Stage 3 Archaeological Assessment
AgGt-260

Part of Lot 67 Uppers Lane, including Part of Road Allowance Between Lots 67 and 68,
City of Thorold,
Regional Municipality of Niagara, Ontario

Submitted to:
FARZ Holdings Inc. c/o
LARKIN+ Land Use Planners Inc.

and

Ontario's Ministry of Tourism, Culture and Sport

Submitted by:

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archaeology · heritage

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ORIGINAL REPORT

October 25, 2018

Executive Summary

Detritus Consulting Ltd. ('Detritus') was retained by FARZ Holdings Inc. c/o LARKIN+ Land Use Planners Inc. ('the Proponent') to conduct Stage 3 archaeological assessment for archaeological site AgGt-260, located on part of Lot 67 Uppers Lane, including part of the Road Allowance Between Lots 67 and 68, City of Thorold, Regional Municipality of Niagara, Ontario ('Study Area'; Figure 1).

The current investigation was triggered by the Provincial Policy Statement ('PPS') that is informed by the *Ontario Planning Act* (Government of Ontario 1990a), which states that decisions affecting planning matters must be consistent with the policies outlined in the larger *Ontario Heritage Act* (Government of Ontario 1990b). According to Section 2.6.2 of the PPS, "development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved." To meet this condition, a Stage 3 assessment was conducted for AgGt-260 during the pre-approval phase of the development under archaeological consulting license P017, issued to Mr. Garth Grimes by the Ministry of Tourism, Culture and Sport ('MTCS') and adheres to the archaeological license report requirements under subsection 65 (1) of the *Ontario Heritage Act* (Government of Ontario 1990b) and the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* ('*Standards and Guidelines*'; Government of Ontario 2011a).

AgGt-260 was identified during the Stage 2 pedestrian survey of the Study Area comprising entirely of agricultural field. This assessment was conducted by A.M. Archaeological Associates in April and June of 2018 (A.M. Archaeological Associates 2018; PIF# P035-0277-2018; Figure 2). AgGt-260 was identified in the northwestern portion of the Study Area and comprised 23 pre-contact Aboriginal artifacts scattered across an area of 32m by 58m. The Stage 2 artifact assemblage comprised 21 pieces of chipping detritus as well as a single biface and a single projectile point. The projectile point was determined to be a Hi-Lo type point dating to the Late Paleo-Indian period (*circa* 8500-8000 B.C.; Ellis and Deller 1990). Given the quantity of artifacts recovered and the special interest of the Hi-Lo point, AgGt-260 was recommended for a Stage 3 archaeological assessment as per Section 2.2, Standards 1a (1) and 1b.iii. of the *Standards and Guidelines* (Government of Ontario 2011a).

The Stage 3 assessment of AgGt-260 was conducted between August 23 and September 11, 2018. In accordance with Section 3.4, Standard 1c of the *Standards and Guidelines* (Government of Ontario 2011a) and Section 1.1, Standard 1 of the *Engaging Aboriginal Communities in Archaeology* draft technical bulletin (Government of Ontario 2011b), Aboriginal engagement was undertaken during the Stage 3 archaeological assessment. Additional information on the Aboriginal engagement practices conducted during the Stage 3 assessment is provided in the Supplementary Documentation to this report.

The Stage 3 assessment of AgGt-260 resulted in the documentation of 41 pieces of pre-contact Aboriginal chipping detritus from the CSP and the hand excavation of 38 test units. The morphological analysis of the chipping detritus suggests that late stage lithic reduction activities occurred at the site for the production and maintenance of formal tools. This conclusion is supported by the biface and Hi-Lo projectile point recovered during the Stage 2 assessment.

No formal tools, Aboriginal ceramics, or fire cracked rock were recovered during the Stage 3 assessment, nor were any subsurface features observed. Based on all the available evidence, AgGt-260 has been interpreted as a small activity area occupied seasonally by pre-contact Aboriginal people during the Late Paleo-Indian period and characterized by late stage lithic reduction activities for the production and maintenance of formal tools. Given that AgGt-260 is a Late Paleo-Indian site, it demonstrates the earliest occupation of the province, therefore, the site was determined to retain CHVI, and fulfills the criteria for a Stage 4 archaeological investigation as per Section 3.4, Standard 1c of the *Standards and Guidelines* (Government of Ontario 2011a). A **Stage 4 archaeological mitigation of impacts to AgGt-260 is recommended.**

The MTCS prefers that sites recommended for Stage 4 mitigation of impacts be avoided and protected rather than excavated, as per Section 7.9.4, Standard 2 of the *Standards and Guidelines* (Government of Ontario 2011a). Options to reduce or eliminate impacts to archaeological sites

include redesigning the Project Location, excluding the archaeological site area from the Project Location, or incorporating the area of the archaeological site into the Project Location but without alteration, as outlined in Section 3.5 of the *Standards and Guidelines* (Government of Ontario 2011a). If these options are not feasible, Stage 4 archaeological mitigation by hand excavation is an alternative.

In consultation with the client, the Stage 4 mitigation of AgGt-260 by avoidance and protection is not a viable option. As such, it is recommended that the Stage 4 archaeological mitigation by excavation of AgGt-260 consist of a hand excavated block of 1m units surrounding the highest yielding Stage 3 test units at the site. The extent of the excavation blocks will be determined in accordance with Table 4.1 of the *Standards and Guidelines* (Government of Ontario 2011a). Soil from all units will be screened through 6mm hardware cloth to facilitate the recovery of any artifacts that may be present. Given that AgGt-260 is a single component Late Paleo-Indian site and that the soil of the site is heavy clay, 10% of the total number of units will be screened through 3mm mesh as per Section 4.2.2, Standard 5 of the *Standards and Guidelines* (Government of Ontario 2011a). All artifacts will be bagged and tagged by provenience. The exposed subsoil surface will be cleaned by shovel or trowel and will be examined for cultural features. If any subsurface cultural features are encountered they will be recorded and excavated by hand in accordance with Section 4.2.2 of the *Standards and Guidelines* (Government of Ontario 2011a). Block excavation will continue to 2m beyond any cultural feature identified in accordance with Section 4.2.2, Standard 7c of the *Standards and Guidelines* (Government of Ontario 2011a).

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

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Project Personnel

Project Manager:	Garth Grimes, P017
Field Director:	Mike Pitul, R462
Field Technicians:	Gary Cole, A1159; Jonathan Lovely; Uwe Maihofer; and Sarah Markulin
First Nations Monitors:	Kelly Sault of Mississaugas of the New Credit First Nation 'MNCFN')
Artifact Analysis:	Mike Pitul, R462
Report Preparation:	Amanda Laprise, R470
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Acknowledgments

Generous contributions by the following individuals and agencies made this report possible.

- Mr. Aleks Todorovski, LARKIN+ Larkin Land Use Planners Inc.

1.0 Project Context

1.1 Development Context

Detritus Consulting Ltd. ('Detritus') was retained by LARKIN+ Larkin Land Use Planners Inc. on behalf of FARZ Holdings Inc. ('the Proponent') to conduct Stage 3 archaeological assessment for archaeological site AgGt-260, located on part of Lot 67 Uppers Lane, including part of the Road Allowance Between Lots 67 and 68, City of Thorold, Regional Municipality of Niagara, Ontario ('Study Area'; Figure 1).

The current investigation was triggered by the Provincial Policy Statement ('PPS') that is informed by the *Ontario Planning Act* (Government of Ontario 1990a), which states that decisions affecting planning matters must be consistent with the policies outlined in the larger *Ontario Heritage Act* (Government of Ontario 1990b). According to Section 2.6.2 of the PPS, "development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved." To meet this condition, a Stage 3 assessment was conducted for AgGt-260 during the pre-approval phase of the development under archaeological consulting license P017, issued to Mr. Garth Grimes by the Ministry of Tourism, Culture and Sport ('MTCS') and adheres to the archaeological license report requirements under subsection 65 (1) of the *Ontario Heritage Act* (Government of Ontario 1990b) and the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* ('*Standards and Guidelines*'; Government of Ontario 2011a).

The purpose of a Stage 3 archaeological assessment is to assess the cultural heritage value or interest ('CHVI') of a site through a controlled collection of material. This information is used to support the determination of whether the site has been sufficiently documented or if further measures are required to protect or document it fully. In compliance with the *Standards and Guidelines* (Government of Ontario 2011a), the objectives of the current Stage 3 assessment are:

- To collect a representative sample of artifacts;
- to determine the extent of each archaeological site and the characteristics of the artifacts;
- to assess the CHVI of each archaeological site; and
- to determine the need for mitigation of development impacts and recommend appropriate strategies for mitigation and future conservation.

Stage 3 assessments typically consist of detailed documentary research of the land use and occupation history, a controlled surface pick-up ('CSP') of surface artifacts for sites located in ploughed fields, and test unit excavation.

The licensee received permission from the Proponent to enter the land and conduct all required archaeological fieldwork activities, including the recovery of artifacts.

1.2 Historical Context

1.2.1 Post-Contact Aboriginal Resources

Prior to the arrival of European settlers, the Niagara region was occupied by the Neutral or Attawandaron tribe. The earliest recorded visit to the Niagara region was undertaken by Etienne Brûlé, an interpreter and guide for Samuel de Champlain. In June 1610, Brûlé requested permission to live among the Algonquin people and to learn their language and customs. In return, Champlain agreed to take on a young Huron named Savignon and teach him the language and customs of the French. The purpose of this endeavour was to establish good relations with Aboriginal communities in advance of future military and colonial enterprises in the area. In 1615, Brûlé joined twelve Huron warriors on a mission to cross enemy territory and seek out the Andaste people, allies of the Huron, to ask their assistance in an expedition being planned by Champlain. The mission was a success, but took much longer than anticipated. Brûlé returned with the Andaste, but arrived two days too late to help Champlain and the Hurons, who had already been defeated by the Iroquois (Heidenreich 1990).

Throughout the middle of the 17th century, the Iroquois sought to expand upon their territory and to monopolise the local fur trade as well as trade between the European markets and the tribes of the western Great Lakes region. A series of bloody conflicts followed known as the Beaver Wars, or the French and Iroquois Wars, contested between the Iroquois confederacy and the Algonkian speaking communities of the Great Lakes region. Many communities were destroyed including the Huron, Neutral, Susquehannock, and Shawnee leaving the Iroquois as the dominant group in the region. By 1653 after repeated attacks, the Niagara peninsula and most of Southern Ontario had been vacated (Heidenreich 1990).

The late 17th and early 18th centuries represent a turning point in the evolution of the post-contact Aboriginal occupation of Southern Ontario. It was at this time that various Iroquoian-speaking communities began migrating from New York State, followed by the arrival of new Algonkian-speaking groups from northern Ontario (Konrad 1981; Schmalz 1991). More specifically, this period marks the arrival of the Mississaugas into Southern Ontario and, in particular, the watersheds of the lower Great Lakes. The oral traditions of the Mississaugas, as recounted by Chief Robert Paudash and recorded in 1904, suggest that the Mississaugas defeated the Mohawk Nation, who retreated to their homeland south of Lake Ontario. Following this conflict, a peace treaty was negotiated between the two groups and, at the end of the 17th century, the Mississaugas' settled permanently in Southern Ontario, including the Niagara Peninsula (Praxis Research Associates n.d.). Around this same time, members of the Three Fires Confederacy (Chippewa, Ottawa, and Potawatomi) began immigrating from Ohio and Michigan into southwestern Ontario (Feest and Feest 1978:778-779).

The current Study Area falls within the lands surrendered by Treaty Number 3. According to Morris, Treaty Number 3

> *…was made with the Mississa[ug]a Indians 7th December, 1792, though purchased as early as 1784. This purchase in 1784 was to procure for that part of the Six Nation Indians coming into Canada a permanent abode. The area included in this Treaty is, Lincoln County excepting Niagara Township; Saltfleet, Binbrook, Barton, Glanford and Ancaster Townships, in Wentworth County; Brantford, Onondaga, Tusc[a]r[o]ra, Oakland and Burford Townships in Brant County; East and West Oxford, North and South Norwich, and Dereham Townships in Oxford County; North Dorchester Township in Middlesex County; South Dorchester, Malahide and Bayham Township in Elgin County; all Norfolk and Haldimand Counties; Pelham, Wainfleet, Thorold, Cumberland and Humberstone Townships in Welland County …*
>
> Morris 1943:17-18

The size and nature of the pre-contact settlements and the subsequent spread and distribution of Aboriginal material culture in Southern Ontario began to shift with the establishment of European settlers. Lands in the Lower Grand River area were surrendered by the Six Nations to the British Government in 1832, at which point most Six Nations people moved into Tuscarora Township in Brant County and a narrow portion of Oneida Township (Page & Co. 1879:8; Tanner 1987:127; Weaver 1978:526). Despite the inevitable encroachment of European settlers on previously established Aboriginal territories, "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 Ferris observes, despite the arrival of a competing culture, First Nations communities throughout Southern Ontario have left behind archaeologically significant resources that demonstrate continuity with their pre-contact predecessors, even if they have not been recorded extensively in historical Euro-Canadian documentation.

1.2.2 Euro-Canadian Resources

On July 24, 1788, Sir Guy Carleton, the Governor-General of British North America, divided the Province of Québec into the administrative districts of Hesse, Nassau, Mecklenburg, and Lunenburg (Archives of Ontario 2009). Further change came in December 1791 when the former

Province of Québec was rearranged into Upper Canada and Lower Canada under the provisions of the Constitutional Act. Colonel John Graves Simcoe was appointed as Lieutenant-Governor of Upper Canada and he spearheaded several initiatives to populate the province including the establishment of shoreline communities with effective transportation links between them (Coyne 1895:33).

In July 1792, Simcoe divided Upper Canada into 19 counties stretching from Essex in the west to Glengarry in the east. Each new county was named after a county in England or Scotland; the constituent townships were then given the names of the corresponding townships from each original British county (Powell and Coffman 1956:17-18).

Later that year, the four districts originally established in 1788 were renamed the Western, Home, Midland, and Eastern Districts. As population levels in Upper Canada increased, smaller and more manageable administrative bodies were needed resulting in the establishment of many new counties and townships. As part of this realignment, the boundaries of the Home and Western Districts were shifted and the London and Niagara Districts were established. Under this new territorial arrangement, the Study Area became part of the Niagara District (Archives of Ontario 2009).

In 1845, after years of increasing settlement that began after the War of 1812, the southern portion of Lincoln County was severed to form Welland County (the two counties would be amalgamated once again in 1970 to form the Regional Municipality of Niagara).

The *Illustrated Historical Atlas of the Counties of Lincoln and Welland* (*'Historical Atlas'*), demonstrates the extent to which Thorold Township had been settled by 1876 (Page & Co 1876; Figure 2). Landowners are listed for every lot within the township, many of which had been subdivided multiple times into smaller parcels to accommodate an increasing population throughout the late 19th century. Structures and orchards are prevalent throughout the township, almost all of which front early roads and water bodies.

According to the *Historical Atlas* map of Thorold Township (Figure 2) the northern three quarters of Lot 67 was owned by J.J. Upper and the southern quarter was owned by Alex Fraser. No structures or orchards are visible on either parcel. Also illustrated is the early community of Allanburgh and the Welland Railway located to the southwest of the Study Area.

Although significant and detailed landowner information is available on the current *Historical Atlas*, it should be recognized that historical county atlases were funded by subscriptions fees and were produced primarily to identify factories, offices, residences and landholdings of subscribers. Landowners who did not subscribe were not always listed on the maps (Caston 1997:100). Moreover, associated structures were not necessarily depicted or placed accurately (Gentilcore and Head 1984).

1.2.4 Recent Reports

AgGt-260 was first documented during the Stage 1-2 assessment of the Study Area, conducted by A.M. Archaeological Associates in April and June of 2018 (A.M. Archaeological Associates 2018; PIF# P035-0277-2018; Figure 2) and documented in the following assessment report;

> *Stage 1-2 Archaeological Assessment of Part Lot 67 Uppers Lane, including Part of Road Allowance Between Lots 67 and 68, City of Thorold, R.M. Niagara, Ontario* (A.M. Archaeological Associates 2018).

The results of this investigation will be discussed in greater detail below in Section 1.3.4.

1.3 Archaeological Context

1.3.1 Property Description and Physical Setting

AgGt-260 was identified in an agricultural field in the northwest portion of the Study Area. The majority of the region surrounding the Study Area has been subject to European-style agricultural

practices for over 100 years, having been settled by Euro-Canadian farmers by the mid-19th century. Much of the region today continues to be used for agricultural purposes.

The Study Area is situated within the Haldimand Clay Plain. According to Chapman and Putnam…

> *…although it was all submerged in Lake Warren, the till is not all buried by stratified clay; it comes to the surface generally in low morainic ridges in the north. In fact, there is in that area a confused intermixture of stratified clay and till. The northern part has more relief than the southern part where the typically level lake plains occur.*
>
> Chapman and Putnam 1984:156

Haldimand clay is slowly permeable, imperfectly drained with medium to high water-holding capacities. Surface runoff is usually rapid, but water retention of the clayey soils can cause it to be droughty during dry periods (Kingston and Presant 1989). The soil is suitable for corn and soy beans in rotation with cereal grains as well as alfalfa and clover (Huffman and Dumanski 1986).

The closest potable water source is Beaver Dams Creek, which is located approximately 934 metres (m) to the north of the Study Area.

1.3.2 Pre-Contact Aboriginal Land Use

This portion of southern Ontario has been demonstrated to have been occupied by people as far back as 11,000 years ago as the glaciers retreated. For the majority of this time, people were practicing hunter gatherer lifestyles with a gradual move towards more extensive farming practices. Table 1 provides a general outline of the cultural chronology of Thorold Township, based on Ellis and Ferris (1990).

Table 1: Cultural Chronology for Thorold Township

Time Period	Cultural Period	Comments
9500 – 7000 BC	Paleo Indian	First human occupation Hunters of caribou and other extinct Pleistocene game Nomadic, small band society
7500 - 1000 BC	Archaic	Ceremonial burials Increasing trade network Hunter gatherers
1000 - 400 BC	Early Woodland	Large and small camps Spring congregation/fall dispersal Introduction of pottery
400 BC – AD 800	Middle Woodland	Kinship based political system Incipient horticulture Long distance trade network
AD 800 - 1300	Early Iroquoian (Late Woodland)	Limited agriculture Developing hamlets and villages
AD 1300 - 1400	Middle Iroquoian (Late Woodland)	Shift to agriculture complete Increasing political complexity Large palisaded villages
AD 1400 - 1650	Late Iroquoian	Regional warfare and Political/tribal alliances Destruction of Huron and Neutral

1.3.3 Previous Identified Archaeological Work

In order to compile an inventory of archaeological resources, the registered archaeological site records kept by the MTCS were consulted. In Ontario, information concerning archaeological sites stored in the ASDB (Government of Ontario n.d.) is maintained by the MTCS. 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 13km east to west and approximately 18.5km 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 study area under review is within Borden Block AgGt.

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

An examination of the ASDB has shown that there 26 archaeological sites registered within a 1km radius of the Study Area (Table 2). Twenty-two of the sites are pre-contact Aboriginal, five of which date between the Late Paleo-Indian and Late Woodland periods. Additionally, four sites are post-contact Euro-Canadian and one site is multi-component.

Table 2: Registered Archaeological Sites within 1km

Borden Number	Site Name	Time Period	Affinity	Site Type
AgGt-72	Blackhorse Valve	Pre-Contact	Aboriginal	findspot
AgGt-130	T Brown	Post-Contact	Euro-Canadian	homestead
AgGt-131	Robert Spencer	Post-Contact	Euro-Canadian	homestead
AgGt-132	B. Williams	Post-Contact	Euro-Canadian	homestead
AgGt-133	K Smith	Post-Contact	Euro-Canadian	homestead
AgGt-134	-	Other	Aboriginal	findspot
AgGt-135	-	Other	Aboriginal	findspot
AgGt-136	-	Other	Aboriginal	findspot
AgGt-137	-	Other	Aboriginal	findspot
AgGt-138	-	Other	Aboriginal	findspot
AgGt-139	Glen Gordon 1	Post-Contact, Woodland, Late	Aboriginal	Unknown, habitation
AgGt-140	Glen Gordon 2	Other	Aboriginal	scatter
AgGt-141	Glen Gordon 3	Other	Aboriginal	scatter
AgGt-142	Glen Gordon 4	Other	Aboriginal	scatter
AgGt-175	Walker II	Pre-Contact	Aboriginal	
AgGt-176	Walker X	Archaic, Middle	Aboriginal	
AgGt-177	Walker VI	Pre-Contact	Aboriginal	
AgGt-178	Walker IX	Pre-Contact	Aboriginal	
AgGt-179	Walker I	Archaic, Late	Aboriginal	
AgGt-180	Walker III	Pre-Contact	Aboriginal	
AgGt-181	Walker IV	Pre-Contact	Aboriginal	
AgGt-182	Walker V	Pre-Contact	Aboriginal	
AgGt-183	Walker VII	Archaic, Early	Aboriginal	
AgGt-184	Walker VIII	Pre-Contact	Aboriginal	
AgGt-260		Paleo-Indian, Late	Aboriginal	camp / campsite
AgGt-261	Joy	Woodland, Late	Aboriginal	findspot

A Stage 1-3 archaeological assessments was conducted adjacent to the west and southwest of the Study Area by AMICK Consultants Limited ('AMICK'; AMICK 2006a). This assessment resulted in the recovery of thirteen sites, AgGt-130 to AgGt-142. A Stage 4 assessment was conducted by AMICK (AMICK 2006b) for the Webber Estates Site (AgGt-133). These reports were unavailable for review.

Additionally, AgGt-203 is the only other site registered in the AgGt Borden block that has been dated to the Paleo-Indian period. AgGt-203 is an isolated projectile point, discovered during the Stage 1-2 conducted by Detritus in 2014 (Detritus 2014) and is located approximately 9km to the southwest of the current Study Area.

To the best of Detritus' knowledge, no other assessments have been conducted on adjacent properties, nor have other sites been registered within 50m of the Study Area.

1.3.4 Summary of Previous Investigations

AgGt-260 was identified during the Stage 2 pedestrian survey of the Study Area comprising entirely of agricultural field. This assessment was conducted by A.M. Archaeological Associates in April and June of 2018 (A.M. Archaeological Associates 2018; PIF# P035-0277-2018; Figure 2). AgGt-260 was identified in the northwestern portion of the Study Area and comprised 23 pre-contact Aboriginal artifacts scattered across an area of 32m by 58m. The Stage 2 artifact assemblage comprised 21 pieces of chipping detritus as well as a single biface and a single projectile point. The projectile point was determined to be a Hi-Lo type point dating to the Late Paleo-Indian period (*circa* 8500-8000 B.C.; Ellis and Deller 1990). Given the quantity of artifacts recovered and the special interest of the Hi-Lo point, AgGt-260 was recommended for a Stage 3 archaeological assessment as per Section 2.2, Standards 1a (1) and 1b.iii. of the *Standards and Guidelines* (Government of Ontario 2011a).

1.3.5 Archaeological Potential

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Detritus applied archaeological potential criteria commonly used by the MTCS (Government of Ontario 2011) to determine areas of archaeological potential within Study Area. These variables include proximity to previously identified archaeological sites, distance to various types of water sources, soil texture and drainage, glacial geomorphology, elevated topography, and the general topographic variability of the area.

Distance to modern or ancient water sources is generally accepted as the most important determinant of past human settlement patterns and, considered alone, may result in a determination of archaeological potential. However, any combination of two or more other criteria, such as well-drained soils or topographic variability, may also indicate archaeological potential. When evaluating distance to water it is important to distinguish between water and shoreline, as well as natural and artificial water sources, as these features affect sites locations and types to varying degrees. The MTCS (Government of Ontario 2011) categorizes water sources in the following manner:

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

The closest potable water source is Beaver Dams Creek, which is located approximately 934m to the north of the Study Area.

Soil texture is also an important determinant of past settlement, usually in combination with other factors such as topography. The Study Area is situated within the Haldimand Clay physiographic region. As was discussed earlier, the soils within this region are imperfectly drained, but suitable for pre-contact and post contact Aboriginal agricultural. Given this, the distance to potable water, the length of occupation of Thorold Township prior to the arrival of Euro-Canadian settlers and the presence of four pre-contact sites within 1km of the Study Area and the pre-contact Aboriginal archaeological potential of the Study Area is judged to be moderate to high.

For Euro-Canadian sites, archaeological potential can be extended to areas of early Euro-Canadian settlement, including places of military or pioneer settlements; early transportation routes; and properties listed on the municipal register or designated under the *Ontario Heritage Act* (Government of Ontario 1990b) or property that local histories or informants have identified with possible historical events.

The *Historical Atlas* (Page & Co 1876), demonstrates that Thorold Township was densely occupied by Euro-Canadian farmers by the late 19th century. Much of the established road system and agricultural settlement from that time is still visible today. According to the *Historical Atlas*, the northern three quarters of Lot 67 was owned by J.J. Upper and the southern quarter was owned by Alex Fraser. No structures or orchards are visible on either parcel. Considering also the proximity of the Study Area to the community of Allanburgh and the Welland Railway as well as the presence of four post-contact Euro-Canadian sites and one multi-component site within 1km of the Study Area and the Euro-Canadian archaeological potential of the Study Area is judged to be moderate to high.

Finally, despite the factors mentioned above, extensive land disturbance can eradicate archaeological potential within a Study Area (Wilson and Horne 1995). Within the current Study Area, no areas of disturbance were visible. The entire Study Area comprises an agricultural field.

Given that no disturbance areas could be identified, it was determined that the entire Study Area demonstrated the potential for the recovery of pre-contact Aboriginal, post-contact Aboriginal, and Euro-Canadian archaeological resources, and was recommended for additional assessment.

2.0 Field Methods

The Stage 3 assessment of AgGt-260 was conducted between August 23 and September 11, 2018 under archaeological consulting license P017 issued to Mr. Garth Grimes by the MTCS. At no time were field or weather conditions detrimental to the recovery of archaeological material. Lighting and soil conditions were suitable and visibility was excellent. Photos 1 to 6 illustrate conditions during the Stage 3 CSP and test unit excavation. Table 3 provides a summary of the weather and field conditions during the Stage 3 archaeological assessment at AgGt-260.

Table 3: Field and Weather Conditions

Date	Activity	Weather	Field Conditions
August 23, 2018	CSP, test unit excavation	sunny and 27˚C	soil visibility >80%; soil dry and screens easily
August 24, 2018	test unit excavation	sunny and 28˚C	soil dry and screens easily
August 28, 2018	test unit excavation	sunny and 36˚C	soil dry and screens easily
August 29, 2018	test unit excavation	sunny and 35˚C	soil dry and screens easily
September 11, 2018	Test unit excavation	sunny and 30	soil dry and screens easily

The Stage 3 assessment began with a review of all relevant reports of previous fieldwork on the property as per Section 3.2, Standard 1 of the *Standards and Guidelines* (Government of Ontario 2011a). Prior to the investigation, the site was relocated by means of the GPS coordinates and geographic reference markers documented during the Stage 2 archaeological assessment (A.M. Archaeological Associates 2018). Datum stakes were placed in the ground and a CSP was conducted across the limits of the Stage 2 surface scatter to gather information that would assist in documenting the characteristics and extent of the archaeological site. The CSP consisted of accurately mapping the location of all surface artifacts using a Garmin eTrex 10 GPS unit, with a minimum accuracy of 1-2.5m (North American Datum 1983 ('NAD83') and Universal Transverse Mercator ('UTM') Zone 17T) in tandem with an optical theodolite, thereby tying this information to the site. All coordinates taken during the Stage 3 archaeological assessment are listed in the Supplementary Documentation to this report. All observed surface artifacts were collected for laboratory analysis.

The CSP at AgGt-260 yielded 28 pre-contact Aboriginal pieces of chipping detritus scattered across an area of 45m north-south by 25m east-west. Following the CSP, a 5m by 5m grid of 1m square test units was established across the limits of AgGt-260 as identified through the Stage 2 surface collection and the Stage 3 CSP limits, as per Section 3.2.3 of the *Standards and Guidelines* (Government of Ontario 2011a). The grid was established using an optical theodolite.

Given that AgGt-260 is a Paleo-Indian site showing the earliest occupation of the province a Stage 4 mitigation is automatically required as per Section 3.4, Standard 1c. of the *Standards and Guidelines* (Government of Ontario 2011a). The test unit placement strategy outlined in Table 3.1, Standard 3 of the *Standards and Guidelines* (Government of Ontario 2011a) was followed and 23 test units were positioned at 10m intervals across the site. Following this, 15 additional units amounting to 65% of the grid unit total were excavated, focusing on areas of interest within the site extent as per Table 3.1 Standard 2 of the *Standards and Guidelines* (Government of Ontario 2011a). The test units at AgGt-260 ranged in depth from 16cm to 23cm; considering that each test unit had been excavated 5cm into subsoil, the plough zone ranged in depth from 11cm to 18cm.

In total, the Stage 3 assessment of AgGt-260 included the hand excavation of 38 test units strategically positioned to test the nature and density of the subsurface artifact distribution at the site. All test units were excavated in systematic levels. Each 1m test unit contained a single stratigraphic layer (plough zone) and was excavated into the first five centimetres (cm) of subsoil. The soil from 34 of the units was screened through six-millimetre (mm) hardware cloth to facilitate the recovery of small artifacts. Given that AgGt-260 is a single component Late Paleo-Indian site and that the soil of the site is heavy clay, the remaining four units were screen through 3mm mesh as per Section 3.2.2, Standard 7 of the *Standards and Guidelines* (Government of Ontario 2011a). All artifacts recovered during the Stage 3 excavation was recorded and catalogued with reference to their corresponding 1m unit number and retained for laboratory analysis and description. The subsoil surface of each excavated unit was shovel shined, trowelled and

examined for any evidence of subsurface cultural features prior to backfilling, none of which were identified. Photographs of the Stage 3 test unit excavation are provided in Section 9.1 of this report.

3.0 Record of Finds

The Stage 3 archaeological assessment of AgGt-260 was conducted between August 23 and September 11, 2018 under PIF P017-0670-2018, issued to Mr. Garth Grimes by the MTCS. Figure 4 (and Tile 4 of the Supplementary Documentation) illustrates the results of the Stage 3 assessment. An inventory of the documentary record generated by the fieldwork is provided in Table 4. A sample of the artifacts recovered from the Stage 3 assessment are depicted in Section 9.2. Maps indicating the exact site location of AgGt-260 and all UTM coordinates recorded during the assessment are included in the Supplementary Documentation to this report. A description of the location and the recovered artifacts are provided in greater detail below.

Table 4: Inventory of Document Record

Document Type	Current Location of Document Type	Additional Comments
1 Page of Field Notes	Detritus office	stored digitally in project file
1 Map provided by the Client	Detritus office	stored digitally in project file
1 Field Map	Detritus office	stored digitally in project file
26 Digital Photographs	Detritus office	stored digitally in project file

All of the material culture collected during the Stage 3 archaeological assessment is contained in one box and will be temporarily housed in the office of Detritus until formal arrangements can be made for its transfer to Her Majesty the Queen in right of the Province of Ontario or another suitable public institution acceptable to the MTCS and the site's owners.

3.1 Cultural Material

The Stage 3 assessment of AgGt-260 resulted in the documentation of 41 pre-contact Aboriginal pieces of chipping detritus. The entire assemblage is manufactured from Onondaga chert. No subsurface features or fire cracked rock were observed. Chert type identifications were accomplished visually using reference materials located online or in personal collections.

Onondaga formation chert is from the Middle Devonian age, with outcrops occurring along the north shore of Lake Erie between Long Point and the Niagara River (Eley and von Bitter 1989). Primary outcrops have also been reported along the banks of the Grand River (Ellis and Ferris. 1990). It is a high-quality raw material frequently utilized by pre-contact people and often found at archaeological sites in southern Ontario. Onondaga chert occurs in nodules or irregular thin beds. It is a dense non-porous rock that may be light to dark grey, bluish grey, brown or black and can be mottled with a dull to vitreous or waxy lustre (Eley and von Bitter 1989).

Furthermore, all pieces of chipping detritus were subject to morphological analysis following the classification scheme described by Lennox *et al*. (1986:79-81) and expanded upon by Fisher (1997: 41-49). Flake types identified during the morphological analysis of the chipping detritus assemblages include secondary, thinning, and fragmentary flakes. Cortical removal, primary and secondary flakes are produced during the initial reduction phases of raw material blanks and tend to exhibit minimal dorsal flake scarring. These flakes are also characterized by the presence of cortex, or original unflaked area, on their dorsal surfaces and proximal ends. For cortical removal flakes, cortex makes up over half of the dorsal surface. For primary flakes, cortex makes up less than half of the dorsal surface, while secondary flakes may not contain any. Thinning flakes are produced during the latter stages of reduction when raw material blanks are shaped into preforms and formal tools. They are the result of precise flake removal through pressure flaking, where the maker applies direct pressure onto a specific part of the tool in order to facilitate flake removal. Pressure flaking generally produces smaller, thinner flakes than does percussion flaking. Thinning flakes also exhibit more flake scars on their dorsal surface than do primary or secondary flakes. Fragmentary flakes are flakes that may have some identifiable flake characteristic, but cannot be classified with certainty into a specific category.

Chipping Detritus

Due to the size of the Stage 3 assemblage, all pieces of chipping detritus were subject to morphological analysis (Table 5).

Table 5: Chipped Stone Debitage Analysis for AgGt-260

Chert Type	Secondary		Thinning		Fragment		Total	
Onondaga	n	%	n	%	n	%	n	%
	9	21.95	1	2.44	31	75.61	41	100.00

According to the morphological analysis presented above, fragmentary flakes (75.61%) were encountered most often during the Stage 3 assessment at AgGt-260. Nine secondary flakes (21.95%) and a single thinning flake (2.44%) were also represented within the assemblage, albeit in a smaller amount. The lack of primary flakes within the Stage 2 assemblage, suggests that late stage lithic reduction activities were undertaken at the site for the production and maintenance of formal tools. The biface and Hi-Lo projectile point recovered during the Stage 2 assessment support this conclusion.

The exclusive use of Onondaga chert, meanwhile, indicates that the people at AgGt-260 were largely relying on a single source of raw material. Outcrops of Onondaga chert are found along the north shore of Lake Erie between Long Point and the Niagara River, which is approximately 24km to the south of the site.

3.2 Artifact Distribution and Settlement Pattern

The Stage 3 CSP resulted in the documentation of 28 pieces of Onondaga chert chipping detritus scattered across an area of 45m north-south by 25m east-west. The subsequent Stage 3 test unit excavation included the hand excavation of 38 test units covering an area of 61m north-south by 41m east-west. The test unit excavation resulted in the documentation of 41 pre-contact Aboriginal pieces of chipping detritus. Artifact yields ranged from 0 to 4 with the highest counts occurring in the southern portion of the site, centred on test units 280E, 510N and 285E, 520N. An additional unit, 290E, 535N, produced two artifacts and three units produced a single artifact each; the remaining 32 units were sterile. The morphological analysis of the chipping detritus suggests that all late stage lithic reduction activities occurred at AgGt-260.

No subsurface cultural features, Aboriginal ceramics, or fire cracked rock were observed anywhere on the site. Given the lack of features, formal tools or diagnostic artifacts, it is difficult to define the site as more than a small activity area occupied seasonally by pre-contact Aboriginal people during the Paleo-Indian period and characterized by late stage lithic reduction activities for the production and maintenance of formal tools. This conclusion is supported by the biface and Hi-Lo projectile point recovered during the Stage 2 assessment.

3.3 Artifact Catalogue

Table 6 provides a complete catalogue of the Stage 3 artifact assemblage recovered from AgGt-260.

Table 6: AgGt-260 Stage 3 Artifact Catalogue

Cat#	Context	Unit Easting	Unit Northing	Artifact	Frequency	Depth(m)	Morphology	Chert Type
1	CSP 1			chipping detritus	1		fragment	Onondaga
2	CSP 2			chipping detritus	1		fragment	Onondaga
3	CSP 3			chipping detritus	1		fragment	Onondaga
4	CSP 4			chipping detritus	1		fragment	Onondaga
5	CSP 5			chipping detritus	1		secondary	Onondaga
6	CSP 6			chipping detritus	1		secondary	Onondaga
7	CSP 7			chipping detritus	1		secondary	Onondaga
8	CSP 8			chipping detritus	1		fragment	Onondaga
9	CSP 9			chipping detritus	2		fragment	Onondaga
10	CSP 10			chipping detritus	1		fragment	Onondaga
11	CSP 11			chipping detritus	1		fragment	Onondaga
12	CSP 12			chipping detritus	1		fragment	Onondaga
13	CSP 13			chipping detritus	2		fragment	Onondaga
14	CSP 14			chipping detritus	1		fragment	Onondaga
15	CSP 15			chipping detritus	2		fragment	Onondaga
16	CSP 16			chipping detritus	1		secondary	Onondaga
17	CSP 17			chipping detritus	1		fragment	Onondaga
18	CSP 18			chipping detritus	1		secondary	Onondaga
19	CSP 19			chipping detritus	2		fragment	Onondaga
20	CSP 20			chipping detritus	1		fragment	Onondaga
21	CSP 21			chipping detritus	1		secondary	Onondaga
22	CSP 22			chipping detritus	1		secondary	Onondaga
23	CSP 23			chipping detritus	2		fragment	Onondaga
24	Unit Excavation	280	510	chipping detritus	4	0.20	fragment	Onondaga
25	Unit Excavation	270	510	chipping detritus	1	0.18	fragment	Onondaga
26	Unit Excavation	290	535	chipping detritus	1	0.21	secondary	Onondaga
27	Unit Excavation	290	535	chipping detritus	1	0.21	fragment	Onondaga
28	Unit Excavation	290	530	chipping detritus	1	0.22	fragment	Onondaga
29	Unit Excavation	285	520	chipping detritus	1	0.23	secondary	Onondaga
30	Unit Excavation	285	520	chipping detritus	1	0.23	tool thinning	Onondaga
31	Unit Excavation	285	520	chipping detritus	2	0.23	fragment	Onondaga
32	Unit Excavation	290	520	chipping detritus	1	0.21	fragment	Onondaga

4.0 Analysis and Conclusions

Detritus was retained by the Proponent to conduct Stage 3 archaeological assessment for archaeological site AgGt-260, located on part of Lot 67 Uppers Lane, including Part of Road Allowance Between Lots 67 and 68, City of Thorold, Regional Municipality of Niagara, Ontario (Figure 1).

The Stage 3 assessment of AgGt-260 resulted in the documentation of 41 pieces of pre-contact Aboriginal chipping detritus from the CSP and the hand excavation of 38 test units. The morphological analysis of the chipping detritus suggests that late stage lithic reduction activities occurred at the site for the production and maintenance of formal tools. This conclusion is supported by the biface and Hi-Lo projectile point recovered during the Stage 2 assessment.

Onondaga chert was the only source material observed during the Stage 3 assessment, suggesting that the occupants of the site were relying on a single source of raw material. Outcrops of Onondaga chert are found along the north shore of Lake Erie between Long Point and the Niagara River, which is approximately 24km to the south of the site.

No formal tools, Aboriginal ceramics, or fire cracked rock were recovered during the Stage 3 assessment, nor were any subsurface features observed. Based on all the available evidence, AgGt-260 has been interpreted as a small activity area occupied seasonally by pre-contact Aboriginal people during the Late Paleo-Indian period and characterized by late stage lithic reduction activities for the production and maintenance of formal tools. Given that AgGt-260 is a Late Paleo-Indian site, it demonstrates the earliest occupation of the province, therefore, the site was determined to retain CHVI, and fulfills the criteria for a Stage 4 archaeological investigation as per Section 3.4, Standard 1c of the *Standards and Guidelines* (Government of Ontario 2011a).

5.0 Recommendations

Based on all the available evidence, AgGt-260 has been interpreted as a small activity area occupied seasonally by pre-contact Aboriginal people during the Late Paleo-Indian period and characterized by late stage lithic reduction activities for the production and maintenance of formal tools. Given that AgGt-260 is a Late Paleo-Indian site, it demonstrates the earliest occupation of the province, therefore, the site was determined to retain CHVI, and fulfills the criteria for a Stage 4 archaeological investigation as per Section 3.4, Standard 1c of the *Standards and Guidelines* (Government of Ontario 2011a). A **Stage 4 archaeological mitigation of impacts to AgGt-260 is recommended.**

The MTCS prefers that sites recommended for Stage 4 mitigation of impacts be avoided and protected rather than excavated, as per Section 7.9.4, Standard 2 of the *Standards and Guidelines* (Government of Ontario 2011a). Options to reduce or eliminate impacts to archaeological sites include redesigning the Project Location, excluding the archaeological site area from the Project Location, or incorporating the area of the archaeological site into the Project Location but without alteration, as outlined in Section 3.5 of the *Standards and Guidelines* (Government of Ontario 2011a). If these options are not feasible, Stage 4 archaeological mitigation by hand excavation is an alternative.

In consultation with the client, the Stage 4 mitigation of AgGt-260 by avoidance and protection is not a viable option. As such, it is recommended that the Stage 4 archaeological mitigation by excavation of AgGt-260 consist of a hand excavated block of 1m units surrounding the highest yielding Stage 3 test units at the site. The extent of the excavation blocks will be determined in accordance with Table 4.1 of the *Standards and Guidelines* (Government of Ontario 2011a). Soil from all units will be screened through 6mm hardware cloth to facilitate the recovery of any artifacts that may be present. Given that AgGt-260 is a single component Late Paleo-Indian site and that the soil of the site is heavy clay, 10% of the total number of units will be screened through 3mm mesh as per Section 4.2.2, Standard 5 of the *Standards and Guidelines* (Government of Ontario 2011a). All artifacts will be bagged and tagged by provenience. The exposed subsoil surface will be cleaned by shovel or trowel and will be examined for cultural features. If any subsurface cultural features are encountered they will be recorded and excavated by hand in accordance with Section 4.2.2 of the *Standards and Guidelines* (Government of Ontario 2011a). Block excavation will continue to 2m beyond any cultural feature identified in accordance with Section 4.2.2, Standard 7c of the *Standards and Guidelines* (Government of Ontario 2011a).

6.0 Advice on Compliance with Legislation

This report is submitted to the Minister of Tourism and Culture as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. 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 archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest , and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

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 *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

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 license.

7.0 Bibliography and Sources

A.M. Archaeological Associates. 2018. *Stage 1-2 Archaeological Assessment of Part Lot 67 Uppers Lane, including Part of Road Allowance Between Lots 67 and 68, City of Thorold, R.M. Niagara, Ontario*. Report on file with the Ministry of Tourism, Culture and Sport, Toronto.

AMICK Consultants Limited. 2006a. *Report on the 2005-2006 Stage 1-3 AA of the Proposed Draft Plan of Subdivision, Part of Lots 68-70 & 90-92, Town of Thorold, RM of Niagara. P058-077.* Report on file with the Ministry of Tourism, Culture and Sport, Toronto.

AMICK Consultants Limited. 2006b. *Report on the 2005-2006 Stage 4 Archaeological Mitigative Excavations of the Webber Estates Site (AgGt-133) within the Proposed Webber Estates Subdivision (25T-14-05001), Part of Lot 257 (former Twp of Thorold), City of Welland, RM of Niagara. P038-206-2006 & P038-183.* Report on file with the Ministry of Tourism, Culture and Sport, Toronto.

Archives of Ontario. 2009. *The Evolution of the District and County System, 1788-1899.* Electronic document: http://www.archives.gov.on.ca/english/on-line-exhibits/maps/ontario-district-maps.aspx. Last accessed, October 24, 2018.

Caston, Wayne A. 1997. Evolution in the Mapping of Southern Ontario and Wellington County. *Wellington County History* 10:91-106.

Chapman, L.J. and D.F. Putnam. 1984. *The Physiography of Southern Ontario*. Third Edition. Ontario Geological Survey. Special Volume 2. Toronto: Ontario Ministry of Natural Resources.

Coyne, J. H. 1895. *The Country of the Neutrals (As Far as Comprised in the County of Elgin): From Champlain to Talbot*. St. Thomas: Times Print.

Detritus Consulting Ltd. 2014 *Archaeological Assessment (Stages 1, 2) Proposed Saffron Meadows Subdivision Part of Lot 171, Geographic and Historical Township of Thorold, Town of Pelham, Historical County of Welland, Regional Municipality of Niagara Company Project #2014-023, PIF# P230-0014-2014.* Report on file with the Ministry of Tourism, Culture and Sport, Toronto.

Eley, Betty, and Peter H. von Bitter, 1989. *Cherts of Southern Ontario*. Toronto: Royal Ontario Museum.

Ellis, C. J. and D. Brian Deller. 1990. Paleo-Indians. In Ellis, C.J. and N. Ferris (editors) *The Archaeology of Southern Ontario to A.D. 1650,* pp. 37-64. Occasional Publication 5. London Chapter, Ontario Archaeological Society

Ellis, Chris J. and Neal Ferris (editors). 1990. T*he Archaeology of Southern Ontario to A.D. 1650*. Occasional Publication of the London Chapter, Ontario Archaeological Society, Number 5.

Feest, Johanna E. and Christian F. Feest 1978. The Ottawa. In Trigger, B.G. (editor) *Handbook of North American Indians. Vol.15 Northeast*, pp. 772-786. Washington: Smithsonian Institute.

Ferris, Neal. 2009. The Archaeology of Native-Lived Colonialism: Challenging History in the Great Lakes. Tucson: University of Arizona Press.

Fisher, Jacqueline A. 1997. *The Adder Orchard Site: Lithic Technology and Spatial Organization in the Broadpoint Late Archaic*. Occasional Publications of the London Chapter, OAS, Number 3, 1997.

Gentilcore, R. Louis and C. Grant Head. 1984. Ontario's History in Maps. Toronto: University of Toronto Press.

Government of Ontario. 1990a. *Ontario Planning Act*, R.S.O. 1990, CHAPTER P.13. Last amendment: 2016, c. 25, Sched. 4. Electronic documents https://www.ontario.ca/laws/statute/90p13. Last accessed October 24, 2018.

Government of Ontario. 1990b. *Ontario Heritage Act, R.S.O. 1990, CHAPTER O.18*. Last amendment: 2009, c. 33, Sched. 11, s. 6. Electronic document: https://www.ontario.ca/laws/statute/90018. Last accessed October 24, 2018.

Government of Ontario. 1990c. *Freedom of Information and Protection of Privacy Act, R.S.O. 1990, CHAPTER F.31*. Last amendment: 2017, c. 2, Sched. 12, s. 4. Electronic document: https://www.ontario.ca/laws/statute/90f31. Last accessed October 24, 2018.

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

Government of Ontario. 2011b. *Engaging Aboriginal Communities in Archaeology*. Toronto: Ministry of Tourism, Culture and Sport.

Government of Ontario. n.d. *Archaeological Sites Database Files*. Toronto: Culture Services Unit, Ministry of Tourism, Culture and Sport.

Heidenreich, Conrad. 1990.History of the St. Lawrence-Great Lakes Area to 1650. In *The Archaeology of Southern Ontario*. Occasional Publications of the London Chapter OAS, London, Canada.

Huffman, E. and J. Dumanski. 1986. *Agricultural Land Use Systems in the Regional Municipality of Niagara*. Ottawa: Land Resource Research Institute.

Kingston, M.S. and E.W. Presant.1989. *The Soils of the Regional Municipality of Niagara*. Report No. 60 of the Ontario Institute of Pedology. Guelph: Ontario Ministry of Agriculture.

Konrad, Victor. 1981. An Iroquois Frontier: the North Shore of Lake Ontario during the Late Seventeenth Century. *Journal of Historical Geography* 7(2):129-144.

Lennox, P., C. Dodd and C. Murphy. 1986. The Wiacek Site: A Late Middleport Component, Simcoe County. London: Ontario Ministry of Transportation and Communications.

Morris, J.L. 1943. *Indians of Ontario*. 1964 reprint. Toronto: Department of Lands and Forests, Government of Ontario.

Page, H.R. & Co. 1876. *The Illustrated Historical Atlas of the Counties of Lincoln and Welland*. Toronto: H.R. Page & Co.

Page, H.R. & Co. 1879 *Illustrated Historical Atlas of the County of Haldimand, Ontario*. Toronto: H.R. Page & Co.

Powell, Janet R. and Barbara F. Coffman. 1956. *Lincoln County, 1856-1956*. St. Catharines: Lincoln County Council.

Praxis Research Associates. n.d. *The History of the Mississaugas of the New Credit First Nation. Hagersville: Lands, Research and Membership, Mississaugas of the New Credit First Nation*.

Schmalz, Peter S. 1991. *The Ojibwa of Southern Ontario*. Toronto: University of Toronto Press.

Tanner, Helen (ed.). 1987. *Atlas of Great Lakes Indian History*. Norman: University of Oklahoma Press.

Weaver, Sally. 1978. Six Nations of the Grand River, Ontario. In *Handbook of North American Indians. Volume 15: Northeast*, pp. 525-536. Bruce G. Trigger, editor. Washington: Smithsonian Institution Press.

Wilson, J.A. and M. Horne. 1995. *City of London Archaeological Master Plan*. London: City of London, Department of Planning and Development.

8.0 Maps

All maps will follow on the succeeding pages. Additional maps showing archaeological site locations are provided in the Supplementary Documentation.

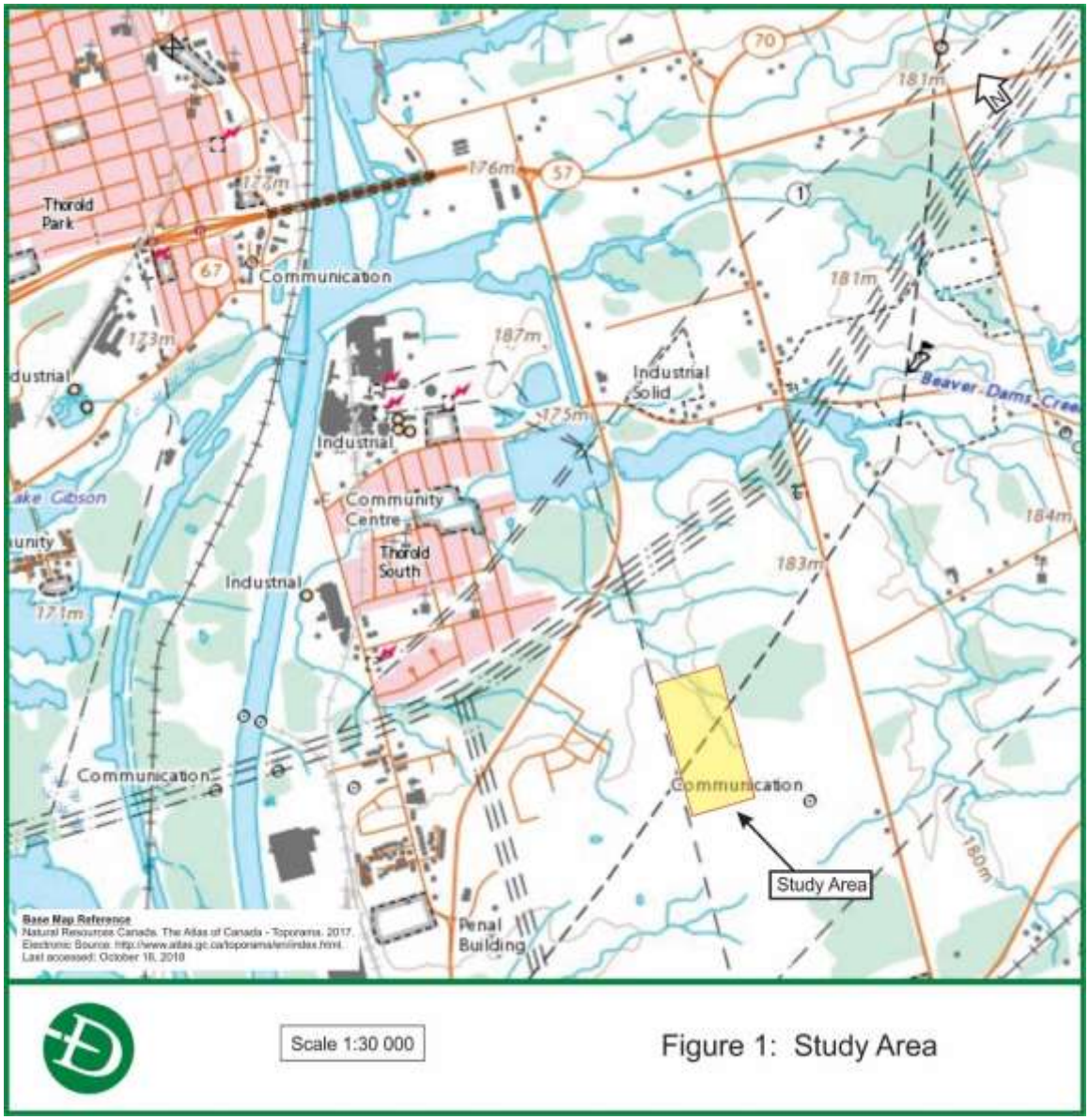

Figure 2: Previous Archaeological Assessment

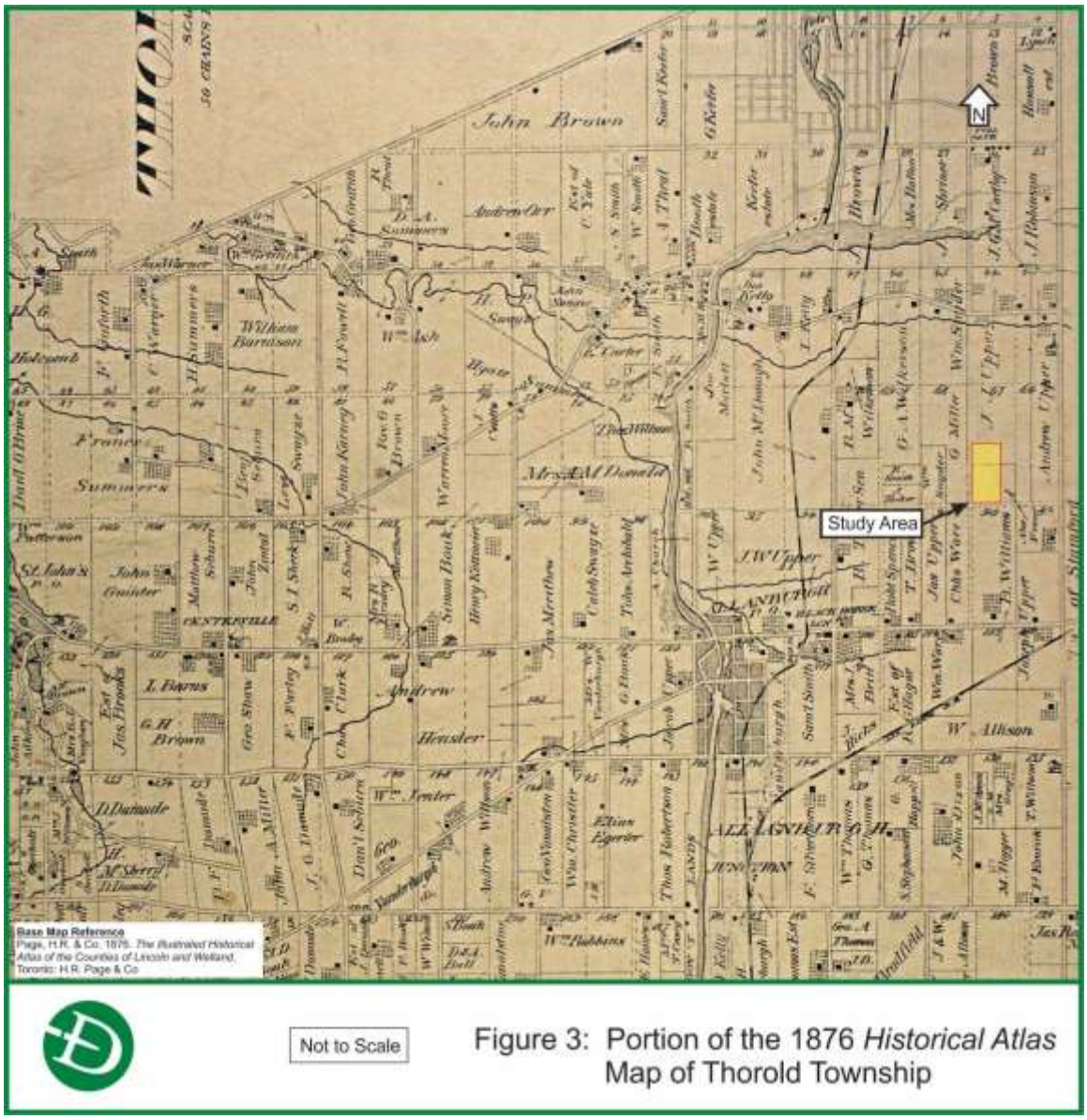

Figure 3: Portion of the 1876 *Historical Atlas* Map of Thorold Township

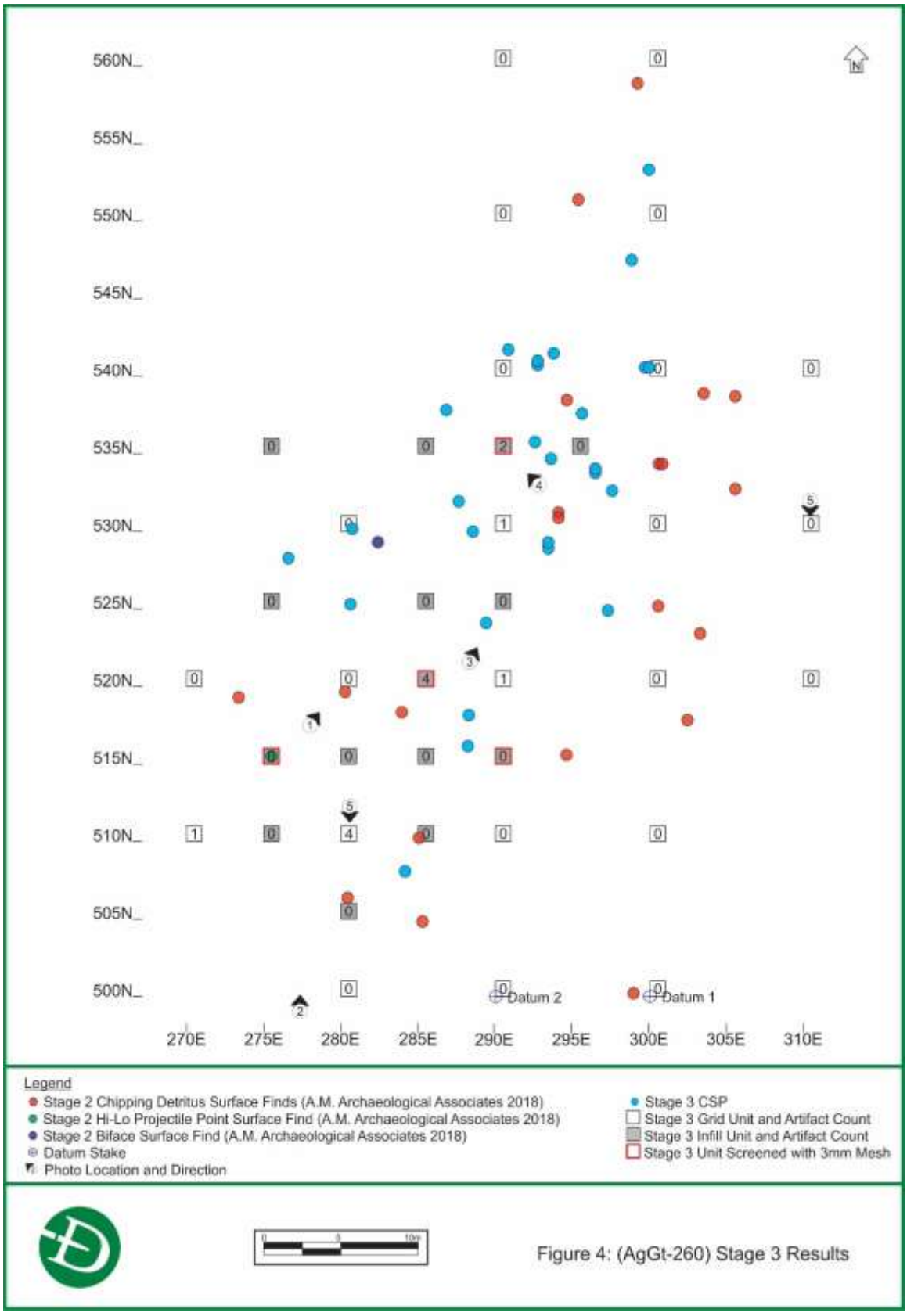

Figure 4: (AgGt-260) Stage 3 Results

9.0 Images

9.1 Photos

Photo 1: Stage 3 CSP at AgGt-260, facing grid northeast

Photo 2: Stage 3 CSP at AgGt-260, facing grid north

Photo 3: Stage 3 Test Unit Excavation at AgGt-260, facing northeast

Photo 4: Stage 3 Test Unit Excavation at AgGt-260, facing northwest

Photo 5: Typical Stratigraphy at AgGt-260, facing south

Photo 6: Typical Stratigraphy at AgGt-260, facing south

9.2 Artifacts

Plate 1: Sample of Chipping Detritus Recovered from AgGt-260