



**REPORT**

# STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT

*CBM Proposed Lanci Pit Extension, Part of Lot 25, Concession 1, Township of Puslinch, County of Wellington, Ontario*

Submitted to:

**David Hanratty**

CBM Aggregates Ltd.  
55 Industrial Street  
Toronto, ON  
M4G 3W9

Submitted by:

**Golder Associates Ltd.**

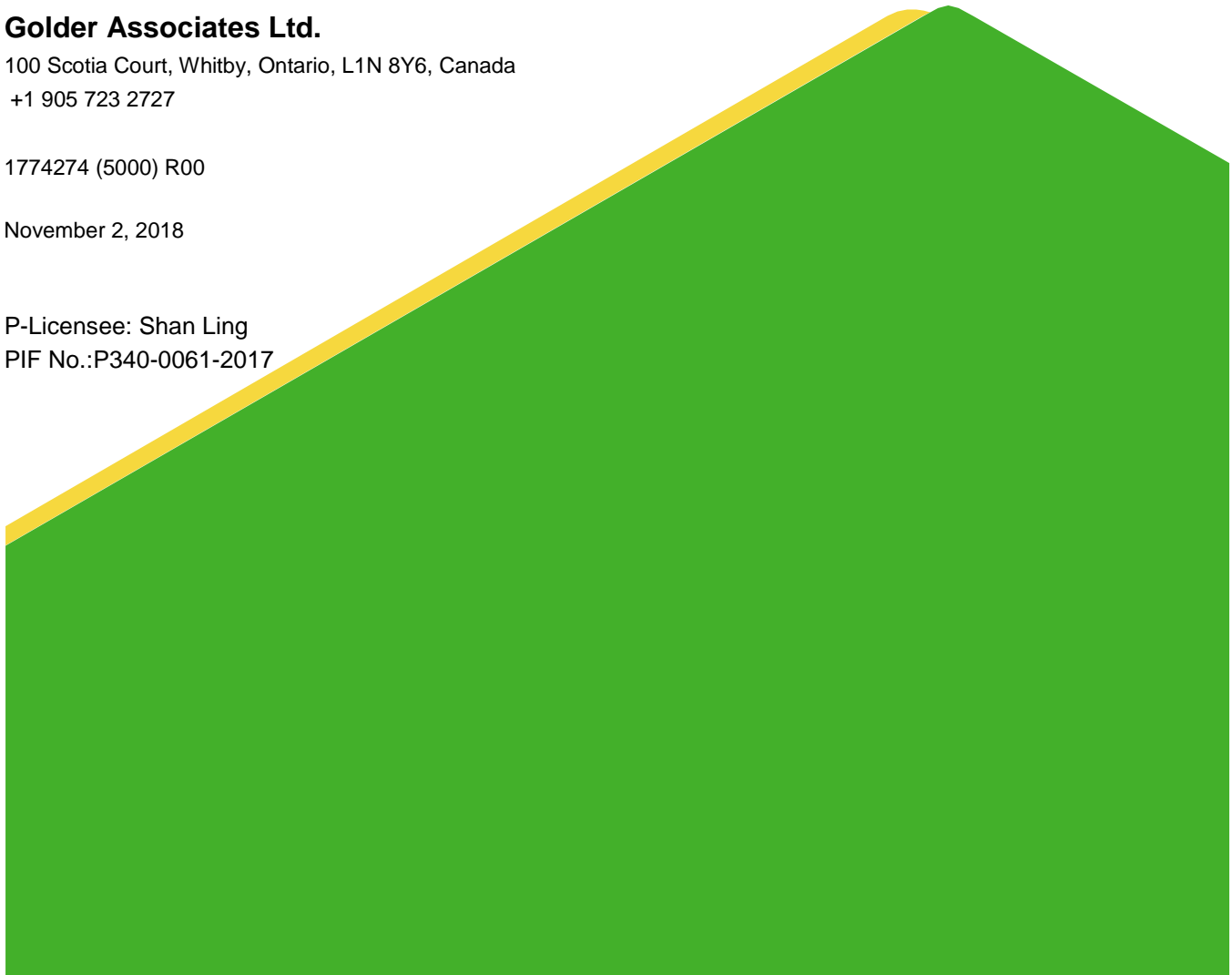
100 Scotia Court, Whitby, Ontario, L1N 8Y6, Canada  
+1 905 723 2727

1774274 (5000) R00

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P-Licensee: Shan Ling

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## EXECUTIVE SUMMARY

*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.*

A Stage 1 and 2 archaeological assessment was conducted on behalf of CBM Aggregates Ltd. (CBM), a division of Votorantim Cimentos North America (VCNA) (the client) by Golder Associates Ltd. (Golder) in support of a licence application for extraction under the Aggregate Resources Act (ARA) adjacent to the existing CBM Lanci Pit, in the Township of Puslinch. The study area was reduced in size after archaeological assessment had taken place. The entire original study area is presented in this report and is approximately 17 hectares in size and is currently a combination of forested areas and manicured lawn. The study area includes a portion of Lot 25, Concession 1 in Puslinch Township in the County of Wellington, Ontario (Map 1).

The objective of the Stage 1 assessment was to compile all available information about the known and potential archaeological resources within the study area and to provide 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 1 background study found potential to exist within the study area for the recovery of pre-contact and historic Indigenous and Euro-Canadian archaeological resources.

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. Areas recommended for Stage 2 assessment were surveyed by means of shovel test pitting. The Stage 2 archaeological assessment resulted in the recovery of zero artifacts.

No further archaeological assessment is recommended for the defined study area for the extension of the existing CBM Lanci Pit, in the Township of Puslinch, Ontario.

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.

## PERSONNEL

<b>Project Director</b>	John McNeil, M.Sc., P.Geo., Associate, Hydrogeologist
<b>Project Manager</b>	Heather Melcher, M.Sc., Associate, Ecologist
<b>Licensed Archaeologist</b>	Shan Ling, M.A. (P340), Archaeologist
<b>Field Supervisor</b>	Sarah News, B.A. (R485)
<b>Field Crew</b>	Christopher Lemon, B.Sc. (R289), Tatiana Istomina, Ph.D. (R288), Oleksiy Vasylenko, M.A. (R287), Megan Kirkham, B.A., Aaron Andringa, Shawn Bayes, B.A. (R356)
<b>Report Production</b>	Kendra Patton, M.A. (R453), Sarah News, B.A. (R485)
<b>Mapping and Figures</b>	Jeff Todd, CAD/GIS Technician
<b>Senior Review</b>	Carla Parslow, Ph.D. (P243), Associate, Archaeologist

## ACKNOWLEDGMENTS

<b>Proponent Contacts</b>	Stephen May, Votorantim Cimentos (CBM Aggregates) David Hanratty, Votorantim Cimentos (CBM Aggregates)
<b>Mississauga of New Credit First Nation</b>	Megan DeVries, Kelly LaForme, Jordan Jamieson

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## 1.0 PROJECT CONTEXT

### 1.1 Development Context

A Stage 1 and 2 archaeological assessment was conducted on behalf of CBM Aggregates Ltd. (CBM), a division of Votorantim Cimentos North America (VCNA) (the client) by Golder Associates Ltd. (Golder) in support of a licence application for extraction under the *Aggregate Resources Act* (ARA) adjacent to the CBM Lanci Pit, in the Township of Puslinch. The study area was reduced in size after archaeological assessment had taken place. The entire original study area is presented in this report and is approximately 17 hectares in size and is currently a combination of forested areas and manicured lawn. The study area includes a portion of Lot 25, Concession 1 in the Township of Puslinch in the County of Wellington, Ontario (Map 1).

The objective of the Stage 1 archaeological assessment was to compile available information about the known and potential archaeological resources within the study area and to determine if a field survey (Stage 2) is required, as well as the recommended Stage 2 strategy. 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 1 archaeological assessment 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 which will support recommendations for Stage 2 survey for all or parts of the property; and,
- To recommend appropriate strategies for Stage 2 survey.

To meet these objectives Golder archaeologists employed the following research strategies:

- A review of relevant archaeological, historic and environmental literature pertaining to the study area;
- A review of the land use history, including pertinent historic maps;
- An examination of the Ontario Archaeological Sites Database (OASD) to determine the presence of known archaeological sites in and around the project area; and
- An inquiry with the MTCS to determine previous archaeological assessments conducted in close proximity to the study area.

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 1 and 2 assessments were conducted under professional archaeological licence P340, issued to Shan Ling of Golder by the MTCS (PIF P340-0061-2017). Permission for Golder staff to enter the property for the purposes of the Stage 2 test pit survey was provided by Stephen May.

## 1.2 Historical Context

### 1.2.1 Historical Indigenous Occupation of Southern Ontario

The historical 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 17th century and beginning of the 18th century (Schmalz 1991).

Following the introduction of Europeans to North America, the nature of Indigenous settlement size, population distribution, and material culture shifted as settlers began to colonize the land. Despite this shift in 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, Indigenous peoples of southern Ontario have left behind 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 study area is situated within the historic Geographic Township of Puslinch, Wellington County, Ontario. The study area is within lands that first enter the Euro-Canadian historic record as part of Treaty Number 3 made with the Mississauga Indians on December 7th, 1792, though purchased as early as 1784. This purchase was to procure for that part of the Six Nation Indians coming into Canada a permanent abode.

*All that parcel or tract of land lying and being between the Lakes Ontario and Erie, beginning at Lake Ontario, four miles south' westerly from the point opposite to Niagara Fort, known by the name of Mississaugue Point, and running from thence along the said lake to the creek that falls from a small lake, known by the name of Washquarter into the said Lake Ontario, and from thence north forty-five degree west, fifty miles; thence south forty-five degrees west, twenty miles; and thence south until it strikes the River La Tranche; then down the stream of the said river to that part or place where a due south course will lead to the mouth of Catfish Creek emptying into Lake Erie, and from the above mentioned part or place of the aforesaid River La Tranche, following the south course to the mouth of the said Catfish Creek; thence down Lake Erie to the lands heretofore purchased from the Nation of Mississauga Indians; and from thence along the said purchase at Lake Ontario at the place of beginning as above mentioned together with all the woods, ways, paths, waters, watercourses and appurtenances thereunto belonging*

(J. Morris 1943:18).

The Stage 2 survey involved participation by archaeological field liaisons from Mississauga of New Credit First Nation. Details of this participation is provided in Supplement A.

### 1.2.2 Puslinch Township, Wellington County

In 1838, the District of Wellington was established and contained the counties of Wellington, Waterloo, Grey and parts of Dufferin County. In 1854, Wellington County was formed and included the Townships and Towns of

Amaranth, Arthur, Eramosa, Erin, Guelph, Maryborough, Nichol, Peel, Pilkington, Puslinch and Garafraxa (Wellington County 2017).

The Crown Survey of Puslinch Township began in 1828 and was completed by 1831. Settlers began to arrive in 1828 and the entire township was settled by 1840. The township was surveyed using a variation of the Double Front survey system that was commonly used between 1815 and 1829. The survey system produced a rectangular pattern of ten 100-acre lots allowances. The resulting survey created the modern farm landscape and road pattern that is still visible today (Dean 1880). Puslinch was named after a community in Devonshire, England. The population of Puslinch Township in 1829 – one year after surveying began – was 126. By 1877 the population had grown to 4,514. In the same year, the township was described as the “least valuable in an agricultural point of view, of any in the county” (Carter 1984).

Until 1852 the Study Area was a part of the District of Wellington, which included the counties of Wellington, Waterloo, Grey and parts of Dufferin County. In 1852 the district was reorganized and the United Counties of Waterloo, Wellington and Grey were formed. In 1854 Wellington County became an individual entity that consisted of the Towns and Townships of Amaranth, Arthur, Eramosa, Erin, Guelph, Garafraxa, Maryborough, Nichol, Peel, Pilkington, and Puslinch. In 1879, the City of Guelph separated from the County. The county remained politically unchanged until 1999 when it was reorganized into seven new municipalities through the amalgamation of several towns and townships. Puslinch Township remained the only municipality to exist unchanged by the amalgamation. However, recent expansions of Guelph’s city limits have resulted in portions of Puslinch being annexed into the City.

### 1.2.2.1 Lot 25, Concession 1, Township of Puslinch

The study area is located on part of Lot 25, Concession 1, Geographic Township of Puslinch, Wellington County. The 1878 *Illustrated Historical Atlas of Wellington County* indicates that all 100 acres of Lot 25, Concession 1 were owned by Mr. John McKenzie in 1878 (Map 3). The 1878 *Illustrated Historical Atlas of Wellington County*, illustrates a structure on the north edge of the property, however, it is outside the study area.

The 1871 personal census indicates that John McKenzie and his family were living in Puslinch Township on Lot 25 Concession 1 and owned 100 acres of it. 95 acres are listed as ‘improved’ with 20 in pasture, 10 in wheat, 10 in hay, and various amounts in other crops. The farm produced 300 pounds of butter and 100 pounds of home-made cheese and seems to have been of comparable levels of success and production as similarly sized farms in the neighbourhood. John McKenzie was a 34 year old farmer from Ontario and he lived on the property with his wife Hellen (34) and his children: Donald (6), William (4), John (2) and Hellen (10 mos).

## 1.3 Archaeological Context

### 1.3.1 The Natural Environment

The study area is situated within the “Horseshoe Moraines” physiographic region (Chapman and Putnam 1984: 127-129).

*From the edge of the escarpment in the Town of Caledon the moraines trend somewhat west of the Niagara Escarpment forming a belt of moderately hilly relief....Associated with the moraines is a system of old spillways with broad gravel terraces and swampy floors.....Good cross-sections of this landscape may be seen along Highway 7 from Rockwood to Georgetown.*

*Chapman and Putnam, 1984:128*

The soils of the study area consist predominately of Burford loam and Dumfries soil. Burford loam can be found smooth, very gently sloping areas; this type of soil exhibits good natural drainage and can be slightly stony (Hoffman et al. 1963). Whereas Dumfries, can be found in irregular and steeply sloping areas; this type of soil exhibits good natural drainage and can be very stony. Overall these soil types likely would have been suitable for Indigenous agricultural practices. The closest potable water sources are an unnamed tributary or seasonal waterway that is within 1 kilometre west of the study area, as well as several other similar waterways within 5 kilometres. The closest substantial source of water is Puslinch Lake (~ 7.8 kilometres to the west) of the study area (Map 1).

### 1.3.2 General Overview of the Pre-Contact Period in Southern Ontario

The cultural chronology of Southern Ontario is briefly summarized in Table 1.

**Table 1: Cultural Chronology for Southern Ontario, based on chapters in Ellis and Ferris (eds.) (1990)**

Period	Characteristics	Time Period	Comments
Early Paleo	Fluted Projectiles	9000 - 8400 BC	spruce parkland/caribou hunters
Late Paleo	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
	Broad Points	1800 - 1500 BC	large chipped lithic tools
	Small Points	1500 - 950 BC	introduction of bow hunting, emergence of true cemeteries
Early Woodland	Meadowood Points	950 - 400 BC	introduction of pottery
Middle Woodland	Dentate Stamp and Pseudo-Scallop Shell Impressed pottery	400 BC - AD 500/800	increased sedentism
Late Woodland	Princess Point Complex	AD 500 - 1050	introduction of corn
	Early Ontario Iroquoian	AD 900/1000 - 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 Indigenous	Various Algonkian Groups	AD 1700 - 1875	early written records and treaties
Late Historic	Euro-Canadian	AD 1785 - present	European settlement

### 1.3.3 Pre-historic Indigenous Documentation

Previous archaeological assessments and research surveys have demonstrated that Wellington County was intensively occupied by pre-historic Indigenous communities. The following subsections outline the cultural or temporal periods recognized for southern Ontario more generally.

### 1.3.3.1 Paleo Period

The first human occupation of southern Ontario began 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 period (*circa* 9000-8400 BC) settlement patterns suggest that small bands, consisting of probably no more than 25-35 individuals, followed a pattern of seasonal mobility extending over large territories (Ellis and Deller 1990:54). 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 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 (Ellis and Deller 1990:51).

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 (Ellis and Deller 1990:51). 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 (Ellis and Deller 1990:54). Because this is the case, Early Paleo sites are exceedingly rare.

While the Late Paleo period (8400-8000 BC) 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 trees (Ellis and Deller 1990:60). 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 (Ellis and Deller 1990).

As in the early Paleo period, late Paleo period peoples covered 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 (Ellis and Deller 1990:62).

The end of the Paleo period was heralded by numerous technological and cultural innovations which 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 period 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 (Ellis and Deller 1990:65). 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 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 (Ellis *et al.* 1990:65). 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 (Ellis *et al.* 1990:67). This process resulted in 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 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 BC the local environment had stabilized in a near modern form (Ellis *et al.* 1990:69).

During the Late Archaic (2500-900 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 (Ellis *et al.* 1990:66). 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 (Ellis *et al.* 1990).

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 (Ellis *et al.* 1990:117; Ellis *et al.* 2009:824-825). 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" (Ellis *et al.* 1990:111). Birdstones are small, bird-like effigies usually manufactured from green banded slate.

### 1.3.3.3 Woodland Period

The Early Woodland period (950-400 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 (Spence *et al.* 1990:137). 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 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 (Spence *et al.* 1990:129).

Likewise, the thin, well-made projectile points 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 (Spence *et al.* 1990:129). 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 in southern Ontario (Spence *et al.* 1990:138).

In terms of settlement and subsistence patterns, the Middle Woodland (400 BC- AD 500/800) 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 (Spence *et al.* 1990:151). Some Middle Woodland sites have produced literally thousands of bones from spring spawning species such as walleye and sucker. Nuts such as acorns were also being collected and consumed (Spence *et al.* 1990:134). In addition, Middle Woodland peoples relied much more extensively on ceramic technology. Middle Woodland vessels are often 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. Middle Woodland sites are significantly different in that the same location was occupied off and on for as long as 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 into southwestern Ontario from the American Midwest as early as AD 600 (Fox 1990:174; Williamson 1990:312). However, it did not become a dietary staple until at least three to four hundred years later. Others have more recently espoused or accepted a Late Woodland beginning around AD 500 with the appearance or development of the Princess Point Complex (e.g. Crawford and Smith 2002; see also Martin 2004, 2008).

The first agricultural villages in southwestern Ontario date to the 10th century (Williamson 1990:291). 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 AD 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 (Williamson 1990:317). 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 (Williamson 1990:291).

The Middle Ontario Iroquoian period (AD 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 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 defence (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.* 1990:358). More research is required to evaluate these competing interpretations.

The lay-out of houses within villages also changes dramatically by AD 1300. 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 (AD 1400-1650) continues many of the trends which have been documented for the preceding century. For instance, between AD 1400 and 1450 house lengths continue to grow, reaching an average length of 62 metres.

After AD 1450, house lengths begin to decrease, with houses dating between AD 1500-1580 averaging only 30 metres in length. Why house lengths decrease after AD 1450 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 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.

One large village situated in London expanded one-fifth of its size (Anderson 2009) and one village north of Toronto have been shown to have expanded on no fewer than five occasions (Ramsden 1990:374-375). 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 AD 1525 communities of pre-colonial Indigenous 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 on-going wars between the Huron and the League Iroquois located in upper New York State.

### 1.3.4 Previously Identified Archaeological Sites and Surveys

A search of the OASD and within Golder's corporate library indicated there are nine archaeological sites currently registered within two kilometres of the study area (MTCS 2017).

**Table 2: Registered Archaeology Sites within 2 kilometres of Study Area**

Borden Number	Site Name	Time Period
AiHb-71*	Tog 2	Other
AiHb-70*	Tog 1	Other
AiHb-216	Smith	Post-Contact
AiHb-215	Smith	Post-Contact, homestead
AiHb-121	Heritage	Pre-Contact, campsite
AiHa-45	-	Post-Contact
AiHa-38	Reid	Pre-Contact
AiHa-13	Scott	Unlisted

\* Sites are located within 1 kilometre of Study Area.

No archaeological sites are registered within 300 metres of the study area and no archaeological work has been noted or registered within 50 metres with the MTCS.

### 1.3.5 Assessing Archaeological Potential

Archaeological potential is established by determining the likelihood that archaeological resources may be present on in a study area. In accordance with the MTCS's 2011 *Standards and Guidelines for Consultant Archaeologists* the following are features or characteristics that indicate archaeological potential:

- Previously identified archaeological sites;
- Water sources:
  - Primary water sources (lakes, rivers, streams, creeks);
  - Secondary water sources (intermittent streams and creeks; springs; marshes; swamps);
  - Features indicating past water sources (e.g. glacial lake shorelines indicated by the presence of raised gravel, sand, or beach ridges; relic river or stream channels indicated by clear dip or swale in the topography; shorelines of drained lakes or marshes; and cobble beaches);
  - Accessible or inaccessible shoreline (e.g. high bluffs, swamps or marsh fields by the edge of a lake; sandbars stretching into marsh);
- Elevated topography (eskera, drumlins, large knolls, plateaux);
- Pockets of well drained sandy soil, especially near areas of heavy soil or rocky ground; Distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases (there may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings);
- Resource areas including:
  - Food or medicinal plants;
  - Scarce raw minerals (e.g. quartz, copper, ochre or outcrops of chert);

- Early Euro-Canadian industry (fur trade, mining, logging);
- Areas of Euro-Canadian settlement; and
- Early historical transportation routes.

In recommending a Stage 2 property survey based on determining archaeological potential for a study area, MTCS stipulates the following:

- No areas within 300 metres of a previously identified site; water sources; areas of early Euro-Canadian Settlement; or locations identified through local knowledge or informants can be recommended for exemption from further assessment;
- No areas within 100 metres of early transportation routes can be recommended for exemption from further assessment; and,
- No areas within the property containing an elevated topography; pockets of well-drained sandy soil; distinctive land formations; or resource areas can be recommended for exemption from further assessment.

### 1.3.5.1 *Archaeological Integrity*

A negative indicator of archaeological potential is extensive land disturbance. This includes widespread earth movement activities that would have eradicated or relocated any cultural material to such a degree that the information potential and cultural heritage value or interest has been lost.

Section 1.3.2 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists states that:

*Archaeological potential can be determined not to be present for either the entire property or a part(s) of it when the area under consideration has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources.*

MTCS 2011:18

The types of disturbance referred to above includes, but is not restricted to, quarrying, sewage and infrastructure development, building footprints and major landscaping involving grading below topsoil.

### 1.3.5.2 *Potential for Pre-contact and Historical Indigenous Archaeological Resources*

Following the criteria outlined above in Section 1.3.5 to determine pre-contact and historic Indigenous archaeological potential, a number of factors can be highlighted. The soils of the study area would have been suitable for pre-contact Indigenous practices. The closest potable water sources are an unnamed tributary or seasonal waterway that is within 1 kilometre west of the study area, as well as several other similar waterways within 5 kilometres. The closest substantial source of water is Puslinch Lake (~ 7.8 kilometres to the west) of the study area (Map 1).

When the above noted archaeological potential criteria were applied to the study area, the study area exhibits archaeological potential for pre-contact and post-contact Indigenous sites. While areas of previous disturbance eradicate the potential for the recovery of archaeological resources (Section 1.3.4.1), areas of no or low levels of previous disturbance retain their archaeological potential; these areas include the areas of forest and manicured lawn. Map 5 illustrates areas of potential within the study area that were determined to require further Stage 2 assessment.

### **1.3.5.3 Potential for Euro-Canadian Archaeological Resources**

Following the criteria outlined above in Section 1.3.5 to determine Euro-Canadian archaeological potential, a number of factors can be highlighted including the occupation of the surrounding area from the early to mid-19<sup>th</sup> century as evidenced by historical mapping and land records.

When the above noted archaeological potential criteria were applied to the study area, the study area exhibits archaeological potential for Euro-Canadian sites. While areas of previous disturbance eliminate the potential for the recovery of archaeological resources (Section 1.3.5.1), areas of no or low levels of previous disturbance retain their archaeological potential. Map 5 illustrates areas of potential within the study area that require Stage 2 assessment.

## 2.0 FIELD METHODS

### 2.1 Existing Conditions

The Stage 2 field survey of the study area was conducted between 23 October 2017 and 27 October 2017, under archaeological consulting licence P340, issued to Shan Ling of Golder. Mr. Ling designated Ms. Sarah News (R485) to conduct the Stage 2 field work. The weather during the Stage 2 assessment was primarily overcast, the details of each day are presented in Table 3 below. At no time were the weather or field conditions detrimental to the recovery of archaeological material. Field visibility during the test pitting survey was excellent and lighting conditions also allowed for excellent field visibility. At the time of the Stage 2 survey the study area included areas of mature hardwood forest, mature cedar forest, forests with sections of steep slope, areas of manicured lawn around extant houses, and areas of previous disturbance (where gravel has been extracted and man-made berms have been constructed, as well as previous homes demolished).

**Table 3: Weather Conditions during Stage 2 Assessment of Study Area.**

Date	Weather
23 October 2017	Overcast/partly sunny, warm, 20°C
24 October 2017	Overcast, cool, 14°C
25 October 2017	Sun and cloud, cool, 9°C
26 October 2017	Overcast/partly sunny, cool, 10°C
27 October 2017	Sunny, warm, 14°C

### 2.2 Field Survey Methods

The Stage 1 background study identified the potential for the identification of archaeological sites, both historic and pre-contact Indigenous in nature (Map 5). Map 6 illustrates the Stage 2 assessment of the study area and indicates all field conditions encountered. Map 6 also provides a photographic key to images illustrated in Section 8.0. Images 1-42 illustrate the field conditions and activities at the time of the Stage 2 survey.

All days from October 23, 2017 to October 27, 2017 were utilized for test pit survey at five metre intervals across the study area, which is comprised primarily of densely wooded areas. The central portion of the forested area is interrupted by heavy disturbance due to aggregate testing. (Image 25-31). Areas of disturbance were also confirmed through test pit survey around each extant house, the demolition of one home resulted in a larger area of disturbance that was documented in the field. Areas of steep slope were also encountered throughout the study area (Image 5, 37) and are illustrated on Map 6. Each test pit was excavated to at least 30 centimetres in diameter and dug a minimum of five centimetres into sterile subsoil; the stratigraphy of each test pit was then inspected for evidence of cultural features. All soil matrix from the test pits was screened through six millimetre hardware cloth to facilitate the recovery of any cultural material. Each test pit was back filled upon completion and topped up with additional soil when necessary.

No artifacts were recovered during the Stage 2 test pit survey.

The soil displays some variability across the site, in general it was a brown sand loam with an orange sand subsoil, varying in depth from approximately 10 – 30 centimetres.

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. Photographs were taken using an iPhone 7 cellphone camera. GPS points were recorded with a Garmin GPSTMap62s, using the North American Datum (NAD) 83, with a minimal accuracy of five metres.

### 3.0 RECORD OF FINDS

The Stage 2 archaeological assessment was conducted employing the methods described in Section 2.0 and resulted in the recovery of zero artifacts. Table 4 provides an inventory of the documentary record generated in the field.

**Table 4: Inventory of Documentary Record**

Document Type	Current Location of Document	Additional Comments
Field Notes	Golder office in Whitby	12 pages in original field book and stored digitally in project file
Hand Drawn Maps	Golder office in Whitby	3 hand drawn maps stored digitally in project file
Maps Provided by Client	Golder office in Whitby	1 maps stored in project file
Digital Photographs	Golder office in Whitby	235 photographs stored digitally in project file

## 4.0 ANALYSIS AND CONCLUSIONS

Areas of disturbance were noted due to the previous construction of four homes (and subsequent demolition of one); these areas of construction disturbance were identified and confirmed through test pit survey. There was also a portion of the forest that was disturbed due to bush-hogging/clearing for hydrogeologic testing wells, which was completed in the previous year in support of the license application.

Despite the Stage 1 background study identifying potential for the identification of archaeological sites within the study area, no archaeological resources were identified during the Stage 2 field survey, therefore no analysis of artifacts and/or sites was undertaken.



## 5.0 RECOMMENDATIONS

The Stage 2 assessment resulted in the recovery of zero artifacts. Given the occurrence of some disturbance activity across the study area and the lack of identified artifacts during the test pit survey, the information potential and cultural heritage value of the study area was determined to be low. No further archaeological assessment is recommended for the study area.

## 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 regards 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 licenced 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 licenced archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating 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 representative of a new archaeological site or sites 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: CBM Lanci Stage 2, gravel driveway into extant home, forest test pit at 5m intervals, facing west.**



**Image 2: CBM Lanci Stage 2, area of disturbance, demolished home, facing west.**



**Image 3: CBM Lanci Stage 2, forest subject to test pit survey at 5m intervals, facing west.**



**Image 4: CBM Lanci Stage 2, area of disturbance, abandoned shed, facing north.**



**Image 5: CBM Lanci Stage 2, area of steep slope, facing north.**



**Image 6: CBM Lanci Stage 2, forest subject to test pit survey at 5m intervals, facing west.**



**Image 7: CBM Lanci Stage 2, forest subject to test pit survey at 5m intervals, facing west.**



**Image 8: CBM Lanci Stage 2, forest subject to test pit survey at 5m intervals, facing east.**



**Image 9: CBM Lanci Stage 2, test pit survey at 5m interval to confirm disturbance surrounding extant house, facing east.**





**Image 10: CBM Lanci Stage 2, area of steep slope, facing north-east.**



**Image 11: CBM Lanci Stage 2, rock wall and area of steep slope, facing south-west.**



**Image 12: CBM Lanci Stage 2, rock piles and slope along ROW, facing north.**



**Image 13: CBM Lanci Stage 2, area of grassland, disturbed due to housing construction and demolition, facing west.**



**Image 14: CBM Lanci Stage 2, driveway to abandoned/demolished home, facing west.**



**Image 15: CBM Lanci Stage 2 test pit survey at 5m intervals, facing east.**



**Image 16: CBM Lanci Stage 2 test pit, facing north.**



**Image 17: CBM Lanci Stage 2, clearing subject to test pit survey at 5m intervals, facing south.**



**Image 18: CBM Lanci Stage 2, clearing subject to test pit survey at 5m intervals, facing north.**



**Image 19: CBM Lanci Stage 2, forest subject to test pit survey at 5m intervals, facing south.**



**Image 20: CBM Stage 2, clearing subject to test pit survey at 5m intervals, facing south.**



**Image 21: CBM Stage 2, old roadway through forest, facing west.**



**Image 22: CBM Lanci Stage 2, area of manicured lawn subject to test pit survey at 5m intervals, facing north.**



**Image 23: CBM Lanci Stage 2, area of garden and manicured lawn, subject to test pit survey at 5m intervals, facing west.**



**Image 24: CBM Lanci Stage 2, corner of extant house, manicured lawn, disturbed due to house construction, facing north**



**Image 25: CBM Lanci Stage 2, area of rock rubble disturbance, facing east.**



**Image 26: CBM Lanci Stage 2, area of rock rubble disturbance, facing west.**



**Image 27: CBM Lanci Stage 2, area of rock rubble disturbance, facing east.**



**Image 28: CBM Lanci Stage 2, area that had been bush-hogged and cleared for aggregate testing previous year, facing north.**



**Image 29: CBM Lanci Stage 2, area that had been bush-hogged and cleared for aggregate testing previous year, facing north.**



**Image 30: CBM Lanci Stage 2, area that had been bush-hogged and cleared for aggregate testing previous year, facing north.**



**Image 31: CBM Lanci Stage 2, area that had been bush-hogged and cleared for aggregate testing previous year, facing west**



**Image 32: CBM Lanci Stage 2, ridge of slope through forest, subject to Stage 2 test pit at 5m intervals, facing east.**



**Image 33: CBM Lanci Stage 2, piled stone before area of steep slope, facing east.**





**Image 34: CBM Lanci Stage 2 test pit survey at 5m intervals, through planted pine forest, facing east.**



**Image 35: CBM Lanci Stage 2 test pit, facing north.**



**Image 36: CBM Lanci Stage 2, are of steep slope, facing east.**



**Image 37: CBM Lanci Stage 2, area of steep slope, facing south-south-west.**



**Image 38: CBM Lanci Stage 2, abandoned home, facing south.**



**Image 39: CBM Lanci Stage 2, rubbish pile near abandoned home, facing south.**



**Image 40: CBM Lanci Stage 2 test pit survey at 5m intervals, facing west.**



**Image 41: CBM Lanci Stage 2 test pit survey at 5m intervals, facing south.**



**Image 42: CBM Lanci Stage 2, tree-lined driveway to an abandoned home, facing north-west.**



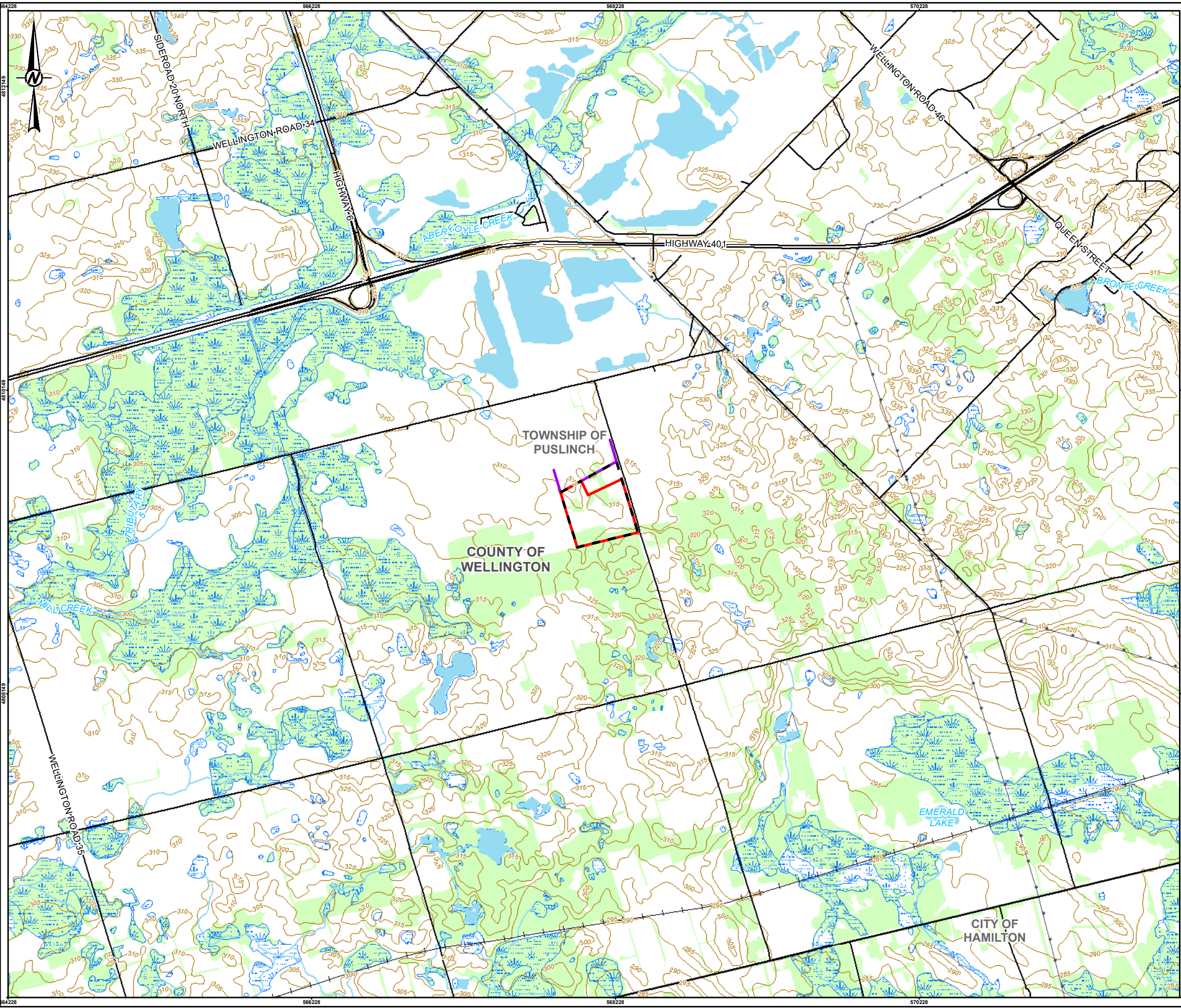
**Image 43: CBM Lanci Stage 2 test pit, facing north.**



**Image 44: CBM Lanci Stage 2 test pit showing gravel disturbance, facing south.**

## 9.0 MAPS

All maps follow on succeeding pages.



- LEGEND**
- ROAD
  - +— RAILWAY
  - UTILITY LINE
  - WATERCOURSE
  - CONTOURS (M)
  - WATERBODY
  - MUNICIPAL BOUNDARY
  - MUNICIPAL BOUNDARY
  - WETLAND
  - WOODED AREA
  - BOUNDARY
  - LANCI PIT BOUNDARY
  - STUDY AREA SUBJECT TO STAGE 2 ARCHAEOLOGICAL ASSESSMENT



**NOTE(S)**  
1. ALL LOCATIONS ARE APPROXIMATE

**REFERENCE(S)**  
BASE DATA - MNR LIO, OBTAINED 2017  
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BASE IMAGERY  
PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17N

**CLIENT**  
CBM AGGREGATES

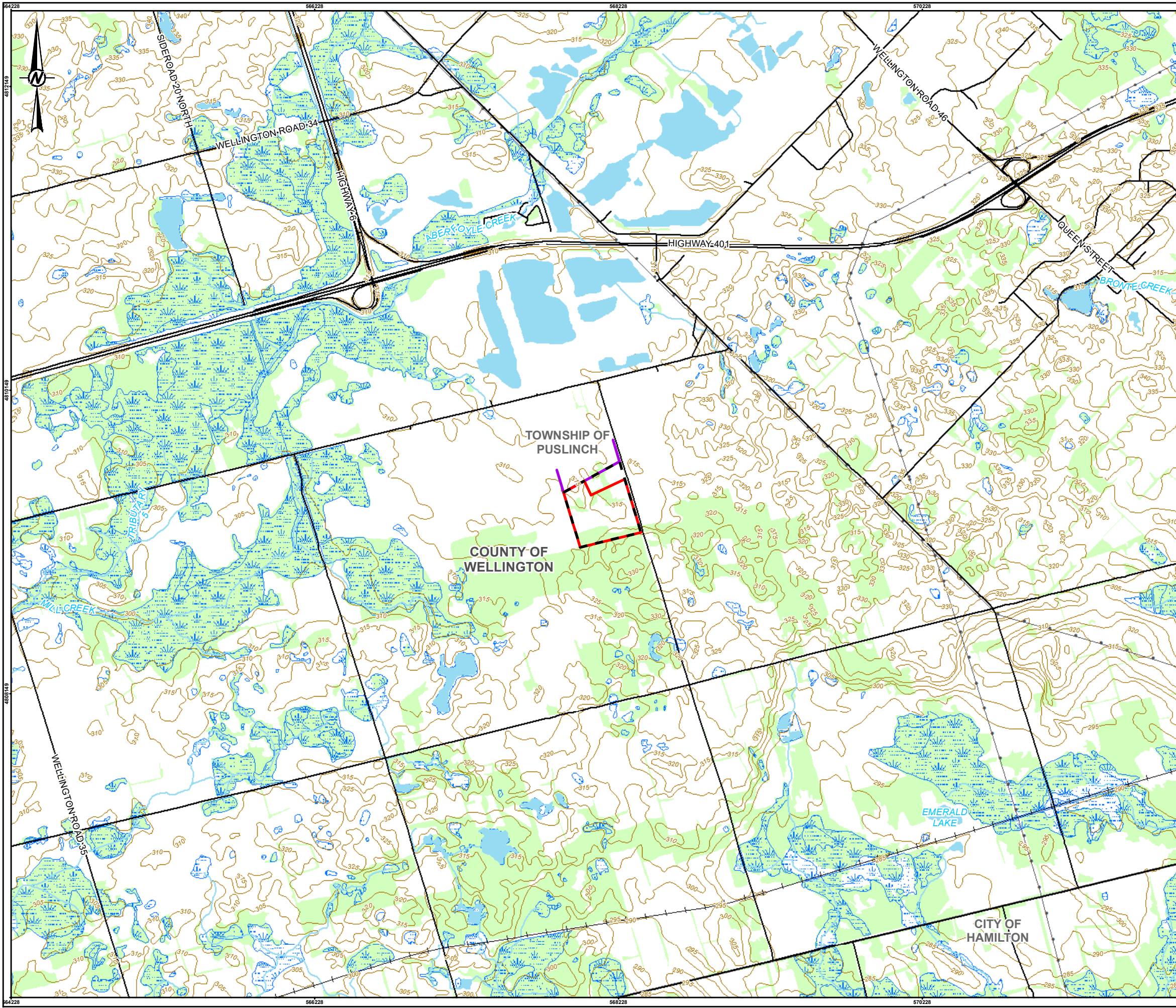
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STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT  
CBM LANCI PIT EXPANSION - ABERFOYLE  
PART OF LOT 25, CONCESSION 1, TOWNSHIP OF PUSLINCH,  
COUNTY OF WELLINGTON

**TITLE**  
LOCATION OF STUDY AREA

<b>CONSULTANT</b>	YYYY-MM-DD	2018-10-25
	DESIGNED	JT
	PREPARED	JT/ISO
	REVIEWED	KP
	APPROVED	

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**LEGEND**

- ROAD
- +— RAILWAY
- UTILITY LINE
- WATERCOURSE
- CONTOURS (M)
- WATERBODY
- MUNICIPAL BOUNDARY
- MUNICIPAL BOUNDARY
- WETLAND
- WOODED AREA
- BOUNDARY
- LANCIP PIT BOUNDARY
- STUDY AREA SUBJECT TO STAGE 2 ARCHAEOLOGICAL ASSESSMENT

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**NOTE(S)**  
1. ALL LOCATIONS ARE APPROXIMATE

**REFERENCE(S)**  
BASE DATA - MNR LIO, OBTAINED 2017  
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BASE IMAGERY  
PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17N

**CLIENT**  
CBM AGGREGATES

**PROJECT**  
STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT  
CBM LANCIP PIT EXPANSION - ABERFOYLE  
PART OF LOT 25, CONCESSION 1, TOWNSHIP OF PUSLINCH,  
COUNTY OF WELLINGTON

**TITLE**  
LOCATION OF STUDY AREA

CONSULTANT	YYYY-MM-DD	2018-10-25
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	PREPARED	JT/ISO
	REVIEWED	KP
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- LEGEND**
- BOUNDARY
  - LANCIPIT BOUNDARY
  - STUDY AREA SUBJECT TO STAGE 2 ARCHAEOLOGICAL ASSESSMENT

**DRAFT**

- NOTE(S)**
1. NOT TO SCALE
  2. ALL LOCATIONS ARE APPROXIMATE

**REFERENCE(S)**  
 BASE IMAGE - WHELLOCK, CHARLES J. AND GUY LESLIE. 1861. MAP OF THE COUNTY OF WELLINGTON, CANADA WEST. CHEWETT & CO.: TORONTO.

**CLIENT**  
 CBM AGGREGATES

**PROJECT**  
 STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT  
 CBM LANCIPIT EXPANSION - ABERFOYLE  
 PART OF LOT 25, CONCESSION 1, TOWNSHIP OF PUSLINCH,  
 COUNTY OF WELLINGTON

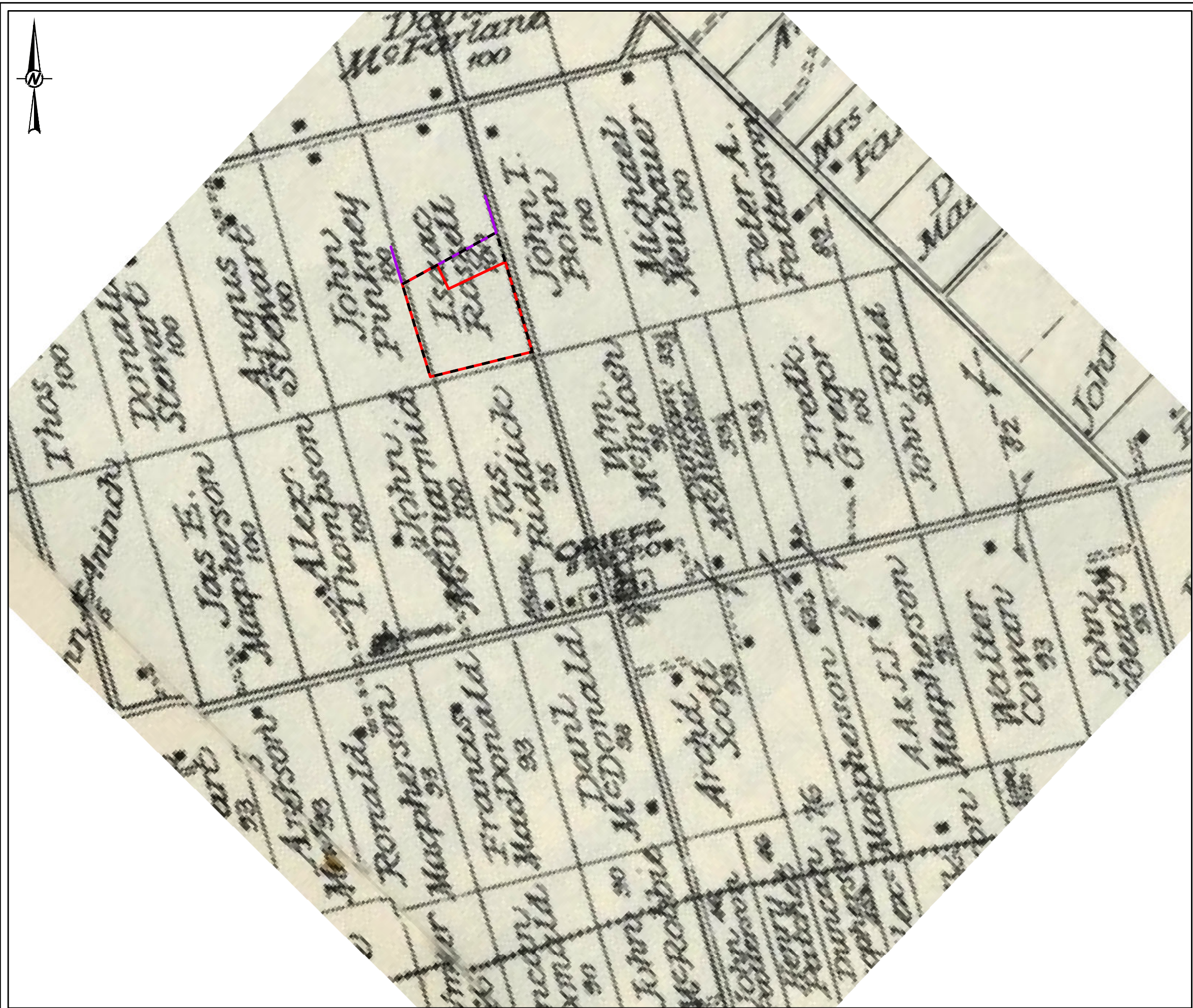
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 A PORTION OF THE 1861 TREMAINE MAP OF COUNTY OF WELLINGTON, CANADA WEST

CONSULTANT	YYYY-MM-DD	2018-10-25
DESIGNED		JT
PREPARED		JT/SO
REVIEWED		KP
APPROVED		









**LEGEND**

- BOUNDARY
- LANCI PIT BOUNDARY
- STUDY AREA SUBJECT TO STAGE 2 ARCHAEOLOGICAL ASSESSMENT

**NOTE(S)**

1. NOT TO SCALE
2. ALL LOCATIONS ARE APPROXIMATE

**REFERENCE(S)**

BASE IMAGE - MILES & CO. 1877. ILLUSTRATED HISTORICAL ATLAS OF THE COUNTY OF WELLINGTON, ONTARIO. MILES & CO.: TORONTO.

**CLIENT**  
CBM AGGREGATES

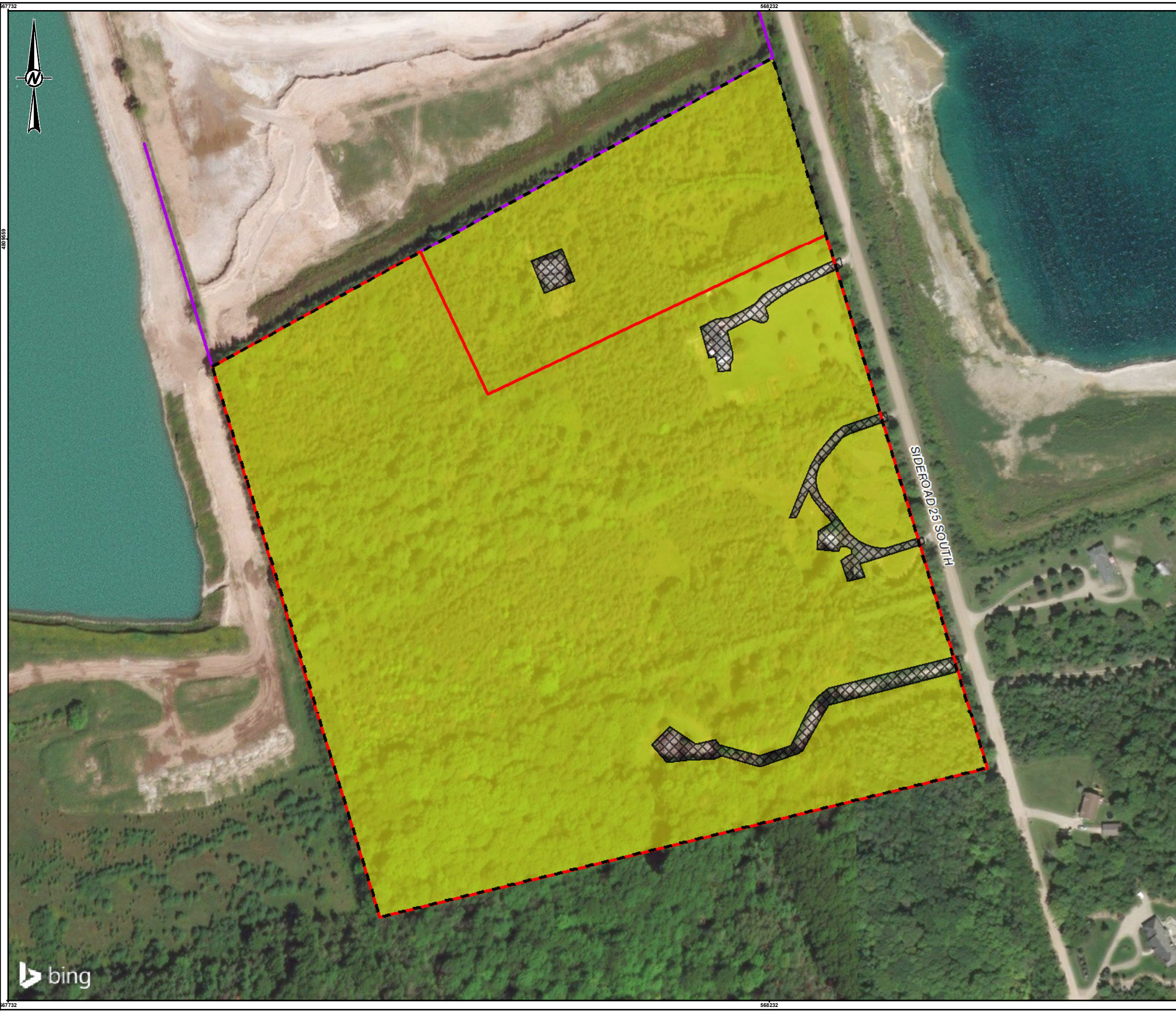
**PROJECT**  
STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT  
CBM LANCI PIT EXPANSION - ABERFOYLE  
PART OF LOT 25, CONCESSION 1, TOWNSHIP OF PUSLINCH,  
COUNTY OF WELLINGTON

**TITLE**  
**A PORTION OF THE 1906 HISTORIC ATLAS MAP OF THE  
TOWNSHIP OF PUSLINCH**

CONSULTANT	YYYY-MM-DD	2018-10-25
DESIGNED	JT	
PREPARED	JT/SO	
REVIEWED	KP	
APPROVED		

PROJECT NO.	CONTROL	REV.	MAP
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- LEGEND**
- AREA OF PREVIOUS DISTURBANCE, NO ARCHAEOLOGICAL POTENTIAL
  - ARCHAEOLOGICAL POTENTIAL, STAGE 2 TEST PIT SURVEY RECOMMENDED
  - BOUNDARY
  - LANCI PIT BOUNDARY
  - STUDY AREA SUBJECT TO STAGE 2 ARCHAEOLOGICAL ASSESSMENT



**NOTE(S)**  
1. ALL LOCATIONS ARE APPROXIMATE

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**CLIENT**  
CBM AGGREGATES

**PROJECT**  
 STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT  
 CBM LANCI PIT EXPANSION - ABERFOYLE  
 PART OF LOT 25, CONCESSION 1, TOWNSHIP OF PUSLINCH,  
 COUNTY OF WELLINGTON

**TITLE**  
STAGE 1 AREAS OF ARCHAEOLOGICAL POTENTIAL








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PREPARED	JT/SO	
REVIEWED	KP	
APPROVED		

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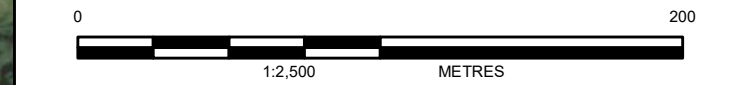
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- LEGEND**
-  PHOTO LOCATION AND DIRECTION
  -  AREA OF ARCHAEOLOGICAL POTENTIAL, SUBJECT TO STAGE 2 TEST PIT SURVEY AT 5M INTERVALS
  -  AREA OF STEEP SLOPE, NO STAGE 2 TEST PIT SURVEY
  -  AREA OF PREVIOUS DISTURBANCE, NO ARCHAEOLOGICAL POTENTIAL, NO STAGE 2 TEST PIT SURVEY
  -  BOUNDARY
  -  LANCI PIT BOUNDARY
  -  STUDY AREA SUBJECT TO STAGE 2 ARCHAEOLOGICAL ASSESSMENT

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**NOTE(S)**  
1. ALL LOCATIONS ARE APPROXIMATE

**REFERENCE(S)**  
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 PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17N

**CLIENT**  
CBM AGGREGATES

**PROJECT**  
 STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT  
 CBM LANCI PIT EXPANSION - ABERFOYLE  
 PART OF LOT 25, CONCESSION 1, TOWNSHIP OF PUSLINCH,  
 COUNTY OF WELLINGTON

**TITLE**  
STAGE 2 ARCHAEOLOGICAL ASSESSMENT METHODS

CONSULTANT	YYYY-MM-DD	2018-10-25
DESIGNED	JT	
PREPARED	JT/SO	
REVIEWED	KP	
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## 10.0 IMPORTANT INFORMATION AND LIMITATIONS OF 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.

This report has been prepared for the specific site, design objective, developments and purpose described to Golder by CBM Aggregates Ltd. (CBM), a division of Votorantim Cimentos North America (VCNA) (the client). The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location.

The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without Golder's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the Client, Golder may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to Golder. The report, all plans, data, drawings and other documents as well as electronic media prepared by Golder are considered its professional work product and shall remain the copyright property of Golder, who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The Client and Approved Users may not give, lend, sell or otherwise make available the report or any portion thereof to any other party without the express written permission of Golder. The Client acknowledges that electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore the Client cannot rely upon the electronic media versions of Golder's report or other work products.

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

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

## Signature Page

### **Golder Associates Ltd.**



Kendra Patton, M.A.  
*Project Archaeologist*



Bradley Drouin  
*Senior Archaeologist, Associate*

KP/BD/lb/lb

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[https://golderassociates.sharepoint.com/sites/11897g/shared documents/06 technical work/archaeology/final report/1774274 rep 2018'11'02stage 1-2 arch assess \(final\).docx](https://golderassociates.sharepoint.com/sites/11897g/shared%20documents/06%20technical%20work/archaeology/final%20report/1774274%20rep%202018'11'02stage%201-2%20arch%20assess%20(final).docx)

**APPENDIX A**

**Resumes**



**Education**

*Ph.D. Anthropology, specialization in Archaeology, University of Toronto, Toronto, Ontario , 2006*

*M.A. Anthropology, University of Manitoba, Winnipeg, Manitoba , 1999*

*B.A. Anthropology, Honours, University of Alberta, Edmonton, Alberta, 1996*

**Certifications**

*Professional License to Practice Archaeology in Ontario (P243), Exp. Jan. 5, 2016*

*Wilderness First Aid Certification, Basic Life Support – CPR Provider A, Exp. Oct. 6, 2016*

*Canadian Red Cross Standard First Aid, Level C, Exp. June 19, 2115*

**Golder Associates Ltd. – Mississauga**

**Associate, Senior Archaeologist**

Carla Parslow has over 15 years experience in the Cultural Heritage Resource Management, including Aboriginal Engagement and over 20 years experience as an Archaeologist. Dr. Parslow is responsible for the technical review and quality assurance of archaeological, Aboriginal consultation and cultural heritage projects for the Golder’s GTA Operations and throughout Ontario. Dr. Parslow has experience in leading teams on small scale projects (< \$20,000) as well as large complex heritage projects (> \$5,000,000).

**Employment History**

**Golder Associates Ltd. – GTA Operations**

*Senior Archaeologist (2009 to 2017)*

Responsible for the coordination, technical review and quality assurance of archaeological, Aboriginal consultation and cultural heritage projects for the Golder’s GTA Operations.

**Ontario Ministry of Transportation – Downsview, Ontario**

*Regional Archaeologist (2007 to 2009)*

Primary responsibilities in this role include participation in the development of ministry archaeological/heritage policy and procedures; fulfil an advisory role to support regional cultural heritage and archaeological work and to provide consultative services to other regions upon request. Carla also was responsible for the management and coordination of the archaeological and cultural heritage elements of MTO projects meet the requirements of the Ontario Heritage Act and Environmental Assessment Act. Carla was also responsible for coordinating and building relationships between the Ministry of Transportation and Aboriginal communities to develop protocols for consultation for ongoing projects. She also liaised, advised and negotiated with senior management, ministry colleagues and external agencies including MOE, MTCS, MAA and MNR.

**Archaeological Services Inc. – Toronto, Ontario**

*Assistant Manager, Environmental Assessment Division (2006 to 2007)*

Assist the manager of the Environmental Assessment Division with management and coordination of archaeological and heritage assessments. Manage the cultural component for Individual Class EA assessments.

**University of Toronto – Toronto, Ontario**

*Sessional Lecturer - ENV236 Human interaction with the Environment (2007)*

**University of Guelph – Guelph, Ontario**

*Sessional Lecturer - ANTH3650 Prehistory of Canadian Native People (2005)*

**McMaster University – Hamilton, Ontario**

*Sessional Lecturer - 2H03 Environment and Culture (2005)*





## PROJECT EXPERIENCE – PROJECT DIRECTOR

As an Associate Carla Parslow is qualified to fulfil the role of Project Director in the Cultural Science. As Project Director, Dr. Parslow provides senior review and serves as Quality Assurance/Quality Control for the proposed project. Additionally, Dr. Parslow participates in high level project planning provide support for the Project Manager; assists with major issues, approves potential scope change requests; signs off on major deliverables; and signs off on approvals to proceed to each succeeding project phase. Since 2013, Dr. Parslow has served as Project Director on over 50 Cultural Science projects alone. Some notable projects include:

**Highway 407  
Expansion Project**  
Ontario

Stage 2 through 4 archaeological assessments on behalf of the Ontario Ministry of Transportation valued at \$850,000 (2013 - 2015).

**Boler Road Land  
Development**  
London, ON

Stage 3 and 4 archaeological assessments in support of Residential Land Development valued at \$176,500 (2014).

**Landmart H1 (AkGw-  
473) and Landmart H2  
(AkGw-474)**  
Brampton, ON

Stage 3 and 4 archaeological assessments in support of Residential Land Development on behalf of Landmart Homes valued at \$82,300(2014).

**Nyon Industrial Park**  
Port Colborne, ON

Stage 1 and 2 archaeological assessment in support of development of industrial lands values at \$48,500 (2012 - 2014)

## PROJECT EXPERIENCE – CULTURAL SCIENCES

**Lafarge - South  
Dundas Quarry**  
Ontario, Canada

Stage 1 and 2 archaeological assessment for the expansion of the Dundas North and Dundas South Quarries (2011).

**CBM - St. Marys**  
Ontario, Canada

Stages 1 through 3 archaeological assessment for the Darby and Dekoker properties (2010 and 2011).

## PROJECT EXPERIENCE – MINING - ABORIGINAL ENGAGEMENT AND ARCHAEOLOGICAL DUE DILIGENCE

**Laurentian Gold**  
Quebec, Canada

Provide due diligence archaeological assessment (desktop research) prior to drilling in Belmont Township, Quebec. Archaeological activities part of Clients Aboriginal engagement activities.



- Laurentian Gold**  
Ontario, Canada  
Provide due diligence archaeological assessment (desktop research) at two locations for the Proposed Goldpines Project, Ear Falls Township, District of Kenora. Archaeological activities part of Clients Aboriginal engagement activities. (2010)
- Lakeshore Gold Corp**  
Ontario, Canada  
Provide a Stage 1 (desktop research) and Stage 2 (property inspection) archaeological assessment for the Bell Creek proposed outfall at Porcupine River. Archaeological activities part of Clients Aboriginal engagement activities. (2010)
- Lakeshore Gold Corp**  
Ontario, Canada  
Provide a Stage 1 (desktop research) and Stage 2 (property inspection) archaeological assessment for exploratory drilling in Blakelock Township, District of Cochrane. Archaeological activities part of Clients Aboriginal engagement activities.(2010)
- Gowest Amalgamated**  
Ontario, Canada  
Provide support to client on Aboriginal engagement activities. Provided Aboriginal rights and interests document to identify those communities whose Aboriginal or Treaty rights are impacted by the potential project. Also provide support to client in presentations and meetings with community leaders and members.
- Osisko**  
Ontario, Canada  
Provide senior review and support for Aboriginal engagement activities and documentation as required.
- Cliffs Natural Resources**  
Ontario, Canada  
Assist client in initial engagement with several First Nation and Metis communities by providing reports on Aboriginal Rights and Interests for the Project Location as well as an Engagement Plan. Has also provided information to client on Traditional Knowledge Studies.

## PROJECT EXPERIENCE – TRANSPORTATION

- Stage 1-4 Archaeological Assessments Haldimand County**  
Ontario, Canada  
Archaeological component lead for the Wind Energy project totaling \$6 million in archaeological work. Duties involved providing technical review for Stage 3 and 4 reports; client communications; liaison with MTCS; and leading a team of archaeologists to complete the project and provide construction monitoring. (2012-2014)
- Stage 1 Archaeological Assessment Niagara Region**  
Ontario, Canada  
Project Director and Senior Reviewer for a Stage 1 archaeological assessment for a corridor approximately two kilometres in length along Regional Road 102 (Staley Avenue), City of Niagara, R.M. of Niagara, Ontario. This Stage 1 assessment was undertaken as part of a Schedule 'C' Municipal Class Environmental Assessment (Class EA). (2013)
- Stage 1 – 4 Archaeological Assessments - Middlesex, Welland, East Durham, Huron, and Bruce County**  
Ontario, Canada  
Project Manager for six major Wind Energy projects managing a combined budget of \$2.3 million. Project Management involved delivery of Stage 1 and 2 program for the various project. Also includes Project Management for Stage 3 and 4 archaeological assessments. Duties include scheduling and budgeting of projects; providing senior review for archaeological reports; client communications; liaison with MTCS. (2012-2013)



- Feasibility Study, City of Toronto**  
Ontario, Canada  
Archaeological/Cultural Heritage lead conduct an archaeological and cultural heritage review of the Yonge Street - Highway 401 Interchange Functional Planning Study (PT11-796) study area as part of a larger planning assessment study designed to inform planning decisions affecting the preferred configuration and alignment of the proposed interchange. (2013)
- Feasibility Study, City of Toronto**  
Ontario, Canada  
Archaeological/Cultural Heritage senior reviewer to conduct an archaeological and cultural heritage review of the Downtown Rapid Transit Study (TTC Contract No. G85-275) study area as part of a larger planning assessment study. (2012)
- Stage 1-2 Archaeological Assessment St. Catharines, ON**  
Ontario, Canada  
Project manager for Stage 1 background research and Stage 2 property assessment for two proposed sanitary sewer easements within the hydro corridor along Glen Morris Drive, in the City of St. Catharines, Ontario. Primary client contact, managed budgets and scheduling, and provided senior technical review for reports. (2011)
- Stages 1 - 3 archaeological assessment Durham Region**  
Ontario, Durham Region, Canada  
Proposed realignment of 4th Concession Road, Managed the Stage 1 - 2 archaeological assessment of property and Stage 3 archaeological assessment of one Euro-Canadian site. Conducted field review (Stage 1) for the project. (2011)
- Heritage and Archaeological Features Assessment - Metrolinx Georgetown South Extension**  
Ontario, GTA, Canada  
Project Coordinator for Stage 2 archaeological assessment and heritage bridge assessments. Managed Stage 2 archaeological assessment and archaeological monitoring plan for construction withing the railway right of way (2010-2011).
- Stage 1 - 4 archaeological assessment for the proposed Catholic Cemetery for the Diocese of Hamilton**  
Ontario, Halton Region, Canada  
Project manager for Stages 1 and 2 for part of Lot 1, Concession 2 new survey Geographical Township of Trafalgar, now town of Milton, Regional Municipality of Halton, Ontario. Project manager for Stage 3 and 4 of Location 11 (AiGw-539), a mid-19th century Euro-Canadian homestead. (2009-2010).
- Stage 1 and 2 archaeological assessment for the proposed Silverbrook Homes Subdivision located on a 4.75 hectare parcel on Elgin Mills Road in the Town of Richmond Hil**  
Ontario, R.M. of York, Canada  
Project Manager for Stage 1 and 2 archaeological assessments. Project management includes communications with Pitura Hussan on behalf of Silverbrook Homes; monitoring of work schedule and budget; and senior review of reports.



**Stage 1 and 2  
Archaeological  
Assessment for  
Proposed Subdivision  
at 771 Huron Road,  
Kitchener  
Ontario, R.M. of  
Waterloo, Canada**

Project Manager for Stage 1 and 2 archaeological assessments. Project management includes communications with Carlos DaSilva of East Forest Homes; monitoring of work schedule and budget; and senior review of reports.

**Stage 1 to 4  
Archaeological  
Assessment -  
Beechridge Farms  
Ontario, R.M. of  
Durham, Canada**

Project Manager for Stage 1 to 3 archaeological assessments. Project management includes communications with Sharon Dionne at Runnymede Homes; monitoring of work schedule and budget; and senior review of reports.

**ORC Stage 1 and 2  
Archaeological  
Assessment of Three  
Properties in the GTA  
Ontario/GTA, Canada**

Project Manager for Stage 1 and 2 archaeological assessments. Project management includes communications with Manager of Cultural Heritage at ORC; monitoring of work schedule and budget; and senior review of reports.

## PROJECT EXPERIENCE – PROJECT EXPERIENCE - MINISTRY OF TRANSPORTATION

**Stage 1 Archaeological  
Assessment of 5783  
Bloominton Road,  
Town of Whitchurch  
Ontario/York Region,  
Canada**

Stage 1 archaeological assessment of 5783 Bloominton Road for SCS Consulting Group on behalf of Camrock Developments. Project included both background research and field review.

**Highway 21 Culvert  
Replacement and  
Bridge Rehabilitation  
Ontario/Huron and Bruce  
County, Canada**

Stage 1 archaeological assessment of Highway 21 from Goderich to Owen Sound. Project included both background research and field review.

**407 East  
Transportation  
Corridor EA Study -  
MTO  
Ontario, Canada**

Aboriginal consultation management and coordination including all correspondence, workshops and information sessions as well as development of protocols for engagement. (2006-2009)

**Niagara to GTA and  
GTA West EA Study -  
MTO  
Ontario, Canada**

Aboriginal consultation research and advising to senior management on scope of consultation and plans of action. (2007-2009)



- Detroit River International Crossing - MTO**  
Ontario, Canada  
Stage 1 and 2 Archaeological Assessment: project management and coordination of fieldwork and research. Reviewed reports and working papers submitted to client; liaised with client. (2006-2007)
- Highway 427 Extension - MTO**  
Ontario, Canada  
Aboriginal consultation research and advising to senior management on scope of consultation and plans of action. (2008-2009)
- Stage 1 and 2 Archaeological Assessment for the Highway 7/12 and Columbus Road Intersection Widening, Town of Whitby, Regional Municipality of, Ontario. WP 2055-03-00 - MTO**  
Ontario, Canada  
Completed, through a phased investigation, a Stage 1 and 2 archaeological assessment of the proposed widening of the Highway 7/12 and Columbus road intersection. The investigation included sub-surface (test pitting) archaeological assessment and background assessment. A late nineteenth century historic site, the Croxall Site, was identified as part of the survey. (in house project 2008-2009)
- Stage 1 Archaeological Assessment of the QEW Ontario Street Carpool Parking Lot, Regional Municipality of Niagara WP 2063-08-00 - MTO**  
Ontario, Canada  
Stage 1 archaeological assessment of Carpool lot in QEW interchange. Project included both background research and field review. (in house project 2008)
- Southeast Collector Sewer Trunk EA - York and Durham Region**  
Ontario, Canada  
Assisted with aboriginal consultation through presentation of archaeological fieldwork and information to First Nation communities and advising client on engagement with respect to archaeological work.
- Lower Don Lands Infrastructure Municipal Class Environmental Assessment - City of Toronto**  
Toronto, Ontario  
Stage 1 Archaeological Assessment: research for assessment including addressing environmental, historical, and archaeological data, maps and GIS data and generated appropriate recommendations for addressing archaeological concerns with respect to the project and guided clients in understanding of the archaeological assessment process and requirements.
- Waterfront West Streetcars Environmental Assessment and Union Station to Exhibition Place Class EA - TTC**  
Toronto Ontario, Canada  
Stage 1 Archaeological Assessment: research for assessment including addressing environmental, historical, and archaeological data, maps and GIS data and generated appropriate recommendations for addressing archaeological concerns with respect to the project and guided clients in understanding of the archaeological assessment process and requirements.



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## PROFESSIONAL AFFILIATIONS

Ontario Association of Professional Archaeologists (Elected as Director 2013 – 2015)  
Ontario Archaeology Society

## PUBLICATIONS

### Chapters

The Palaeolithic occupation of the Sado Basin (Alentejo, Portugal): Preliminary results, in *Settlement Dynamics of the middle Palaeolithic and Middle Stone Age, Volume III* (2010). Edited by Conard, N.J. and A. Delagnes. Authors: Burke, A.; L. Meignen, M. Bisson, N. Ferreira, L. Gilbert, and C. Parslow.

### Books

2009. *Social Interaction in the Prehistoric Natufian: Generating an Interactive-Agent Model Using GIS*. Oxford, British Archaeological Research S1916, Archeopress.

### Refereed Journal Articles

Maher, L., M. Lohr, M. Betts, C. Parslow and E.B. Banning. Epipalaeolithic Sites in Wadi Ziqlab, Northern Jordan. *Paleorient*, 27(1) (2001), 5-19.

### Journal Articles

Routledge, B., B. Porter, D. Steen, C. Parslow, L. de Jong and W. Zimmerle. The 2004 Season at Dhiban (Jordan): Prospection, Preservation, and Planning. *Annual of the Department of Antiquities of Jordan. Annual of the Department of Antiquities of Jordan* (2005), 201-226.

## Kendra Patton

---

### Education

M.A. Landscape  
Archaeology, University of  
York, York, England, United  
Kingdom, 2010

Bachelor of Arts and  
Science (Honours)  
Anthropology, Biology,  
Geology, University of  
Guelph, Guelph, Ontario,  
Canada, 2008

### Certifications

Archaeological Applied  
Research Licence (R453),  
November 27, 2012

Archaeological Professional  
Licence (P453),  
October 3, 2018

First Aid & CPR (C)  
Canadian Red Cross,  
August 30, 2018

### Affiliations

Association of Professional  
Archaeologists (APA)

Canadian Archaeological  
Association (CAA)

### Languages

English – Fluent

## Golder Associates Ltd. – Whitby

### **Project Archaeologist**

Kendra Patton is a Project Archaeologist/Laboratory Supervisor with the Whitby Office of Golder Associates Ltd. where her responsibilities include field supervision, artifact analysis, archival research, and report production for both Euro-Canadian historical and pre-contact Indigenous projects. She has participated in all stages of archaeological assessment in Ontario, Cyprus, and the United Kingdom both as field crew and supervisor. Kendra received a Master of Arts from the University of York (UK), specializing in Landscape Archaeology in 2010 and has been active in Cultural Resource Management in Ontario for nine years. Kendra currently holds a valid professional license with the Ontario Ministry of Tourism, Culture, and Sport (P453).

## Employment History

### **Golder Associates – Whitby**

*Project Archaeologist (2013 to Present)*

Archaeologist responsible for project management of Stage 1-4 archaeological assessments and excavations, as well as analyzing cultural material, archival research, and generating archaeological reports (Stage 1-4). Laboratory supervisor responsible for coordinating the analysis of incoming artifact collections as well as the later storage and inventory of the artifact collections.

### **Golder Associates – Whitby**

*Archaeological Field Technician (2011 to 2013)*

Participated in Stage 2, 3, and 4 archaeological assessments on a range of projects including pre-contact Indigenous and historical Euro-Canadian sites.

## PROJECT EXPERIENCE – ARCHAEOLOGY

**Stage 1-2, Mattamy  
Cook Property**  
Halton Hills, Ontario  
(2017)

Artifact analysis, archival research, and reporting lead for eight find locations, including two multi-component sites and one historical Euro-Canadian site that are recommended for further Stage 3 assessment.

**Stage 4, Beeton-Flato**  
Beeton, Ontario (2016-  
2017)

Field Director for Stage 4 archaeological assessment of historical Euro-Canadian site. Responsibilities also included artifact analysis, archival research, and report production.

## Resumé – KENDRA PATTON

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<b>Stage 1-3, 18 West Avenue</b> Hamilton, Ontario (2016)	Assistant field director, artifact analysis, and archival research for the Stage 1 through 3 archaeological assessments of an extant 1870s rectory associated with the former Church of St. Thomas. Responsibilities included artifact analysis and report production.
<b>Stage 1-3, Niagara Parks Commission, Miller's Creek Marina</b> Fort Erie, Ontario (2015- 2016)	Artifact analysis, archival research, and reporting lead for the Stage 1 through 3 archaeological assessments of three historical Euro-Canadian archaeological sites with a pre-contact Indigenous component. Responsibilities included artifact analysis and report production.
<b>Stage 2-3, St. Lawrence Market</b> Toronto, Ontario (2015)	Artifact analysis for the Stage 2-3 archaeological assessment of the early St. Lawrence Market site. Responsibilities included artifact analysis and report production.
<b>Stage 3-4, Jackson's Landing Development</b> Georgina, Ontario (2015)	Field director and artifact analysis and reporting lead for the Stage 3 and 4 archaeological assessments of a Woodland Period pre-contact Indigenous site in Georgina, Ontario. Responsibilities included artifact analysis and report production.
<b>Stage 3-4, Armow Wind Energy Project</b> Kincardine, Ontario (2014-2015)	Artifact analysis and reporting lead for the Stage 3 and 4 archaeological assessments of two historical Euro-Canadian archaeological sites in support of the Armow Wind Energy Project. Responsibilities included artifact analysis and report production.
<b>Stage 4, 407 East Expansion Project</b> Durham Region, Ontario (2014-2015)	Artifact analysis and reporting lead for the Stage 4 archaeological assessment of five historical Euro-Canadian archaeological sites in support of the 407 East Expansion Project, Phase 1 and 2. Responsibilities included artifact analysis and report production.
<b>Stage 3, 407 East Expansion Project</b> Durham Region, Ontario (2013-2014)	Artifact analysis lead for the Stage 3 archaeological assessment of one pre-contact Indigenous and five historical Euro-Canadian archaeological sites in support of the 407 East Expansion Project, Phase 1. Responsibilities included artifact analysis, archival research, and report production.
<b>Stage 4, Daniel Young Site</b> Hamilton, Ontario (2013)	Lab technician; responsibilities also included artifact analysis and report production.
<b>Stage 4, CTC Distribution Centre</b> Bolton, Ontario (2013)	Archaeological field director for Stage 4 mitigation of a 19th century Euro-Canadian historic site. Responsibilities also included daily direction of field crews, coordinating artifact analysis and contributing to report production.
<b>Stage 4, Mattamy Patterson</b> Milton, Ontario (2013)	Lab technician; responsibilities also included artifact analysis and report production.
<b>Stage 1-2, Fletcher Mills B Development</b> Beeton, Ontario (2013)	Archaeological field crew and supervisor for Stage 2 pedestrian and test pit survey of a 200 acre property in Beeton, Ontario. Assessment conducted prior to development application. Responsibilities also included artifact analysis and report production.



## Resumé – KENDRA PATTON

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**Stage 2 Otonabee  
River Trail, Little Lake**  
Peterborough, Ontario  
(2013)

Archaeological supervisor for Stage 2 test pit survey around Little Lake, Peterborough. Responsibilities also included artifact analysis and report production for this project.

**Stage 2-4, RioCan  
Windfields Farm**  
Oshawa, Ontario (2011-  
2013)

Archaeological field crew for Stage 2-4 of multiple 19th century Euro-Canadian historic sites. The investigation took place on the grounds of the Windfields horse farm. Assessment undertaken in advance of commercial development. Responsibilities also included coordinating artifact analysis and contributing to report production for this project.

**Stage 3-4 Samsung  
Sol-Luce Kingston  
Solar PV Energy  
Project**  
Kingston, Ontario (2012)

Archaeological field crew and co-supervisor for Stage 3 and 4 excavations of several 19th century historic sites for solar energy project outside of Kingston, Ontario. Responsibilities also included coordinating artifact analysis and contributing to report production for this project.

**Stage 2, NEEC Jericho  
Wind Energy Project**  
Durham, Ontario (2012)

Lab technician; responsibilities also included artifact analysis and report production.

**Stage 2-4 Samsung  
GREP**  
Haldimand, Ontario  
(2011-2012)

Archaeological field crew for Stage 2-4 of multiple pre-contact Indigenous and 19th century historic sites in the Grand River area. Assessment undertaken in advance of large scale renewable energy project.

**Prastio-Mesorotsos**  
Kouklia, Cyprus (2008-  
2010)

Worked as archaeological field crew for three seasons on an archaeological site that spanned a time frame from the Neolithic period through to the abandonment of the village in 1974. The site was particularly focused on the change in occupation from the Chalcolithic period to the Bronze Age.

**Castell Henllys  
Archaeology Field  
School**  
Pembroke, Wales & Co.  
Monaghan, Ireland  
(2007)

Participated in the survey of graveyards in several locations in Ireland and the excavation of a promontory Iron Age hill fort in Wales. Also assisted with the geophysical survey of various prehistoric sites in Wales using magnetometry and resistivity.



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