMENDED



REFERENCE(S)

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CLIENT
 REGION OF PEEL

PROJECT
 STAGE 2 ARCHAEOLOGICAL ASSESSMENT OF ALBION VAUGHAN ROAD & KING STREET, TOWN OF CALEDON

TITLE
PREVIOUS STAGE 1 ASSESSMENT RESULTS

CONSULTANT		YYYY-MM-DD	2017-08-01
DESIGNED		SFC	
PREPARED		SFC	
REVIEWED		JL	
APPROVED		BD	



PROJECT NO.	CONTROL	REV.	MAP
1664714	0005	A	5

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KEY MAP

LEGEND

PHOTO LOCATION	AREA OF TEST PIT SURVEY AT 5M INTERVALS, NO FURTHER ASSESSMENT RECOMMENDED
PRELIMINARY ROAD IMPROVEMENT AREAS OF IMPACT	AREA OF PREVIOUS DISTURBANCE, ARTIFICIAL SLOPE AND/OR SUBSURFACE UTILITIES, NO FURTHER ASSESSMENT RECOMMENDED
PROJECT AREA	AREA OF SLOPE AND POOR DRAINAGE, NO TEST PIT SURVEY UNDERTAKEN, NO FURTHER ASSESSMENT RECOMMENDED
AREA OF ARCHAEOLOGICAL POTENTIAL, STAGE 2 TEST PIT SURVEY RECOMMENDED	AREA OF SLOPE, NO TEST PIT SURVEY UNDERTAKEN, NO FURTHER ASSESSMENT RECOMMENDED
AREA OF PREVIOUS DISTURBANCE, NO FURTHER ARCHAEOLOGICAL ASSESSMENT RECOMMENDED	AREA OF SLOPE, NO TEST PIT SURVEY UNDERTAKEN, NO FURTHER ASSESSMENT RECOMMENDED
AREA OF SLOPE, NO FURTHER ARCHAEOLOGICAL ASSESSMENT RECOMMENDED	

0 40 80 120 160
1:3,000 METERS

REFERENCE(S)
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 IMAGERY: © 2017 DIGITALGLOBE IMAGE COURTESY OF USGS EARTHSTAR GEOGRAPHICS SIO © 2017 MICROSOFT CORPORATION
 PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17

CLIENT
REGION OF PEEL

PROJECT
STAGE 2 ARCHAEOLOGICAL ASSESSMENT OF ALBION VAUGHAN ROAD & KING STREET, TOWN OF CALEDON

TITLE
STAGE 2 ASSESSMENT RESULTS AND PHOTOGRAPHIC KEY

CONSULTANT	YYYY-MM-DD	2017-08-01
	DESIGNED	SFC
	PREPARED	SFC
	REVIEWED	JL
	APPROVED	BD

PROJECT NO. 1664714	CONTROL 0005	REV. A	MAP 6
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10.0 IMPORTANT INFORMATION AND LIMITATION FOR THIS REPORT

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

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Report Signature Page

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