

**Stage 3 Archaeological Assessment
P1 (AgGt-313)
Clave Avenue Lands, Welland**

Part of Lot 236,
Geographic Township of Thorold,
Historical County of Welland,
now Regional Municipality of Niagara, Ontario

Submitted to:

Mountainview Homes
3350 Merrittville Highway, Unit 9
Thorold, Ontario, L2V 4Y6

and

Ontario's Ministry of Citizenship and Multiculturalism

Submitted by:



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PIF Numbers: P389-0622-2022
CP Number: 2022-168

ORIGINAL REPORT

February 7, 2023

Executive Summary

Detritus Consulting Ltd. ('Detritus') was retained by Mountainview Homes ('the Proponent') to conduct a Stage 3 archaeological assessment at archaeological site P1 (AgGt-313), located on part of Lot 236 in the Geographic Township of Thorold within the historical County of Welland, now Regional Municipality of Niagara, Ontario (Figure 1). This investigation was conducted in advance of a proposed subdivision development (Figure 5) for a property located on Clare Avenue in Welland (Figure 3). The Assessment Property is bound to the west by the Steve Bauer Trail; to the east by a property comprising a woodlot designated an Environmental Conservation Area ('ECA'); to the north and south by residential properties on Quaker Road (647 to 673 Quaker Road) and Briarsdale Crescent (91 to 131 Briarsdale Crescent) respectively; and at the northeast corner by Nouvel Horizon Elementary School, located at 621 Quaker Road (Figure 3).

The assessment **was triggered by the Provincial Policy Statement ('PPS') that is informed by the 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 the conditions of this legislation, a Stage 3 assessment was conducted at P1 (AgGt-313) under archaeological consulting license P389 issued to Dr. Walter McCall by the Ministry of Citizenship and Multiculturalism ('MCM') **and adheres to the archaeological license report requirements under subsection 65 (1) of the Ontario Heritage Act** (Government of Ontario 1990b) and the MCM's 2011 *Standards and Guidelines for Consultant Archaeologists* ('Standards and Guidelines'; Government of Ontario, 2011a).

The Study Area was part of a much larger parcel that was subject to a Stage 1 assessment, conducted by Archaeological Services Inc. ('ASI') in 2018 (ASI 2018). **The Stage 1 investigation area measured 189 hectares ('ha') and was generally bound by Steve Bauer Trail to the west; various commercial and industrial lots fronting Niagara Street to the east; residential developments, agricultural land, and woodlot to the north; and the campus of Niagara College to the south (Figure 3). Based on the results of ASI's assessment, approximately 99% (187.4ha) of the Stage 1 assessment area exhibited archaeological potential.** This potential extended across the entire current Study Area. ASI recommended that any future development within the Study Area be preceded by a Stage 2 field assessment.

P1 (AgGt-313) was identified during a Stage 1-2 assessment conducted by Detritus in July 2022 (Detritus 2023; P462-0152-2022;). The Study Area was a rectangular parcel measuring approximately 4.54 hectares ('ha') and occupied the agricultural field in the southern portion of the Assessment Property. At the time of assessment, the Study Area showed no visible signs of disturbance. **Similar to ASI's Stage 1 assessment (ASI 2018), the Stage 1 background research conducted by Detritus indicated that the Study Area exhibited moderate to high potential for the identification and recovery of archaeological resources.** As such, a Stage 2 field assessment was recommended for all the agricultural land within the Study Area.

The agricultural land was accessible for ploughing and was assessed using a typical pedestrian survey at five-metre ('m') intervals. **This investigation resulted in the identification and documentation of a single pre-contact Aboriginal site, P1 (AgGt-313), and three pre-contact Aboriginal findspots, Findspot 1, Findspot 2 (AgGt-323), and Findspot 3 (AgGt-324) (Tile 3 of the Supplementary Documentation).**

The Stage 2 assessment of P1 (AgGt-313) resulted in the documentation of 14 pre-contact Aboriginal artifacts from 14 findspot locations scattered over an area roughly 14m by 7m in the southeastern quadrant of the agricultural field, approximately 16m from the eastern edge of the Study Area. All of the artifacts recovered from the site were manufactured from Onondaga chert and were identified as pieces of chipping detritus. Morphological analysis of the chert flakes suggests late-stage reduction occurred at the site for the production and maintenance of formal tools and projectile points. Based on the results of the Stage 2 investigation, P1 (AgGt-313) was interpreted as a small activity area occupied during the pre-contact period and characterised by late-stage lithic reduction activities. Given the presence of at least ten non-diagnostic pre-contact

Aboriginal artifacts in a 10m by 10m pedestrian survey area within an area on or west of the Niagara Escarpment, P1 (AgGt-313) met the criteria for a Stage 3 Site Specific Assessment, as per Section 2.2, Standard 1ai(3) of the *Standards and Guidelines* (Government of Ontario, 2011a) (Government of Ontario, 2011a) **and retained cultural heritage value or interest ('CHVI')**. P1 (AgGt-313) was recommended for a Stage 3 site specific assessment.

The Stage 3 assessment of P1 (AgGt-313) was conducted between September 29 and October 4th, 2022 under archaeological consulting license P389 issued to Dr. Walter McCall by the MCM. This investigation resulted in the recovery of 68 primarily Onondaga chert flakes from the controlled **surface collection ('CSP')** and the hand excavation of 11-1m test units, across the extent of the Stage 2 site limits (Figure 4). Unit counts ranged from 0 to 19 with six of the units being sterile.

Morphological analysis of the flake assemblage suggests that late-stage lithic reduction occurred at the site for the production of blanks and bifaces. These results build upon those of the Stage 2 assessment, which identified nine secondary flakes, two thinning flakes, and three pieces of shatter. No diagnostic artifacts, formal tools, fire-cracked rock, or Aboriginal pottery were recovered during the Stage 3 assessment. A single stain was observed in Unit 205E, 495N, which is likely a root burn, however, it was covered in geotextile fabric and the unit was backfilled with soil.

Based on the available evidence, P1 (AgGt-313) has been interpreted as a small activity area occupied briefly by Aboriginal people prior to the arrival of European settlers. Given the results of the Stage 3 assessment, wherein three test units yielded ten or more lithic artifacts, P1 (AgGt-313) fulfills the criteria for a Stage 4 archaeological investigation as per Section 3.4.1, Standard 1a of the *Standards and Guidelines* (Government of Ontario, 2011a) and retains further CHVI. Stage 4 archaeological mitigation of impacts to P1 (AgGt-313) is recommended.

In accordance with Section 3.5, Standard 1f of the *Standards and Guidelines* (Government of Ontario, 2011a) and Section 1.1, Standard 2f of the *Engaging Aboriginal Communities in Archaeology* draft technical bulletin (Government of Ontario, 2011b), Six Nations of the Grand River, Mississaugas of the Credit First Nation, and Haudenosaunee Institute of Development were contacted prior to the commencement of the Stage 4 investigations, while formulating strategies to mitigate developmental impacts at P1 (AgGt-313). Additional information on the Aboriginal engagement practices conducted as part of the current Stage 3 assessment is provided in the Supplementary Documentation to this report.

The Executive Summary highlights key points from the report only; for a more detailed discussion regarding the results of the current Stage 1-2 assessment, including a complete set of recommendations, the reader should examine the complete report.

Table of Contents

Executive Summary	ii
Table of Contents	iv
1.0 Project Context	6
1.1 Development Context	6
1.2 Historical Context	6
1.2.1 Post-Contact Aboriginal Resources	6
1.2.2 Euro-Canadian Resources	8
1.2.4 Recent Reports	9
1.3 Archaeological Context	10
1.3.1 Property Description and Physical Setting	10
1.3.2 Pre-Contact Aboriginal Land Use	10
1.3.3 Previous Identified Archaeological Work	11
1.3.4 Summary of Previous Investigations	12
1.3.5 Archaeological Potential	13
2.0 Field Methods	15
3.0 Record of Finds	17
3.1 Introduction	17
3.2 Cultural Material	17
3.3 P1 (AgGt-313)	18
3.4 Artifact Distribution and Settlement Pattern	18
3.5 Artifact Catalogue	18
4.0 Analysis and Conclusions	20
5.0 Recommendations	21
6.0 Advice on Compliance with Legislation	22
7.0 Bibliography and Sources	23
8.0 Maps	26
9.0 Images	31
9.1 Field	31
9.2 Artifacts	32

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1.0 Project Context

1.1 Development Context

Detritus Consulting Ltd. ('Detritus') was retained by Mountainview Homes ('the Proponent') to conduct a Stage 3 archaeological assessment at archaeological site P1 (AgGt-313), located on part of Lot 236 in the Geographic Township of Thorold within the historical County of Welland, now Regional Municipality of Niagara, Ontario (Figure 1). This investigation was conducted in advance of a proposed residential subdivision development (Figure 5) for a property located on Clare Avenue in Welland (Figure 3). The Assessment Property is bound to the west by the Steve Bauer Trail; to the east by a property comprising a woodlot designated an Environmental Conservation Area ('ECA'); to the north and south by residential properties on Quaker Road (647 to 673 Quaker Road) and Briarsdale Crescent (91 to 131 Briarsdale Crescent) respectively; and at the northeast corner by Nouvel Horizon Elementary School, located at 621 Quaker Road (Figure 3).

The assessment was triggered by the Provincial Policy Statement ('PPS') that is informed by the *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 the conditions of this legislation, a Stage 3 assessment was conducted at P1 (AgGt-313) under archaeological consulting license P389 issued to Dr. Walter McCall by the Ministry of Citizenship and Multiculturalism ('MCM') and adheres to the archaeological license report requirements under subsection 65 (1) of the *Ontario Heritage Act* (Government of Ontario 1990b) and the MCM's 2011 *Standards and Guidelines for Consultant Archaeologists* ('Standards and Guidelines'; Government of Ontario, 2011a).

The purpose of a Stage 3 Site Specific 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 a 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 Stage 3 assessment at P1 (AgGt-313) 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.

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, much of the central and southern Ontario was occupied by Iroquoian speaking linguistic groups that had united to form confederacies, including the Huron-Wendat, the Neutral (or Attawandaran), and the Petun in Ontario, as well as the Five Nations Iroquois Confederacy in Upper New York State (Warrick, 2013; Birch, 2010). Of these groups, the Huron-Wendat established themselves to the east of the Niagara escarpment and the Neutral, to the west (Warrick, 2000).

Throughout the middle of the 17th century, the Iroquois Confederacy sought to expand upon their territory and to monopolize the fur 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 (Heindereich, 1990).

At this same time, the Anishinaabeg Nation, an Algonkian-speaking community situated inland from the northern shore of Lake Huron, began to challenge the Haudenosaunee for dominance in the Lake Huron and Georgian Bay region in order to advance their own role in the fur trade (Gibson, 2006). The Algonkian-speaking groups that settled in the area bound by Lake Ontario, Lake Erie, and Lake Huron were referred to by the English as the Chippewas or Ojibwas. By 1680, the Ojibwa began expanding into the evacuated Huron-Wendat territory, and eventually into Southern Ontario. By 1701, the Haudenosaunee had been driven out of Ontario completely and were replaced by the Ojibwa (Gibson, 2006; Schmalz, 1991).

The late 17th and early 18th centuries also mark the arrival of an Ojibwa band known as the Mississaugas into Southern Ontario and, in particular, the watersheds of the lower Great Lakes. **‘The Mississaugas’ is the name that the Jesuits had used in 1840 for the Algonquin** community living near the Mississagi River on the northwestern shore of Lake Huron (Smith, 2022). 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 (Praxis Research Associates, n.d.).

From the beginning of the 18th century until the end of the Seven Years’ War in 1763, the Ojibwa nation, including the Mississaugas, experienced a golden age in trade holding no alliance with either the French or the British (Schmalz, 1991). At the end of the 17th **century, the Mississaugas’** settled permanently in Southern Ontario (Praxis Research Associates, n.d.). Around this same time, in 1722, the Five Nation Iroquois Confederacy adopted the Tuscarora in New York becoming the Six Nations (Pendergast, 1995).

The Study Area first entered the Euro-Canadian historical record on December 7th, 1792 as part of **Treaty No. 3, which included land acquired in the ‘Between the Lakes Purchase’ dating to May 22, 1784**. According to the terms of the treaty, the Mississaugas ceded to the Crown approximately 3,000,000 acres of land between Lake Huron, Lake Erie, and Lake Ontario in return for trade goods valued at £1180.

The limits of the Treaty 3 lands are documented as comprising,

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, pp. 17-8

One of the stated objectives of the Between the Lakes Purchase **was “to procure for that part of the Six Nation Indians coming into Canada a permanent abode”** (Morris, 1943, p. 17). Shortly after the transaction had been finalised in May of 1784, Sir Frederick Haldimand, the Governor of Québec, made preparations to grant a portion of land to those Six Nations who remained loyal to the Crown during the American War of Independence. More specifically, Haldimand arranged for the purchase of approximately 550,000 acres of land adjacent to the Treaty 3 limits from the Mississaugas. This tract of land, referred to as either the Haldimand Tract or the 1795 Crown Grant to the Six Nations, was provided for in the Haldimand Proclamation of October 25th, 1784 and was intended to extend a distance of six miles on each side of the Grand River from mouth to source (Weaver, 1978). By the end of 1784, representatives from each constituent nation of the Six Nations, as well as other allies, relocated to the Haldimand Tract with Joseph Brant (Weaver, 1978; Tanner, 1987).

Throughout southern Ontario, the size and nature of the pre-contact settlements and the subsequent spread and distribution of Aboriginal material culture began to shift with the establishment of European settlers. By 1834 it was accepted by the Crown that losses of portions of the Haldimand Tract to Euro-Canadian settlers were too numerous for all lands to be returned. 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, 1879; Weaver, 1978; Tanner, 1987). Following the population decline and the surrender of most of their lands along the Credit River, the Mississaugas were given 6000 acres of land on the Six Nations Reserve, establishing the Mississaugas of New Credit First Nation, now the Mississaugas of the Credit First Nation ('MCFN'), in 1847 (Smith, 2022).

Despite the 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, p. 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

P1 (AgGt-313) is located in the geographic Township of Thorold and the historical County of Welland, now the Regional Municipality of Niagara, Ontario (Figure 1).

In 1763, the Treaty of Paris brought an end to the Seven Years' War, contested between the British, the French, and their respective allies. Under the Royal Proclamation of 1763, the large stretch of land from Labrador in the east, moving southeast through the Saint Lawrence River Valley to the Great Lakes and on to the confluence of the Ohio and Mississippi Rivers became the British Province of Québec (Niagara Historical Society and Museum, 2008).

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, 2012-2015). 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; he spearheaded several initiatives to populate the province including the establishment of shoreline communities with effective transportation links between them (Coyne, 1895).

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 & Coffman, 1956).

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, Thorold Township became part of the Niagara District, comprising Lincoln County, Haldimand County and other lands (Archives of Ontario, 2012-2015).

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 county takes its name from the Welland River, which runs through the centre of the county and was itself named by Simcoe after a stream in Lincolnshire, England. This county was home to the Niagara

Falls as well as many of the earliest settled townships in Upper Canada (Middleton & Landon, 1927).

Thorold Township is one of these early townships. It was settled by Butler's Rangers and originally called Township Number 9 but was officially formed in 1788 to provide land for United Empire Loyalist refugees and disbanded soldiers following the American Revolutionary War. It was named in honour of Sir John Thorold, Member of Parliament in the government of Upper Canada (Thompson, 1898). The early settlements of the Township of Thorold included Beavercreeks, St. Johns, and Decew Falls. These fell into decline after the opening of the first Welland Canal when the canal towns of Thorold, Port Robinson, and Allanburg began to prosper (Jackson, 1997).

Port Robinson's history is linked to that of the Welland Canal. When the First Welland Canal was opened in 1829, Port Robinson was the southern terminus. The small port was named for John Beverley Robinson, Chief Justice of Upper Canada. Much of the early rapid and growth of the village can be attributed to canal construction and specifically the work that went on to pass the canal through the 'Deep Cut', a 20m high hill between Port Robinson and Allanburg that had to be cut through for the canal to continue. Many of the labourers used for the project were based in Port Robinson while work continued from 1824-28 on this section of canal. Between 1843 and 1851 during construction of the Second Canal a company of Negro soldiers were encamped in Port Robinson to keep order among the frequently feuding canal workers. **The soldiers' mess was located beside St. Paul's Anglican Church in Port Robinson** (Detritus, 2002). Port Robinson went into decline after Welland became the administrative centre for the County and particularly after 1880 when shipyards were closed (Archaeological and Historic Sites Board of Ontario, 2019).

Within Lincoln County, 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, 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

P1 (AgGt-313) occupies a part of Lot 236 in Thorold Township. According to the *Historical Atlas*, by 1876, the lot was divided equally north to south (Page, 1876). The western half of the lot, in which P1 (AgGt-313) lies, was owned by J.H.E. Page. The eastern half was owned by G.A. Both lots show a building and orchard fronting the road at the north end of the lot, which is now known as Quaker Road. The road at the south end of Lot 236 is also now a major road, Woodlawn Road, and the road at the west edge of the lot is now Clare Avenue. Lot 236 is near to the southwestern corner of Thorold Township, and the Welland River is shown running north to south to the east of the Study Area. At some distance the early communities of Port Robinson and Font Hill are visible to the east and north of the Study Area, and at a greater distance, beyond the Welland River, is the Welland Railroad.

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). Moreover, associated structures were not necessarily depicted or placed accurately (Gentilcore & Head, 1984).

1.2.4 Recent Reports

P1 (AgGt-313) was discovered during a Stage 1-2 assessment of the Study Area, conducted by Detritus in July, 2022 (PIF# P462-0152-2022) and is documented in the following assessment report;

Stage 1-2 Archaeological Assessment Clare Avenue Lands, Welland Part of Lot 236, Geographic Township of Thorold, Historical County of Welland, now Regional Municipality of Niagara, Ontario (Detritus 2023).

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

The Study Area was a rectangular parcel measuring approximately **4.54 hectares** (“ha”) and occupied the agricultural field in the southern portion of the Assessment Property. P1 (AgGt-313) was identified in the southeastern quadrant of the Study Area.

The majority of the region surrounding P1 (AgGt-313) has been subject to European-style agricultural practices for over 100 years, having been settled by Euro-Canadian farmers by the early 19th century. Much of the region continues to be used for agricultural purposes today.

P1 (AgGt-313) 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 Niagara region as a whole is located within the Deciduous Forest Region of Canada, and contains tree species which are typical of the more northern Great Lakes-St. Lawrence Biotic zone, such as beech, sugar maple, white elm, basswood, white oak and butternut (MacDonald & Cooper, 1997). During pre-contact and early contact times, the land in the vicinity of the Study Area comprised a mixture of hardwood trees such as sugar maple, beech, oak and cherry. This pattern of forest cover is characteristic of areas of clay soil within the Maple-Hemlock Section of the Great Lakes–St. Lawrence Forest Province–Cool Temperate Division (McAndrews & Manville, 1987). In the early 19th century, Euro-Canadian settlers began to clear the forests for agricultural purposes.

Three individual sources of potable water lie to the north, east, and west of the Study Area in the form of tributaries of the Welland Canal, each at approximately 828 **metres** (‘m’), 675m, and 1085m from P1 (AgGt-313) respectively.

1.3.2 Pre-Contact Aboriginal Land Use

P1 (AgGt-313) is located within a portion of Southern Ontario that was 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 (Ellis and Ferris 1990).

Table 1: Cultural Chronology for the 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

Time Period	Cultural Period	Comments
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 known archaeological resources in the vicinity of the Study Area, Detritus consulted the ASDB. The ASDB, which is maintained by the MCM (Government of Ontario, n.d.), contains information concerning archaeological sites that have been registered according to the Borden system. Under the Borden system, Canada is divided into grid blocks **based on latitude and longitude. A Borden Block is approximately 13 kilometres ('km') 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 lies within 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 MCM 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.

According to the ASDB, nine sites have been registered within 1km of the Study Area. These include seven pre-contact Aboriginal sites dating to the Early Woodland and Archaic periods and two post-contact Euro-Canadian sites. For further information see Table 2, below.

Table 2: Registered Archaeological Sites within 1km

Borden Number	Site Name	Time Period	Affinity	Site Type	Current Development Review Status
AgGt-57		Pre-Contact	Aboriginal	findspot	
AgGt-45		Woodland, Early	Aboriginal	findspot	
AgGt-44	Milburn	Archaic, Late	Aboriginal	camp/campsite	
AgGt-36	Quaker Park	Archaic, Early	Aboriginal	camp/campsite	
AgGt-287		Archaic, Late	Aboriginal	hunting loss	No Further CHVI
AgGt-286		Archaic, Middle	Aboriginal	hunting loss	No Further CHVI
AgGt-285		Pre-Contact	Aboriginal	findspot	No Further CHVI
AgGt-284		Post-Contact	Euro-Canadian	farmstead	Further CHVI
AgGt-269		Post-Contact	Euro-Canadian	residential	No Further CHVI

The Study Area was part of a much larger parcel that was subject to a previous Stage 1 assessment, conducted ASI in 2018 (P449-0207-2018) and documented in the following assessment report;

Stage 1 Archaeological Assessment of the Northwest Welland Secondary Plan, Part of Lots 174, 175, 176, 226, 227, 228, 233, 234, 235 and 236, Geographic Township of Thorold, Welland County, City of Welland, Regional Municipality of Niagara (ASI, 2018).

The Stage 1 investigation area measured 189ha and was generally bounded by Steve Bauer Trail to the west; various commercial and industrial lots fronting Niagara Street to the east; residential developments, agricultural land, and woodlot to the north; and the campus of Niagara College to the south (Figure 3). **Based on the results of ASI's assessment, approximately 99% (187.4ha) of the Stage 1 assessment area exhibited archaeological potential.** This potential extended across the entire current Study Area. ASI recommended that any future developments within the Study Area be preceded by a Stage 2 field assessment.

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

1.3.4 Summary of Previous Investigations

P1 (AgGt-313) was identified during a Stage 1-2 assessment conducted by Detritus in July 2022 (Detritus 2023; P462-0152-2022).

The Stage 1 background research indicated that the Study Area exhibited moderate to high potential for the identification and recovery of archaeological resources. A typical Stage 2 test pit survey was recommended (Figure 3). This investigation resulted in the identification and documentation of a single pre-contact Aboriginal site, P1 (AgGt-313), and three pre-contact Aboriginal findspots, Findspot 1, Findspot 2 (AgGt-323), and Findspot 3 (AgGt-324) (Tile 3 of the Supplementary Documentation).

The Stage 2 assessment of P1 (AgGt-313) resulted in the documentation of 14 pre-contact Aboriginal artifacts from 14 findspot locations scattered an area roughly 14m by 7m in the southeastern quadrant of the agricultural field approximately 16m from the eastern edge of the Study Area. All of the artifacts recovered from the site were manufactured from Onondaga chert and were identified as pieces of chipping detritus. Morphological analysis of the chert flakes suggests late-stage reduction occurred at the site for the production and maintenance of formal tools and projectile points. Based on the results of the Stage 2 investigation, P1 (AgGt-313) was interpreted as a small activity area occupied during the pre-contact period and characterised by late-stage lithic reduction activities. Given the presence of at least ten non-diagnostic pre-contact Aboriginal artifacts in a 10m by 10m pedestrian survey area within an area on or west of the Niagara Escarpment, P1 (AgGt-313) met the criteria for a Stage 3 Site Specific Assessment, as per Section 2.2, Standard 1ai(3) of the *Standards and Guidelines* (Government of Ontario, 2011a) and retained CHVI and was recommended for a Stage 3 site specific assessment.

The Stage 2 assessment of Findspot 1 resulted in the documentation of a single pre-contact Aboriginal artifact in the form of a fragmentary projectile point manufactured from Flint Ridge chert recovered during the pedestrian survey of the agricultural land in the southeastern quadrant of the Study Area, approximately 40m to the northwest of P1 (AgGt-313).

The Stage 2 assessment of Findspot 2 (AgGt-323) resulted in the documentation of four pre-contact Aboriginal artifacts manufactured from Onondaga chert, recovered during the pedestrian survey of the agricultural land along the southwestern edge of the Study Area, from an area of roughly 7m by 4m approximately 162m northwest of P1 (AgGt-313). The artifacts are all chipping detritus including two secondary flakes, one tool thinning flake, and one piece of shatter.

The Stage 2 assessment of Findspot 3 (AgGt-324) resulted in the documentation of four pre-contact Aboriginal artifacts, including one blade fragment, manufactured from Onondaga chert, recovered during the pedestrian survey of the agricultural land along the southeastern edge of the Study Area from an area roughly 3.3m by 2.6m approximately 99m north of P1 (AgGt-313). The remaining artifacts are all chipping detritus consisting of one secondary flake and two tool thinning flakes.

No other artifacts were documented during the pedestrian survey in the vicinity of Findspot 1, Findspot 2 (AgGt-323), and Findspot 3 (AgGt-324). Given the results of the Stage 2 assessment, Findspot 1, Findspot 2 (AgGt-323), and Findspot 3 (AgGt-324) do not fulfill any of the criteria for a Stage 3 assessment listed in Section 2.2 of the *Standards and Guidelines* (Government of Ontario, 2011a). The CHVI of Findspot 1, Findspot 2 (AgGt-323), and Findspot 3 (AgGt-324) was

judged to be sufficiently documented; therefore, no further archaeological assessment was recommended for Findspot 1, Findspot 2 (AgGt-323), and Findspot 3 (AgGt-324).

It was recommended that the Stage 3 archaeological assessment of P1 (AgGt-313) will be conducted according to Section 3.2 of the *Standards and Guidelines* (Government of Ontario, 2011a). Typically, a Stage 3 assessment for sites documented during a pedestrian survey of **ploughed agricultural land begins with a controlled surface pickup ('CSP') across the Stage 2** limits of site, conducted as per Section 3.2.1 of the *Standards and Guidelines* (Government of Ontario, 2011a). The Stage 2 pedestrian survey, however, consisted of an intensive surface collection across the entire site limits within the agricultural fields; all artifacts were mapped digitally and collected for laboratory analysis. Thus, the conditions for a Stage 3 CSP were met during the Stage 2 assessment. Instead, the Stage 3 assessment of P1 (AgGt-313) will consist of test unit excavation only, conducted according to Section 3.2.2 of the *Standards and Guidelines* (Government of Ontario, 2011a).

Following advice provided by the MCM it was determined that the Stage 3 assessment of P1 (AgGt-313) will consist of the hand excavation of one 1m square test units every **ten metres ('m')** across the Stage 2 site limits in systematic levels and into the first five centimetres (**'cm'**) of subsoil, as per Table 3.1, Standard 3 of the *Standards and Guidelines* (Government of Ontario, 2011a). Additional 1m test units, amounting to 40% of the grid total, will be placed in areas of interest within the site extent as per Table 3.1, Standard 4 of the *Standards and Guidelines* (Government of Ontario, 2011a). Should areas of artifact concentration or features be discovered during the excavation of the initial Stage 3 grid and infill units, the grid will be reduced to 5m intervals, with 20% infill in those areas as per Table 3.1, Standards 1 and 2 of the *Standards and Guidelines* (Government of Ontario, 2011a). All excavated soil will be screened through six-millimetre mesh; all recovered artifacts will be recorded by their corresponding grid unit designation and collected for laboratory analysis. If a subsurface cultural feature is encountered, the plan of the exposed feature will be recorded and geotextile fabric will be placed over the unit before backfilling the unit.

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 MCM to determine areas of archaeological potential within the Study Area. According to Section 1.3.1 of the *Standards and Guidelines* (Government of Ontario, 2011a), 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, when 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 site locations and types to varying degrees. As per Section 1.3.1 of the *Standards and Guidelines* (Government of Ontario, 2011a), water sources may be categorized 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.

As was noted above, three individual sources of potable water lie to the north, east, and west of the Study Area in the form of tributaries of the Welland Canal, each approximately 828m, 675m, and 1,085m from P1 (AgGt-313) respectively.

Soil texture is also an important determinant of past settlement, usually in combination with other factors such as topography. P1 (AgGt-313) is situated within the Haldimand Clay Plain physiographic region. As was discussed earlier, the soils within this region are suitable for pre-contact and post-contact Aboriginal agricultural. Considering also the length of occupation of Thorold Township prior to the arrival of European settlers, as evidenced by the seven sites yielding pre-contact Aboriginal material culture registered within 1km from the Study Area, the potential for pre-contact Aboriginal, post-contact Aboriginal material culture at P1 (AgGt-313) is deemed 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.

According to the background research presented above, the *Historical Atlas* (Page, 1876; Figure 2) map of Thorold Township has revealed that the Study Area is in close proximity to historic roads, the early communities of Port Robinson and Fonthill, the Welland River, and the Welland Railroad. Considering also the presence of two Euro-Canadian sites within 1km of the Study Area, the potential for post-contact Euro-Canadian archaeological resources at P1 (AgGt-313) is judged to be moderate to high.

Given that no disturbance areas were identified, Detritus determined that the entirety of the Study Area, including the agricultural field, demonstrated the potential for the recovery of pre-contact Aboriginal, post-contact Aboriginal, and Euro-Canadian archaeological resources, and were recommended for Stage 2 field assessment.

Finally, despite the factors mentioned above, extensive land disturbance can eradicate archaeological potential within a Study Area, as outlined in Section 1.3.2 of the *Standards and Guidelines* (Government of Ontario, 2011a). No areas of disturbance were identified anywhere in the Study Area during the previous Stage 2 assessment (Detritus 2023); therefore, the pre-contact Aboriginal, post-contact Aboriginal, and Euro-Canadian archaeological potential of P1 (AgGt-313) is judged to be moderate to high.

2.0 Field Methods

The Stage 3 assessment of P1 (AgGt-313) was conducted between September 29 and October 4, 2022 under archaeological consulting license P389 issued to Dr. Walter McCall by the MCM. This investigation 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).

During the assessment, the weather was cool and varied between a mix of sun and clouds to sunny with daily high temperatures ranging from 13° to 15° Celsius (°C) (Table 3). The soil was dry and screened easily. At no time during the investigation were field or weather conditions detrimental to the recovery of archaeological material, as per Section 3.2, Standard 2 of the *Standards and Guidelines* (Government of Ontario, 2011a). Lighting and soil conditions were suitable and visibility was excellent, as per Section 7.9.1, Standard 1a of the *Standards and Guidelines* (Government of Ontario, 2011a). Photos 1 to 4 illustrate field conditions as per Section 3.2, Standard 4 and Section 7.9.6, Standard 1a of the *Standards and Guidelines* (Government of Ontario, 2011a).

Table 3: Field and Weather Conditions

Date	Activity	Weather	Field Conditions
September 29, 2022	unit excavation	sunny, 15° Celsius (°C)	soil dry and screens easily
October 3, 2022	unit excavation	sunny, 13°C	soil dry and screens easily
October 4, 2022	unit excavation	sunny, 14°C	soil dry and screens easily

P1 (AgGt-313) was relocated in the field by means of geographic reference markers that were established during the Stage 2 assessment. Two permanent datum stakes were placed in the ground and a 5m-by-5m grid was established across the Stage 2 site limits, as per Section 3.2.2, Standard 2 of the *Standards and Guidelines* (Government of Ontario, 2011a). **Universal Transverse Mercator (°UTM°) coordinates were recorded for a central fixed point within the site grid and both datum stakes, as per Section 3.2.2, Standard 2 of the *Standards and Guidelines* (Government of Ontario, 2011a). All coordinates were taken using a Garmin eTrex 10 GPS unit with a minimum accuracy 3m (North American Datum 1983 (°NAD83°) and UTM Zone 17T) and are listed in the Supplementary Documentation that accompanies this report.**

For archaeological sites documented through a pedestrian survey of open ploughed fields, a Stage 3 field investigation typically begins with a controlled surface pick-up (°CSP°), conducted as per Section 3.2.1 of the *Standards and Guidelines* (Government of Ontario, 2011a). Despite having met the conditions for a Stage 3 CSP during the Stage 2 pedestrian survey, the Stage 3 began with a CSP across the site limits, given that artifacts were visible on the surface. The CSP produced 12 pieces of chipping detritus from 11 findspots. Following the CSP a Stage 3 test unit excavation was conducted as per Section 3.2.2 of the *Standards and Guidelines* (Government of Ontario, 2011a). Photographs of the Stage 3 CSP and test unit excavation are provided in Section 9.1 of this report.

The Stage 3 assessment at P1 (AgGt-313) included the excavation of 11-1m square test units, as per Section 3.2.3, Table 3.1, Standard 1 of the *Standards and Guidelines* (Government of Ontario, 2011a). Given that it was evident that the level of CHVI at P1 (AgGt-313) would result in a recommendation to proceed to Stage 4, and based on advice provided by the MCM (see Correspondence in the Supplementary Documentation), seven test units were placed across the Stage 2 site limits at a 10m interval, as per Section 3.2.3, Table 3.1, Standard 3 of the *Standards and Guidelines* (Government of Ontario, 2011a). An additional four units amounting to 57% of the grid total were placed in areas of interest within the site extent as per Section 3.2.3, Table 3.1, Standard 4 of the *Standards and Guidelines* (Government of Ontario, 2011a).

The test units were hand excavated in systematic levels, into the first **five centimetres (°cm°)** of subsoil as per Section 3.2.2, Standards 3-6 of the *Standards and Guidelines* (Government of Ontario, 2011a). All of the units contained a single stratigraphic layer, identified as the topsoil, and ranged in depth from 28cm to 32cm. Considering that each test unit was excavated 5cm into subsoil, the topsoil ranged in depth from 23cm to 27cm. The excavated soil from the Stage 3 test units was screened through six-**millimetre (°mm°) hardware cloth to facilitate the recovery of** small artifacts, as per Section 3.2.2, Standard 7 of the *Standards and Guidelines* (Government of

Ontario, 2011a). A total of 56 artifacts were recovered from five units; the remaining six units were sterile.

All artifacts recovered during the Stage 3 excavation were recorded and catalogued with reference to their corresponding grid unit coordinate and were retained for laboratory analysis and description, as per Section 3.2.3, Standard 8 of the *Standards and Guidelines* (Government of Ontario, 2011a). The subsoil surface of each excavated unit was shovel shined and examined for any evidence of subsurface cultural features. A single stain was observed in Unit 205E, 495N, which is likely a root burn, however, it was covered in geotextile fabric and the unit was backfilled with soil.

3.0 Record of Finds

3.1 Introduction

The Stage 3 archaeological assessment of P1 (AgGt-313) was conducted employing the methods described in Section 2.0 above. Figure 4 provides the results of this investigation; Tile 4 of Supplementary Documentation provides the results in relation to the current development plan. Maps indicating the exact site location, and all UTM coordinates recorded during the assessment, are also included in the Supplementary Documentation to this report. An inventory of the documentary record generated by the fieldwork is provided in Table 4 below.

Table 4: Inventory of Document Record

Document Type	Current Location	Additional Comments
1 page of field notes	Detritus office	stored digitally in project file
1 map provided by the Proponent	Detritus office	stored digitally in project file
1 field map	Detritus office	stored digitally in project file
25 digital photographs	Detritus office	stored digitally in project file

All of the material culture collected during the Stage 3 archaeological assessment of P1 (AgGt-313) is contained in one box and will be temporarily housed in a Detritus office until formal arrangements can be made for its transfer to His Majesty the King in right of the Province of Ontario or another suitable public institution acceptable to the MCM and the site's owners.

3.2 Cultural Material

The Stage 3 assessment of P1 (AgGt-313) resulted in the documentation of 68 pieces of pre-contact Aboriginal chipping detritus. Chipping detritus is the waste product from the production of stone tools and is the most frequently recovered artifact on pre-contact Aboriginal sites in southern Ontario. It has low significance and interpretive value when it is not associated with diagnostic material. As a result, the flakes recovered from P1 (AgGt-313) cannot be used to determine the cultural affiliation or time period of the occupation.

Analysis of the flakes from P1 (AgGt-313) revealed that 67 were manufactured from Onondaga chert and 1 from Haldimand chert. Onondaga chert is a dense non-porous rock that derives 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 typically occurs in nodules or irregular thin beds, and may appear light to dark grey, bluish grey, brown, or black; it can also be mottled with a dull to vitreous or waxy lustre. Onondaga chert is often found at archaeological sites in southern Ontario, and is commonly recognised as a high-quality raw material that was frequently utilized by pre-contact Aboriginal people (Eley and von Bitter 1989).

Haldimand chert, also known as Bois Blanc chert, is a medium quality raw material that outcrops along the Bois Blanc formation between Kohler and Hagersville, as well as in Cayuga, Ontario. Dating to the Early Silurian, it derives from chalk-bearing limestones which give the material its characteristically white to light grey or buff colour and relatively low lustre (Eley and von Bitter 1989).

Furthermore, all pieces of chipping detritus were subject to morphological analysis following the classification scheme established by Lennox, Dodd and Murphy for the Wiacek Site (Lennox *et al* 1986: 79-81) and expanded upon by Fisher for the Adder Orchard Site (1997: 41-49). According to this system, cortical removal flakes, primary flakes, and secondary flakes are produced during the initial reduction phases of raw material blanks and preforms and tend to exhibit minimal dorsal flake scarring. They 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 and preforms shaped into formal tools and projectile points. 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.

3.3 P1 (AgGt-313)

As mentioned above, the Stage 3 assessment of P1 (AgGt-313) resulted in the documentation of 68 pre-contact Aboriginal artifacts from 11 CSP locations and 11 test unit over an area of 21m by 21m. The results of the morphological analysis of the chipping detritus recovered from P1 (AgGt-313) are detailed in Table 5.

Table 5: Flake Analysis for Site P1 (AgGt-313)

Chert Type	Secondary		Thinning		Shatter		Total Analyzed	
	n	%	n	%	n	%	n	%
Onondaga	53	77.94	13	19.12	1	1.47	67	98.53
Haldimand	1	1.47	0	0	0	0	1	1.47
Total	54	79.41	13	19.12	1	1.47	68	100

According to the morphological analysis presented above, the flake assemblage from P1 (AgGt-313) featured primarily secondary flakes (n=54; 79.41%) with lesser amounts of tool thinning fragments (n=13; 19.12%) and shatter (n=1; 1.47%). No other artifacts were documented during the pedestrian survey in the vicinity of P1 (AgGt-313). These results build upon those of the Stage 2 assessment, which also suggested that late-stage reduction for the production and maintenance of formal tools and projectile points occurred at the site.

3.4 Artifact Distribution and Settlement Pattern

The Stage 3 assessment of P1 (AgGt-313) yielded 68 pieces of pre-contact Aboriginal chipping from the CSP and hand excavation of 11 Stage 3 test units spanning an area of 21m by 21m. No Aboriginal pottery or fire cracked rock was encountered. A single stain was observed in Unit 205E, 495N, which is likely a root burn, however, it was covered in geotextile fabric and the unit was backfilled with soil.

The Stage 3 CSP produced 12 pieces of chipping detritus in the vicinity of the Stage 2 surface finds between 201E and 211E and between 496N and 510N. Similarly, the three highest yielding Stage 3 units were on or in the vicinity of the Stage 2 surface finds at 200E, 500N; 205E, 495N; and 205E, 505N with counts of 11, 15, and 19 respectively. Two additional units at 209E, 510N and 210E, 500N produced two and nine artifacts respectively. Six of the units, bordering the site to the west, northwest, southwest, and south, were sterile.

Given the distribution of artifacts, P1 (AgGt-313) has been identified as a small activity area centred on grid coordinate 205E, 505N.

3.5 Artifact Catalogue

A complete catalogue of the Stage 3 artifacts recovered from P1 (AgGt-313) is provided in Table 6 below.

Table 6: P1 (AgGt-313) Stage 3 Artifact Catalogue

Cat #	Context	Unit Easting	Unit Northing	Depth (m)	Artifact	Freq.	Chert Type	Morphology
1	Test Unit Excavation	209	510	0.28	chipping detritus	2	Onondaga	secondary
2	Test Unit Excavation	210	500	0.29	chipping detritus	6	Onondaga	secondary
3	Test Unit Excavation	210	500	29	chipping detritus	3	Onondaga	tool thinning
4	Test Unit Excavation	205	495	30	chipping detritus	13	Onondaga	secondary
5	Test Unit Excavation	205	495	30	chipping detritus	2	Onondaga	tool thinning

Cat #	Context	Unit Easting	Unit Northing	Depth (m)	Artifact	Freq.	Chert Type	Morphology
6	Test Unit Excavation	200	500	31	chipping detritus	3	Onondaga	secondary
7	Test Unit Excavation	200	500	31	chipping detritus	8	Onondaga	tool thinning
8	Test Unit Excavation	205	505	29	chipping detritus	19	Onondaga	secondary
9	CSP 1	-	-	surface	chipping detritus	1	Onondaga	secondary
10	CSP 2	-	-	surface	chipping detritus	2	Onondaga	secondary
11	CSP 3	-	-	surface	chipping detritus	1	Onondaga	secondary
12	CSP 4	-	-	surface	chipping detritus	1	Onondaga	secondary
13	CSP 5	-	-	surface	chipping detritus	1	Onondaga	secondary
14	CSP 6	-	-	surface	chipping detritus	1	Onondaga	shatter
15	CSP 7	-	-	surface	chipping detritus	1	Onondaga	secondary
16	CSP 8	-	-	surface	chipping detritus	1	Onondaga	secondary
17	CSP 9	-	-	surface	chipping detritus	1	Haldimand	secondary
18	CSP 10	-	-	surface	chipping detritus	1	Onondaga	secondary
19	CSP 11	-	-	surface	chipping detritus	1	Onondaga	secondary

4.0 Analysis and Conclusions

Detritus was retained by the Proponent to conduct a Stage 3 archaeological assessment at archaeological site P1 (AgGt-313) in advance of a proposed subdivision development for a property located on Clare Avenue in Welland.

P1 (AgGt-313) was identified during a Stage 1-2 assessment conducted by Detritus in July 2022 (Detritus 2023). The Stage 2 assessment of P1 (AgGt-313) resulted in the documentation of 14 pre-contact Aboriginal artifacts from 14 findspot locations scattered over an area roughly 14m by 7m in the southeastern quadrant of the agricultural field, approximately 16m from the eastern edge of the Study Area. All of the artifacts recovered from the site were manufactured from Onondaga chert and were identified as pieces of chipping detritus. Morphological analysis of the chert flakes suggests late-stage reduction occurred at the site for the production and maintenance of formal tools and projectile points. Based on the results of the Stage 2 investigation, P1 (AgGt-313) was interpreted as a small activity area occupied during the pre-contact period and characterised by late-stage lithic reduction activities. Given the presence of at least ten non-diagnostic pre-contact Aboriginal artifacts in a 10m by 10m pedestrian survey area within an area on or west of the Niagara Escarpment, P1 (AgGt-313) met the criteria for a Stage 3 Site Specific Assessment, as per Section 2.2, Standard 1ai(3) of the *Standards and Guidelines* (Government of Ontario, 2011a) and **retained cultural heritage value or interest ('CHVI')**. P1 (AgGt-313) was recommended for a Stage 3 site specific assessment.

The Stage 3 assessment of P1 (AgGt-313) was conducted between September 29 and October 4th, 2022 under archaeological consulting license P389 issued to Dr. Walter McCall by the MCM. This investigation resulted in the recovery of 68 primarily Onondaga chert flakes from the controlled **surface collection ('CSP')** and the hand excavation of 11-1m test units, across the extent of the Stage 2 site limits (Figure 4). Unit counts ranged from 0 to 19 with six of the units being sterile.

Morphological analysis of the flake assemblage suggests that late-stage lithic reduction occurred at the site for the production of blanks and bifaces. These results build upon those of the Stage 2 assessment, which identified nine secondary flakes, two thinning flakes, and three pieces of shatter. No diagnostic artifacts, formal tools, fire-cracked rock, or Aboriginal pottery were recovered during the Stage 3 assessment. A single stain was observed in Unit 205E, 495N, which is likely a root burn, however, it was covered in geotextile fabric and the unit was backfilled with soil.

Based on the available evidence, P1 (AgGt-313) has been interpreted as a small activity area occupied briefly by Aboriginal people prior to the arrival of European settlers.

5.0 Recommendations

Given the results of the Stage 3 assessment, wherein three test units yielded ten or more lithic artifacts, P1 (AgGt-313) fulfills the criteria for a Stage 4 archaeological investigation as per Section 3.4.1, Standard 1a of the *Standards and Guidelines* (Government of Ontario, 2011a) and retains further CHVI. Stage 4 archaeological mitigation of impacts to P1 (AgGt-313) is recommended.

In accordance with Section 3.5, Standard 1f of the *Standards and Guidelines* (Government of Ontario, 2011a) and Section 1.1, Standard 2f of the *Engaging Aboriginal Communities in Archaeology* draft technical bulletin (Government of Ontario, 2011b), Six Nations of the Grand River, Mississaugas of the Credit First Nation, and Haudenosaunee Institute of Development were contacted prior to the commencement of the Stage 4 investigations, while formulating strategies to mitigate developmental impacts at P1 (AgGt-313). Additional information on the Aboriginal engagement practices conducted as part of the current Stage 3 assessment is provided in the Supplementary Documentation to this report.

The MCM 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 Study Area, excluding the archaeological site area from the Study Area, or incorporating the area of the archaeological site into the Study Area 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 P1 (AgGt-313) by avoidance and protection are not viable options. As such, a Stage 4 mitigation by hand excavation is recommended for P1 (AgGt-313), conducted as per Sections 4.2.1 and 4.2.2 of the *Standards and Guidelines* (Government of Ontario, 2011a). The Stage 4 excavation will consist of a hand excavated block of 1m units surrounding the Stage 3 test unit at the site that yielded at least ten artifacts, one of which also contained a possible feature in the form of a stain. The extent of the excavation block(s) will be determined according to Section 4.3, Table 4.1 of the *Standards and Guidelines* (Government of Ontario, 2011a). More specifically, for small pre-contact sites, Table 4.1 states that excavation can not be considered to be completed until there are fewer than ten artifacts from units at the edge of the block excavation. Additionally, excavation must be continued if units include either two formal tools or diagnostic artifacts, or two fire-cracked rock, bone or burnt artifacts.

Soil from all units will be screened through 6mm hardware cloth to facilitate the recovery of any artifacts that may be present. 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, Standard 7 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 Citizenship and Multiculturalism 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 Citizenship and Multiculturalism, 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.

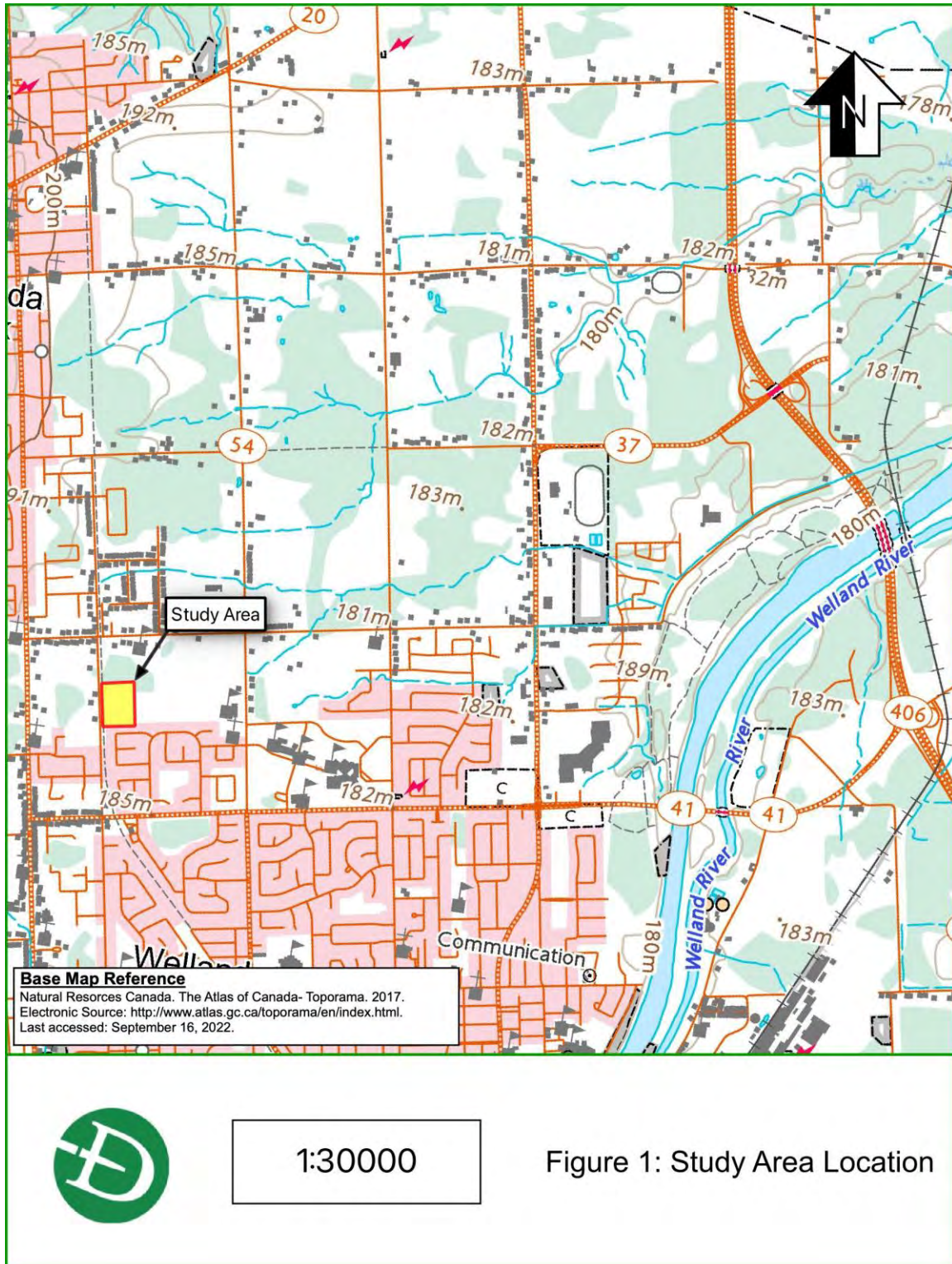
7.0 Bibliography and Sources

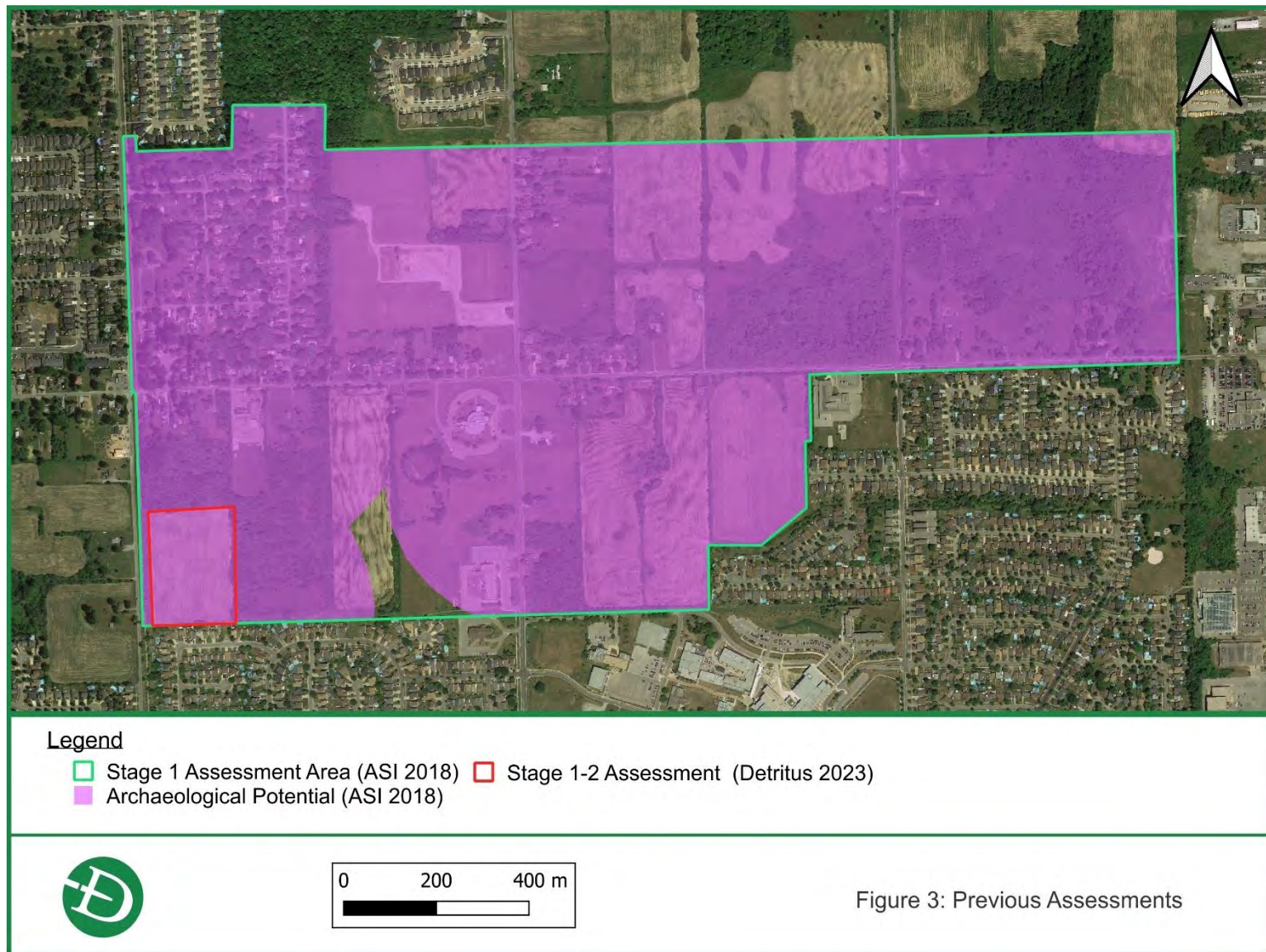
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8.0 Maps





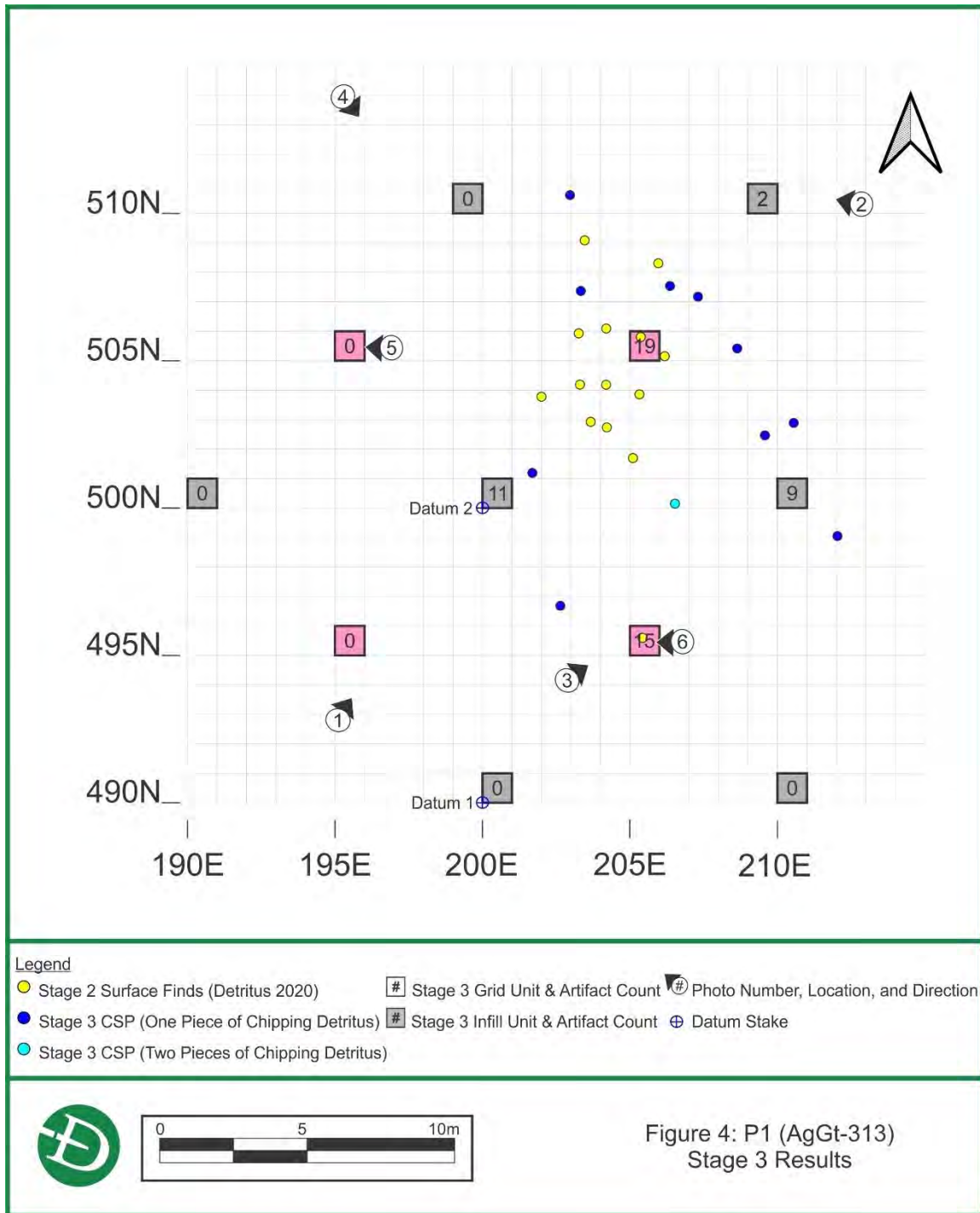
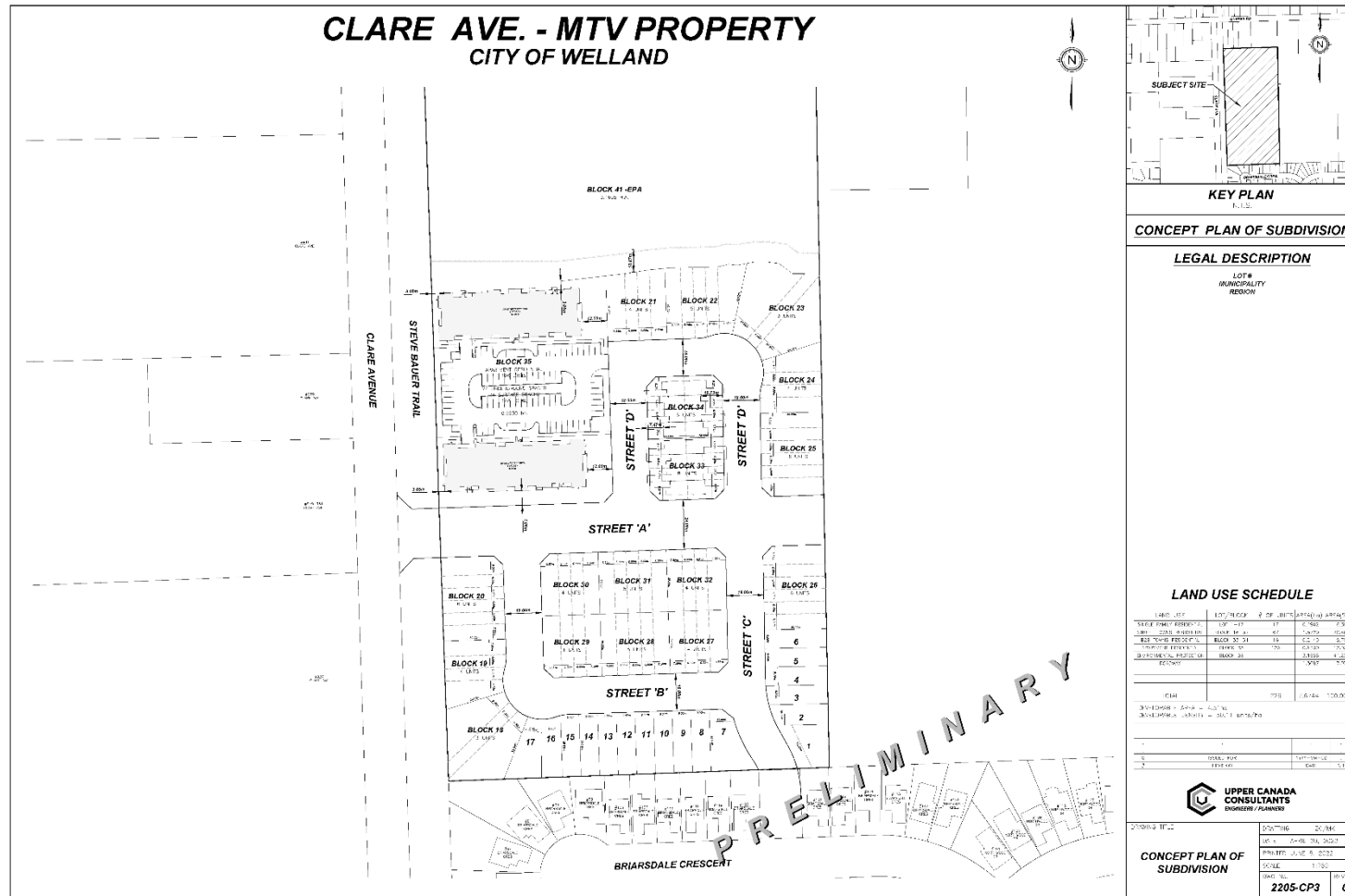


Figure 5: Development Map



9.0 Images

9.1 Field

Photo 1: Stage 3 CSP at P1 (AgGt-313), facing northeast



Photo 2: Stage 3 CSP at P1 (AgGt-313), facing west



Photo 3: Stage 3 Unit Excavation at P1 (AgGt-313), facing northeast



Photo 4: Stage 3 Unit Excavation at P1 (AgGt-313), facing southeast



Photo 5: Typical Stratigraphy of the Stage 3 Test Units, facing west



Photo 6: Typical Stratigraphy of the Stage 3 Test Units; Stain on Surface of Unit 205E, 495N, facing west



9.2 Artifacts

Plate 1: Sample of Chipping Detritus Recovered from P1 (AgGt-313)

