Stage 4 Mitigation of Developmental Impacts
P3 (AgGw-211)
Caistorville Road Property, Caistorville

Part of Lot 20, Concession 1, Geographic Township of
Caistor, Historical County of Lincoln,
now the Regional Municipality of Niagara

Submitted to:

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and

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CP Number: 2024-123

ORIGINAL REPORT

January 2nd, 2025

Executive Summary

Detritus Consulting Ltd. ('Detritus') was retained by Mr. Arie DeHaan of DeHaan Homes ('the Proponent') to conduct a Stage 4 Mitigation of Developmental Impacts assessment of site P3 (AgGw-211) located on part of Lot 20, Concession 1, in the geographic Township of Caistor, within the historical County of Lincoln, which is now the Regional Municipality of Niagara, Ontario (Figure 1). This assessment was undertaken in advance of future development on the property at Caistorville Road in Caistorville Figure 6).

This 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 this condition, a Stage 3 assessment was conducted as part of the application phase of development under archaeological consulting license P1263 issued to Mr. Jonathan Peart 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 *Standards and Guidelines for Consultant Archaeologists* ('*Standards and Guidelines*'; Government of Ontario, 2011).

P3 (AgGw-211) is located on a part of a larger Development Property that is a roughly rectangular-shaped parcel situated to the southeast of Caistorville that encompassed almost the entirety of the original historic Lot 20, Concession 1. Less than one-third of the original Lot 20 had been severed to form a small neighbourhood around Broman Court to the north of the Development Property. The remainder of the lot within the Development Property comprised agricultural fields with sections of wetlands and woodlots including portions of the Caistor Canborough Slough Forest Wetland Complex, a Provincially significant Wetland ('PSW') regulated under the Niagara Peninsula Conservation Authority ('NPCA'). The Development Property measures 35.73 hectares ('ha') and is bound to the west by woodlots/wetlands, to the east by Caistorville Road, to the north by residential properties on Broman Court, and to the south by Haldibrook Road (Figure 3). The current Development Application covers only the portion of the Development Property to be subject to developmental impacts and is outside of the 30m protective buffer surrounding the PSW (the 'Study Area'; Figure 4).

The reduced Study Area measures 7.39ha and occupies the northern portion of the Development Property, bound to the north by residential properties on Broman Court, to the west by a 30m buffer surrounding the PSW, and to the east by Caistorville Road. The southern boundary is bound by either agricultural fields or by sections of the 30m buffer surrounding the PSW. At the time of the Stage 1-2 assessment, the Study Area included two agricultural fields, portions of woodlot with felled trees, and the northwestern corner of the Study Area comprised the remnants of a former farm that included overgrown and grassy areas (Figure 4; Detritus Consulting Ltd., 2024a).

The Study Area was subject to a Stage 1-2 Archaeological Assessment conducted by Detritus under PIF# P462-0291-2024 (Detritus Consulting Ltd, 2024a). The Stage 1 background research indicated that the Study Area exhibited moderate to high potential for the identification and recovery of archaeological resources. The subsequent Stage 2 field assessment of the Study Area was conducted on November 27th, 2023, and April 24th, 2024. The derelict lawn areas and forested strip that were inaccessible to ploughing were assessed by means of a typical test pit survey at 5m intervals. No archaeological resources were observed. The two agricultural fields were assessed using a typical pedestrian survey at five-metre intervals. This investigation resulted in the identification and documentation of seven pre-contact Indigenous sites and two isolated findspots. The seven archaeological sites were registered with the MCM as P1 (AgGw-209), P2 (AgGw-210), P3 (AgGw-211), P4 (AgGw-212), P5 (AgGw-213), P6 (AgGw-214), and P7 (AgGw-215) (see Tile 4 of the Supplementary Documentation to this report).

The Stage 2 assessment of P3 (AgGw-211) resulted in the documentation of 16 pre-contact Indigenous artifacts from 10 surface findspots scattered across an area roughly 12m by 38m in the

west agricultural field approximately 11m from the western edge of the Study Area. The artifact assemblage comprised 14 pieces of debitage, manufactured from Onondaga, Haldimand, or Ancaster chert types and 1 scraper manufactured from Onondaga chert. According to the morphological analysis, the flake assemblage featured primarily tool thinning flakes (40.00%) with lesser amounts of flake fragments and secondary flakes. In addition, one piece of shatter was also recovered (Detritus Consulting Ltd, 2024a).

Based on the results of the Stage 2 investigation, Detritus interpreted sites P1 (AgGw-209), P3 (AgGw-211), P4 (AGW-212), P5 (AgGw-213), and P6 (AgGw-214) as small sized activity areas with evidence of late stages of lithic reduction activities. Given the presence of at least 10 non-diagnostic pre-contact Indigenous artifacts in a 10m by 10m pedestrian survey area within an area on or west of the Niagara Escarpment, P1 (AgGw-209), P3 (AgGw-211), P4 (AGW-212), P5 (AgGw-213), and P6 (AgGw-214) 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, 2011), retained CHVI and were recommended for Stage 3 site specific assessments (Detritus Consulting Ltd, 2024a). Furthermore, based on the Stage 2 investigation, Detritus interpreted sites P2 (AgGw-210), P7 (AgGw-215), Findspot 1, and Findspot 2 as small short-term activity areas of unknown function, occupied by unspecified Indigenous people during the pre-contact period. As a result of the isolated nature of P2 (AgGw-210), P7 (AgGw-215), Findspot 1, and Findspot 2, they did not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines* (Government of Ontario 2011). The CHVI of P2 (AgGw-210), P7 (AgGw-215), Findspot 1, and Findspot 2 were judged to be sufficiently documented (Detritus Consulting Ltd, 2024a).

Detritus conducted the subsequent Stage 3 assessment of P3 (AgGw-211) under PIF#P1263-0028-2024 from June 12th to 19th, 2024 (Detritus Consulting Ltd, 2024b). The assessment recovered a total of 62 pre-contact Indigenous artifacts including 61 artifacts from the excavation of 35 Stage 3 test units and 1 artifact from 1 surface find location, in an area covering roughly 36m by 21m in the southwestern quadrant of the Study Area, approximately 6m from the western edge of the Study Area. The artifacts were manufactured from Haldimand and Onondaga cherts and comprised mostly debitage along with one spokeshave. According to morphological analysis, the flake assemblage from P3 (AgGw-211) featured primarily tool thinning flakes with lesser amounts of flake fragments. In addition, 12 secondary flakes and 1 piece of shatter were also recovered. This variety of flake types suggest late-stages of lithic reduction for the production and maintenance of formal and informal tools occurred at the site (Detritus Consulting Ltd, 2024b).

Artifact yields during the Stage 3 excavation of P3 (AgGw-211) ranged from 0 to 10 artifacts. The highest yielding unit was 202E, 520N, which yielded 10 artifacts. One unit to the west of this unit located at 200E, 520N yielded nine artifacts and three units to the northeast and east of this unit yielded seven artifacts. The second highest yielding unit was located at 205E, 510N. Units on the 5m grid located to the east, south, and west of this unit yielded zero artifacts and the unit to the north at 205E, 515N yielded 2 artifacts (Figure 5).

Based on all the available evidence, P3 (AgGw-211) was identified as a small short-term activity area occupied by Indigenous people during the pre-contact period characterised by middle to late-stage lithic reduction related to the production and maintenance of formal and informal tools. Given the results of the Stage 3 assessment, wherein one test unit from P3 (AgGw-211) yielded ten or more lithic artifacts, P3 (AgGw-211) fulfilled the criteria for a Stage 4 archaeological investigation as per Section 3.4.1, Standard 1a of the *Standards and Guidelines* (Government of Ontario, 2011), retained further CHVI and was recommended for a Stage 4 Mitigation of Developmental Impacts (Detritus Consulting Ltd, 2024b).

In consultation with the client, avoidance and protection at the site was not a viable option. As such, it was recommended that the Stage 4 mitigation at P3 (AgGw-211) consist of a hand excavated block of one-metre units surrounding the single positive test unit identified during the Stage 3 assessment (202E, 520N; Figure 5; Detritus Consulting Ltd, 2024b).

The Stage 4 mitigation by hand excavation was conducted at P3 (AgGw-211) between August 27th and 29th, 2024 and resulted in the documentation of 13 pre-contact Indigenous artifacts from the

hand excavation of 8 one-metre square units. All of the artifacts were pieces of debitage manufactured from Haldimand and Onondaga cherts.

A single, concentrated activity area was identified surrounding the highest yielding unit, the Stage 3 unit at 202E, 520N (Figure 5). Artifact yields ranged from 0 to 3. The highest yielding units were 203E, 520N and 202E, 519N which each yielded three artifacts. Two of the units were sterile. According to the morphological analysis, the flake assemblage from P3 (AgGw-211) featured late stage lithic reduction, comprising one secondary flake and five tool thinning flakes, as well as five flake fragments and two pieces of shatter. The assemblage suggests the production and sharpening of formal tools, such as bifaces and projectile points.

Considering the low artifact density within a small area at P3 (AgGw-211), the site likely represents a small and short-term single occupation activity area occupied by Indigenous people during the pre-contact period. The assemblage is too small to draw any definitive conclusions regarding site function, other than lithic reduction activities took place.

The Stage 4 mitigation of P3 (AgGw-211) is now complete. **The CHVI of P3 (AgGw-211) has been fully documented and the information will be preserved for future study. P3 (AgGw-211) retains no further CHVI, as per Section 7.11.4 Standard 1 of the *Standards and Guidelines* (Government of Ontario, 2011).**

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

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Generous contributions by Mr. Arie DeHaan of DeHaan Homes made this report possible.

1.0 Project Context

1.1 Development Context

Detritus Consulting Ltd. ('Detritus') was retained by Mr. Arie DeHaan of DeHaan Homes ('the Proponent') to conduct a Stage 4 Mitigation of Developmental Impacts assessment of site P3 (AgGw-211) located on part of Lot 20, Concession 1, in the geographic Township of Caistor, within the historical County of Lincoln, which is now the Regional Municipality of Niagara, Ontario (Figure 1). This assessment was undertaken in advance of future development on a property at Caistorville Road (the 'Development Property'; Figure 3). The development will span only the portion in the northeast that will be subject to developmental impacts (the 'Study Area;' Figure 6).

This 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 this condition, a Stage 3 assessment was conducted as part of the application phase of development under archaeological consulting license P1263 issued to Mr. Jonathan Peart 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 *Standards and Guidelines for Consultant Archaeologists* ('*Standards and Guidelines*'; Government of Ontario, 2011).

The purpose of a Stage 4 mitigation of impacts by hand excavation is to document an archaeological site through its controlled removal in order to address archaeological concerns under land use planning and development processes. In compliance with the *Standards and Guidelines* (Government of Ontario, 2011) the objectives of the following Stage 4 investigation are:

- To document the archaeological context, cultural features, and artifacts for all parts of the site;
- to document the removal of the archaeological site; and
- to preserve the information recovered about the archaeological site for future study.

The licensee received permission from the Proponent to enter the Study Area and conduct all required archaeological fieldwork activities at P3 (AgGw-211), including the recovery of artifacts.

1.2 Historical Context

1.2.1 Post-Contact Indigenous 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 (Heidenreich, 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, 2002). 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 Year 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 Indigenous 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, H. & Co., 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, in 1847 (Smith, 2002)

Despite the encroachment of European settlers on previously established Indigenous 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

Site P3 (AgGw-211) is located within part of Lot 20, Concession 1, in the geographic Township of Caistor, within the historical County of Lincoln, which is 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, 2012-2024). 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).

In July 1792, Simcoe divided Upper Canada into 19 counties, including Lincoln County, 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, the Study Area became part of the Niagara District (Archives of Ontario, 2012-2024). 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, of which Caistor Township was a part. The two counties would be amalgamated once again in 1970 to form the Regional Municipality of Niagara.

The Township of Caistor derived its name from the north English town of Caistor in Lincolnshire and was opened for settlement in 1798. The first non-indigenous settler of the township was an escaped slave and black man named Diamond, who, in 1778 constructed an isolated cabin along a spring grove at the banks of the Welland River and resided there (McBride, 2009). In 1782, Diamond sold his cabin to Hendrich Dochstader, a United Empire Loyalist from New York State. Among the first European settlers to actively farm in the area, there was John, James, Alexander and Matthew Lymburner, who arrived between 1794 and 1796. John Lymburner built the first mill in the township in 1799, located on Lot 6, Concession 2 (Middleton & Landon, 1927). By the middle of the 18th century, Caistor Township was home to 306 residents, and was producing a significant crop of wheat, barley, peas and oats (Mitchell & Co., 1865).

Community centres within Caistor Township included Abingdon, Caistor Centre, and Caistorville. Caistorville would become a prosperous community along the Welland River. At its height, Caistorville included two churches, one Anglican and one Methodist, two general stores, two taverns and eventually a post office and public school (Exploring Niagara, 2017).

The current Study Area occupies a part of Lot 20, Concession 1 in Caistor Township. According to the *Historical Atlas*, the lot was bounded by the early settlement of Caistorville in its northwest corner (Page & Co., 1876). The entire lot was owned by Jason H. Stevenson, who was a freehold farmer (Union Publishing Company, 1885). The Study Area is located in the northern portion of the lot along a historic road, now known as Caistorville Road. The Welland River, labelled as Chippawa Creek, is depicted running alongside the early community of Caistorville to the north. Several structures, orchards and the early community of Warner are also depicted along Chippawa Creek to either side.

It should be recognised, however, that although significant and detailed landowner information is available on the current *Illustrated Atlas*, 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).

1.2.3 Recent Reports

Detritus identified and documented site P3 (AgGw-211) during the previous Stage 2 pedestrian survey of the Study Area (PIF# P462-0261-2024). The results of the Stage 1-2 archaeological assessment are presented in the following report;

> *Stage 1-2 Archaeological Assessment of Caistorville Road Property, Caistorville on Part of Lot 20, Concession 1, Geographic Township of Caistor, Historical County of Lincoln, now the Regional Municipality of Niagara* (Detritus Consulting Ltd, 2024a).

Detritus conducted a Stage 3 Site Specific Assessment of P3 (AgGw-211) under PIF# P1263-0028-2024 between June 12th to 19th, 2024. The results of the Stage 3 assessment are presented in the following report;

> *Stage 3 Site Specific Archaeological Assessment, Caistorville Road Property, Caistorville Part of Lot 20, Concession 1, Geographic Township of Caistor, Historical County of Lincoln, now the Regional Municipality of Niagara* (Detritus Consulting Ltd, 2024b).

The results of these previous investigations will be discussed in greater detail in Section 1.3.4.

1.3 Archaeological Context

1.3.1 Property Description and Physical Setting

The Development Property is a roughly rectangular-shaped parcel located to the southeast of Caistorville that encompassed almost the entirety of the original historic Lot 20, Concession 1. Less than one-third of the original Lot 20 had been severed to form a small neighbourhood around Broman Court to the north of the Development Property. The remainder of the lot within the Development Property comprised agricultural fields with sections of wetlands and woodlots including portions of the Caistor Canborough Slough Forest Wetland Complex, a Provincially significant Wetland ('PSW') regulated under the Niagara Peninsula Conservation Authority ('NPCA'). The Development Property measure 35.73 hectares ('ha') and is bound to the west by woodlots/wetlands, to the east by Caistorville Road, to the north by residential properties on Broman Court, and to the south by Haldibrook Road Figure 3). The current Development Application covers only the portion of the Development Property to be subject to developmental impacts and is outside of the 30m protective buffer surrounding the PSW (Study Area; Figure 3 and Figure 4).

The reduced Study Area measured 7.39ha and occupied the northern portion of the Development Property, bound to the north by residential properties on Broman Court, to the west by a 30m buffer surrounding the PSW, and to the east by Caistorville Road. The southern boundary is

bound by either agricultural fields or by sections of the 30m buffer surrounding the PSW. At the time of the Stage 1-2 assessment, the Study Area included two agricultural fields, and the northwestern corner of the Study Area comprised the remnants of a former farm (Detritus Consulting Ltd, 2024a)

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 located within Haldimand Clay Plain physiographic region (Chapman & Putnam, 1984). During pre-contact and early contact times, this area comprised a mixture of deciduous trees and open areas. In the early 19th century, Euro-Canadian settlers began to clear the forests for agricultural purposes, which have been ongoing in the vicinity of the Study Area for over 100 years. 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 & Presant, 1989). 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 & Putnam, 1984, p. 156

Huffman and Dumanski add that the soil within the region is suitable for corn and soybeans in rotation with cereal grains as well as alfalfa and clover (Huffman & 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, Euro-Canadian settlers began to clear the forests for agricultural purposes.

The closest source of potable water is the Welland River that runs west to east approximately 400m to the north of the Study Area.

1.3.2 Pre-Contact Indigenous Land Use

This portion of southern Ontario 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 Caistor Township (Ellis & Ferris, 1990).

Table 1: Cultural Chronology for Caistor 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

Time Period	Cultural Period	Comments
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 AgGw.

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, no sites have been registered within 1km of the Study Area. 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

The Study Area was subject to a Stage 1-2 Archaeological Assessment conducted by Detritus under PIF# P462-0291-2024 (Detritus Consulting Ltd, 2024a). The Stage 1 background research 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 the Study Area.

The subsequent Stage 2 field assessment of the Study Area was conducted on November 27th, 2023, and April 24th, 2024. This investigation began with a property inspection, which determined that the artificial pond, the two stone-lined ditches, and the two building foundations retained no, or low, archaeological potential based on the identification of extensive and deep land alteration that has severely damaged the integrity of archaeological resources. The marshy area in the east agricultural field meanwhile, was evaluated as being permanently wet and therefore was determined to retain no archaeological potential. The previously disturbed and permanently wet areas, as confirmed during a Stage 2 property inspection, were mapped and photo documented.

The remainder of the Study Area comprised the derelict lawn areas, the strip of scrub, and two agricultural fields within the Study Area. The derelict lawn areas and forested strip that were inaccessible to ploughing were assessed by means of a typical test pit survey at 5m intervals. No archaeological resources were observed. The two agricultural fields were deemed accessible for ploughing and were assessed using a typical pedestrian survey at five-metre intervals. This investigation resulted in the identification and documentation of seven pre-contact Indigenous sites and two isolated findspots. The seven archaeological sites were registered with the MCM as P1 (AgGw-209), P2 (AgGw-210), P3 (AgGw-211), P4 (AgGw-212), P5 (AgGw-213), P6 (AgGw-214), and P7 (AgGw-215) (see Tile 4 of the Supplementary Documentation to this report).

The Stage 2 assessment of P1 (AgGw-209) resulted in the documentation of 19 pre-contact Indigenous artifacts from 19 findspot locations scattered across an area roughly 28m by 12m in

the centre of the east agricultural field located approximately 58m from the eastern edge of the Study Area. All of the artifacts recovered from the site were pieces of debitage and were manufactured from Onondaga or Selkirk chert. According to the morphological analysis the flake assemblage featured primarily secondary flakes (52.53%) with lesser amounts of flake fragments as well as one piece of shatter (Detritus Consulting Ltd, 2024a).

The Stage 2 assessment of P3 (AgGw-211) resulted in the documentation of 16 pre-contact Indigenous artifacts from 10 surface findspots scattered across an area roughly 12m by 38m in the west agricultural field approximately 11m from the western edge of the Study Area. The artifact assemblage comprised 14 pieces of debitage, manufactured from Onondaga, Haldimand, or Ancaster chert types and 1 scraper manufactured from Onondaga chert. According to the morphological analysis, the flake assemblage featured primarily tool thinning flakes (40.00%) with lesser amounts of flake fragments and secondary flakes. In addition, one piece of shatter was also recovered (Detritus Consulting Ltd, 2024a).

The Stage 2 assessment of P4 (AgGw-212) resulted in the documentation of 45 pre-contact Indigenous artifacts from 22 surface findspots scattered across an area roughly 44m by 18m in the southwestern corner of the west agricultural field within the Study Area. The artifact assemblage comprised 41 pieces of debitage, 2 bifaces, and 2 scrapers. The artifacts recovered from the site were all manufactured from Onondaga chert. According to the morphological analysis, the flake assemblage featured primarily flake fragments (48.78%) with lesser amounts of secondary flakes and tool thinning flakes. In addition, one piece of shatter was also recovered (Detritus Consulting Ltd, 2024a)

The Stage 2 assessment of P5 (AgGw-213) resulted in the documentation of 15 pre-contact Indigenous artifacts from 11 surface findspots scattered across an area roughly 31m by 20m in the southwestern corner of the east agricultural field approximately 17m away from the southern edge of the Study Area. The artifacts recovered from the site were all pieces of debitage manufactured from Onondaga, Ancaster, or Haldimand chert. According to the morphological analysis, the flake assemblage featured primarily flake fragments (46.67%) with lesser amounts of tool thinning flakes and secondary flakes (Detritus Consulting Ltd, 2024a).

The Stage 2 assessment of P6 (AgGw-214) resulted in the documentation of 26 pre-contact Indigenous artifacts from 20 surface findspots scattered across an area roughly 41m by 40m in the southeastern portion of east agricultural field located approximately 14m from the eastern edge of the Study Area. The artifact assemblage comprised 24 pieces of debitage, 1 biface, and 1 core. The artifacts recovered from the site were manufactured from Onondaga, Ancaster, or Selkirk chert. According to the morphological analysis, the flake assemblage featured primarily tool thinning (37.50%) and flake fragments (33.33%) with lesser amounts of shatter along with two secondary flakes (Detritus Consulting Ltd, 2024a).

Based on the results of the Stage 2 investigation, P1 (AgGw-209), P3 (AgGw-211), P4 (AGW-212), P5 (AgGw-213), and P6 (AgGw-214) were interpreted as small sized activity areas with evidence of late stages of lithic reduction activities. Given the presence of at least 10 non-diagnostic pre-contact Indigenous artifacts in a 10m by 10m pedestrian survey area within an area on or west of the Niagara Escarpment, P1 (AgGw-209), P3 (AgGw-211), P4 (AGW-212), P5 (AgGw-213), and P6 (AgGw-214) 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, 2011), retained CHVI and were recommended for Stage 3 site specific assessment (Detritus Consulting Ltd, 2024a).

The Stage 2 assessment of P2 (AgGw-210) resulted in the documentation of two pre-contact Indigenous artifacts from two findspot locations located approximately 14m from each other in the northwestern portion of the east agricultural field within the Study Area. One piece of debitage was recovered and identified as a fragmentary flake manufactured from Haldimand chert. Additionally, a single fragmentary projectile point manufactured from Onondaga chert was recovered during the pedestrian survey of P2 (AgGw-210). The notched projectile point is missing most of the base and has an irregular shape with one nearly straight edge and one convex edge. It was deemed a possible Stanley type point dating to the Middle Archaic.

The Stage 2 assessment of P7 (AgGw-215) resulted in the documentation of six pre-contact Indigenous artifacts from six surface findspots scattered across an area roughly 15m by 32m in the eastern portion of the east agricultural field approximately 40m from the eastern edge of the

Study Area. The artifact assemblage comprised one projectile point fragment manufactured from Onondaga chert and five pieces of debitage manufactured from Onondaga, Haldimand, and Ancaster chert. According to the morphological analysis, the flake assemblage featured primarily flake fragments (60.00%) along with one primary flake and one secondary flake

Findspot 1 comprised a single piece of debitage manufactured from Onondaga chert recovered during the pedestrian survey of the east agricultural field approximately 48m to the north of P1 (AgGw-209). Findspot 2 comprises a single piece of debitage manufactured from Haldimand chert recovered during the pedestrian survey of the east agricultural field approximately 24m to the north of P1 (AgGw-209). Both were identified as flake fragments

Given the results of the Stage 2 investigation, P2 (AgGw-210), P7 (AgGw-215), Findspot 1, and Findspot 2 were interpreted as small short-term activity areas of unknown function, occupied by unspecified Indigenous people during the pre-contact period. As a result of the isolated nature of P2 (AgGw-210), P7 (AgGw-215), Findspot 1, and Findspot 2, they did not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines* (Government of Ontario 2011). The CHVI of P2 (AgGw-210), P7 (AgGw-215), Findspot 1, and Findspot 2 were judged to be sufficiently documented (Detritus Consulting Ltd, 2024a).

Detritus conducted a Stage 3 site specific assessment of P3 (AgGw-211) under PIF# P1263-0028-2024 between June 12th to 19th, 2024. The Stage 3 assessment resulted in the documentation of 62 pre-contact Indigenous artifacts including 61 artifacts from the excavation of 35 Stage 3 test units and 1 artifact from 1 surface find location, in an area covering roughly 36m by 21m in the southwestern quadrant of the Study Area, approximately 6m from the western edge of the Study Area. The artifacts were manufactured from Haldimand and Onondaga cherts and comprised mostly debitage along with one spokeshave. According to morphological analysis, the flake assemblage from P3 (AgGw-211) featured primarily tool thinning flakes with lesser amounts of fragmentary flakes. In addition, 12 secondary flakes and 1 piece of shatter were also recovered. This variety of flake types suggest late-stages of lithic reduction for the production and maintenance of formal and informal tools occurred at the site (Detritus Consulting Ltd, 2024b).

Artifact yields during the Stage 3 excavation of P3 (AgGw-211) ranged from 0 to 10 artifacts. The highest yielding unit was 202E, 520N, which yielded 10 artifacts. One unit to the west of this unit located at 200E, 520N yielded nine artifacts and three units to the northeast and east of this unit yielded seven artifacts. The second highest yielding unit was located at 205E, 510N. Units on the 5m grid located to the east, south, and west of this unit yielded zero artifacts and the unit to the north at 205E, 515N yielded 2 artifacts (Figure 5).

Based on all the available evidence, P3 (AgGw-211) was identified as a small short-term activity area occupied by Indigenous people during the pre-contact period characterised by middle to late-stage lithic reduction related to the production and maintenance of formal and informal tools. Given the results of the Stage 3 assessment, wherein one test unit from P3 (AgGw-211) yielded ten or more lithic artifacts, P3 (AgGw-211) fulfilled the criteria for a Stage 4 archaeological investigation as per Section 3.4.1, Standard 1a of the *Standards and Guidelines* (Government of Ontario, 2011), retained further CHVI and was recommended for a Stage 4 Mitigation of Developmental Impacts (Detritus Consulting Ltd, 2024b).

In consultation with the client, avoidance and protection at the site was not a viable option. As such, it was recommended that the Stage 4 mitigation at P3 (AgGw-211) consist of a hand excavated block of one-metre units surrounding the single positive test unit identified during the Stage 3 assessment (202E, 520N; Figure 5; Detritus Consulting Ltd, 2024b).

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 (Government of Ontario, 2011) to determine areas of archaeological potential within the 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, 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. The MCM (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.

As was discussed above, the closest source potable water is the Welland River that runs west to east approximately 400m 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 Plain physiographic region. As was discussed earlier, the soils within this region are imperfectly drained, but suitable for pre-contact and post contact Indigenous agricultural. Given this, the distance to potable water and the length of occupation of Caistor Township prior to the arrival of Euro-Canadian settlers, the pre-contact Indigenous archaeological potential, as evidenced by the seven pre-contact sites within 1km, 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) map of Caistor Township shows the Study Area in close proximity to historical infrastructure including early roads. Considering the location of the Study Area near to the early community of Caistorville and the Welland River, the potential for post-contact Euro-Canadian archaeological resources is judged to be moderate to high.

2.0 Field Methods

The Stage 4 mitigation of P3 (AgGw-211) was conducted between August 27th and 29th, 2024, under archaeological consulting license P1263 issued to Mr. Jonathan Peart by the MCM. These investigations began with a review of all relevant reports of previous fieldwork on the property as per Section 4.2.1, Standard 2 of the *Standards and Guidelines* (Government of Ontario, 2011).

Additionally, in accordance with Section 3.4, Standard 2 of the *Standards and Guidelines* (Government of Ontario, 2011) and Section 1.1, Standard 1 of the *Engaging Aboriginal Communities in Archaeology* technical bulletin (Government of Ontario, 2022), Indigenous engagement was undertaken throughout the Stage 4 investigation of P3 (AgGw-211). Additional information on the Indigenous engagement practices conducted during the Stage 4 is provided in the Supplementary Documentation to this report.

During the Stage 4 fieldwork, conditions were excellent and at no time were the field, weather or lighting conditions detrimental to the recovery of archaeological material as per Section 4.2.1, Standard 3 and Section 7.9.1, Standard 1a of the *Standards and Guidelines* (Government of Ontario, 2011). Table 2 provides a summary of the weather and field conditions during the Stage 4 archaeological assessment. Photos 1, 2, 5 and 6 illustrate field conditions including areas that met the requirements for a Stage 4 archaeological assessment, as per Section 7.8.6, Standards 1a of the *Standards and Guidelines* (Government of Ontario, 2011). Figure 5 illustrates the Stage 4 assessment methods, as well as photograph locations and directions.

Table 2: Field and Weather Conditions

Date	Weather	Field Conditions	Tasks
August 27, 2024	High of 35˚C; clear	soil dry and screened with difficulty	Unit excavation
August 28, 2024	High of 23˚C; partly cloudy	soil dry and screened with difficulty	Unit excavation
August 29, 2024	High of 22˚C; clear, becoming overcast	soil dry and screened with difficulty	Unit excavation

The Stage 4 mitigation of P3 (AgGw-211) resulted in the hand excavation of eight one-metre units conducted according to Sections 4.2.1 and 4.2.2 of the *Standards and Guidelines* (Government of Ontario, 2011). These units surrounded the highest yielding Stage 3 unit located at 202E, 520N located in the western end of the site extent, as per Section 4.2.2, Standard 3c of the *Standards and Guidelines* (Government of Ontario, 2011), and resulted in a single, continuous Stage 4 excavation block measuring 3m north to south and 3m east to west (Figure 5). Artifact yields among the Stage 4 units ranged from 0 to 3. The extent of the excavation block was determined in accordance with Section 4.2.2, Standard 4 and Table 4.1 of the *Standards and Guidelines* (Government of Ontario, 2011).

All Stage 4 units were excavated by hand in systematic levels, as per Section 4.2.1, Standards 1 and 6 of the *Standards and Guidelines* (Government of Ontario, 2011). All eight of the Stage 4 units contained a single stratigraphic layer. The units were excavated into the first five centimetres ('cm') of subsoil, as per Section 4.2.2, Standard 6 of the *Standards and Guidelines* (Government of Ontario, 2011). Overall, the Stage 4 units at P3 (AgGw-211) ranged in depth from 23cm to 26cm.

All of the excavated soil was screened through six-millimetre hardware cloth to facilitate the recovery of small artifacts, as per Section 4.2.2, Standard 6 of the *Standards and Guidelines* (Government of Ontario, 2011). All artifacts recovered during the Stage 4 block excavation were recorded with reference to their one-metre grid unit number and retained for laboratory analysis and description, as per Section 4.2.1, Standards 8 of the *Standards and Guidelines* (Government of Ontario, 2011). The subsoil surface of each unit was shovel-shined, trowelled, and examined for any evidence of subsurface cultural features. No subsurface features were observed.

The Stage 4 Mitigation of Impacts of P3 (AgGw-211) resulted in the recovery of 13 pre-contact Indigenous artifacts, comprising 13 pieces of debitage. No formal tools, Indigenous ceramics, or fire cracked rock were recovered during any stage of investigation.

3.0 Record of Finds

The Stage 4 mitigation of P3 (AgGw-211) was conducted employing the methods described in Section 2.0 above. Figure 5 provides the results of this investigation. Maps indicating the exact site location of the site, and all UTM coordinates recorded during the assessment, are included in the Supplementary Documentation to this report. An inventory of the documentary record generated by the fieldwork is provided in Table 3 below.

Table 3: 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 Proponent	Detritus' office	Stored digitally in project file
1 Field Map	Detritus' office	Stored digitally in project file
10 Digital Photographs	Detritus' office	Stored digitally in project file

All of the material culture collected during the Stage 4 mitigation of site P3 (AgGw-211) is contained in one box and will be temporarily housed in the offices of Detritus 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.

3.1 Cultural material

As was discussed above, the Stage 4 assessment resulted in the recovery of 13 pieces of debitage. The artifacts collected during the Stage 4 assessment were manufactured from Haldimand and Onondaga cherts. Chert type identifications were accomplished visually using reference materials located in the Detritus office or in personal collections.

Haldimand chert (Plate 1), 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 & von Bitter, 1989).

Onondaga chert (Plate 2) 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 & von Bitter, 1989). Primary outcrops have also been reported along the banks of the Grand River (Ellis & Ferris, 1990). Onondaga chert 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 Indigenous people (Eley & von Bitter, 1989).

Furthermore, all pieces of debitage were subject to morphological analysis following the classification scheme described by Lennox, Dodd and Murphy for the Wiacek Site (Lennox, Dodd, & Murphy, 1986) and expanded upon by Fisher for the Adder Orchard site (Fisher, 1997). Primary and secondary flakes, along with cortical removal flakes, are a product of percussion flaking undertaken during the initial reduction phases of raw material into blanks, bifaces and preforms. These early-stage reduction flakes tend to exhibit minimal dorsal flake scarring, and are often characterized by the presence of cortex, or the original unflaked chert exterior, on their dorsal surfaces and proximal ends. For cortical removal flakes, over half of the dorsal surface comprises cortex; for primary flakes, less than half. Secondary flakes, meanwhile, may not contain any cortex. Thinning flakes are produced during the latter stages of lithic reduction, when blanks, bifaces, and preforms are shaped into projectile points and formal tools. They are the result of pressure flaking, where the maker uses a softer material such as antler, wood or bone to apply direct pressure onto a specific part of the tool. 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.

Debitage is the waste product from the production of stone tools and is the most frequently recovered artifact on pre-contact Indigenous sites in southern Ontario. Debitage has a low significance and interpretive value when it is not associated with any diagnostic material, therefore they cannot be used to determine the cultural affiliation or time period of the occupation of a site.

3.2 Artifact Analysis

The results of the morphological analysis of the debitage recovered from P3 (AgGw-211) are detailed in Table 4, Plate 1, and Plate 2.

Table 4: Flake Analysis for P3 (AgGw-211)

Chert type	Secondary		Tool Thinning		Fragmentary		Shatter		Total Analyzed	
	n	%	n	%	n	%	n	%	n	%
Haldimand	0	0.00	0	0.00	2	66.67	1	33.33	3	100.00
Onondaga	1	10.00	5	50.00	3	30.00	1	10.00	10	100.00
Total	**1**	**7.69**	**5**	**38.46**	**5**	**38.46**	**2**	**27.21**	**13**	**100%**

According to the morphological analysis presented above, in the flake assemblage from P3 (AgGw-211) featured late stage lithic reduction, comprising one secondary flake and five tool thinning flakes, as well as five flake fragments and two pieces of shatter. The assemblage suggests the production and sharpening of formal tools, such as bifaces and projectile points. 3.3 Artifact Distribution and Settlement Pattern

A single, concentrated activity area was identified surrounding the highest yielding unit, the Stage 3 unit at 202E, 520N (Figure 5). Artifact yields ranged from 0 to 3. The highest yielding units were 203E, 520N and 202E, 519N which each yielded three artifacts. Two of the units were sterile.

3.3 Artifact Catalogue

Table 8 provides a complete catalogue of the Stage 4 artifact assemblage recovered from P3 (AgGw-211). Photographs of a representative sample of artifacts recovered during the Stage 4 assessment are depicted in Section 9.2 of this report.

Table 8: P3 (AgGw-211) Stage 4 Artifact Catalogue

Cat#	Unit Easting	Unit Northing	Unit Depth (m)	Artifact	Frequency	Chert Type	Morphology
1	521	201	0.23	debitage	1	Haldimand	fragment
2	521	202	0.26	debitage	2	Haldimand	tool thinning
3	519	203	0.26	debitage	1	Haldimand	tool thinning
4	519	203	0.26	debitage	1	Onondaga	shatter
5	520	203	0.26	debitage	1	Haldimand	secondary
6	520	203	0.26	debitage	1	Haldimand	tool thinning
7	520	203	0.26	debitage	1	Haldimand	shatter
8	521	203	0.25	debitage	1	Haldimand	fragment
9	521	203	0.25	debitage	1	Onondaga	fragment
10	519	202	0.23	debitage	1	Haldimand	tool thinning
11	519	202	0.23	debitage	1	Haldimand	fragment
12	519	202	0.23	debitage	1	Onondaga	fragment

4.0 Analysis and Conclusions

Detritus was retained by the Proponent to conduct a Stage 4 mitigation of developmental impacts of site P3 (AgGw-211) in advance of future development on the property along Caistorville Road, Caistorville.

The Stage 4 mitigation by hand excavation was conducted at P3 (AgGw-211) between August 27th and 29th, 2024 and resulted in the documentation of 13 pre-contact Indigenous artifacts from the hand excavation of 8 one-metre square units. All of the artifacts were pieces of debitage manufactured from Haldimand and Onondaga cherts.

A single, concentrated activity area was identified surrounding the highest yielding unit, the Stage 3 unit at 202E, 520N (Figure 5). Artifact yields ranged from 0 to 3. The highest yielding units were 203E, 520N and 202E, 519N which each yielded three artifacts. Two of the units were sterile. According to the morphological analysis, the flake assemblage from P3 (AgGw-211) featured late stage lithic reduction, comprising one secondary flake and five tool thinning flakes, as well as five flake fragments and two pieces of shatter. The assemblage suggests the production and sharpening of formal tools, such as bifaces and projectile points.

Considering the low artifact density within a small area at P3 (AgGw-211), the site likely represents a small and short-term single occupation activity area occupied by Indigenous people during the pre-contact period. The assemblage is too small to draw any definitive conclusions regarding site function, other than lithic reduction activities took place.

5.0 Recommendations

The Stage 4 mitigation of P3 (AgGw-211) is now complete. **The CHVI of P3 (AgGw-211) has been fully documented and the information will be preserved for future study. P3 (AgGw-211) retains no further CHVI, as per Section 7.11.4 Standard 1 of the *Standards and Guidelines* (Government of Ontario, 2011).**

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 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 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.

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8.0 Maps

Figure 1: Study Area Location Map

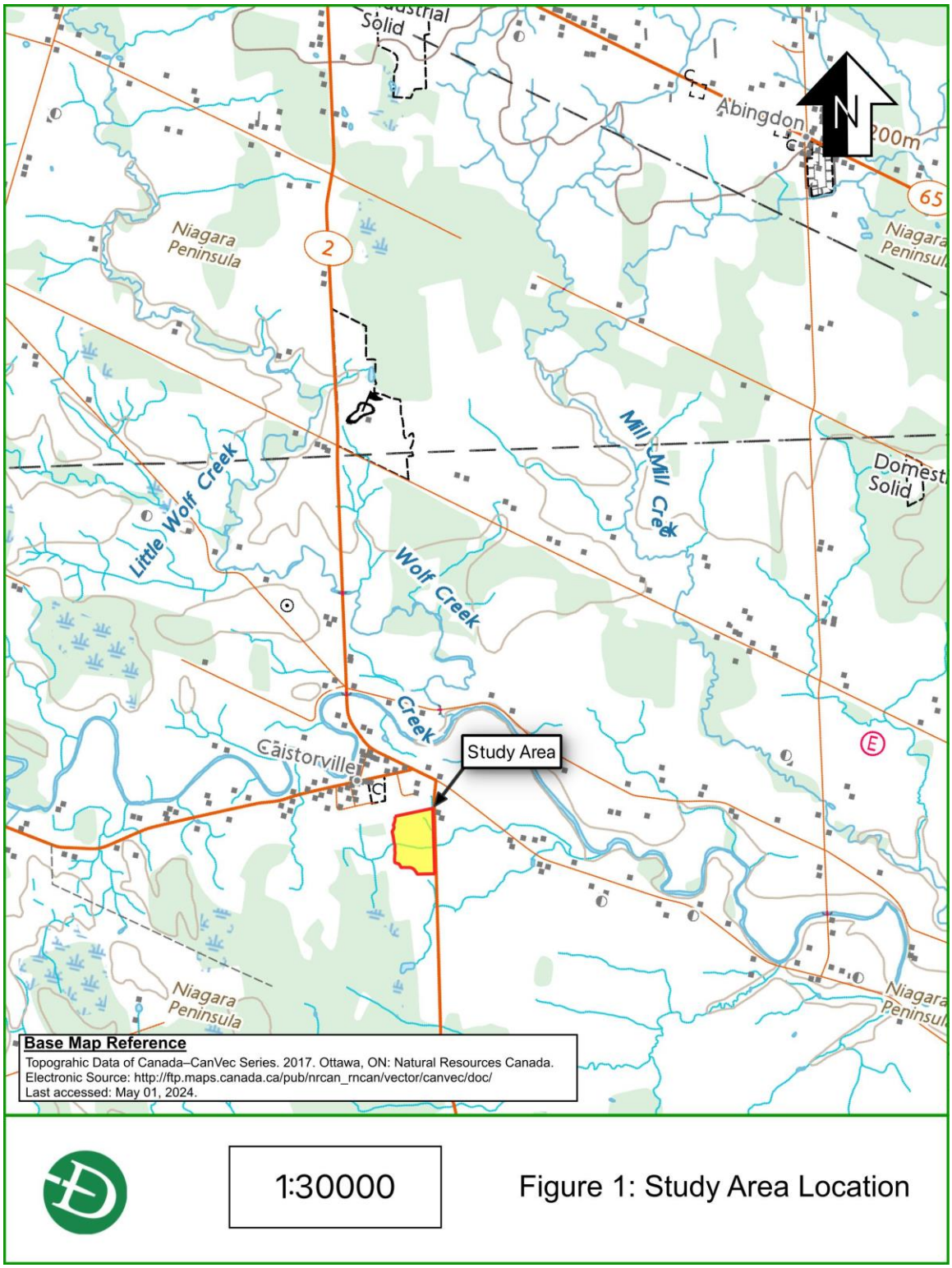


Figure 2: Historic Map Showing Study Area Location

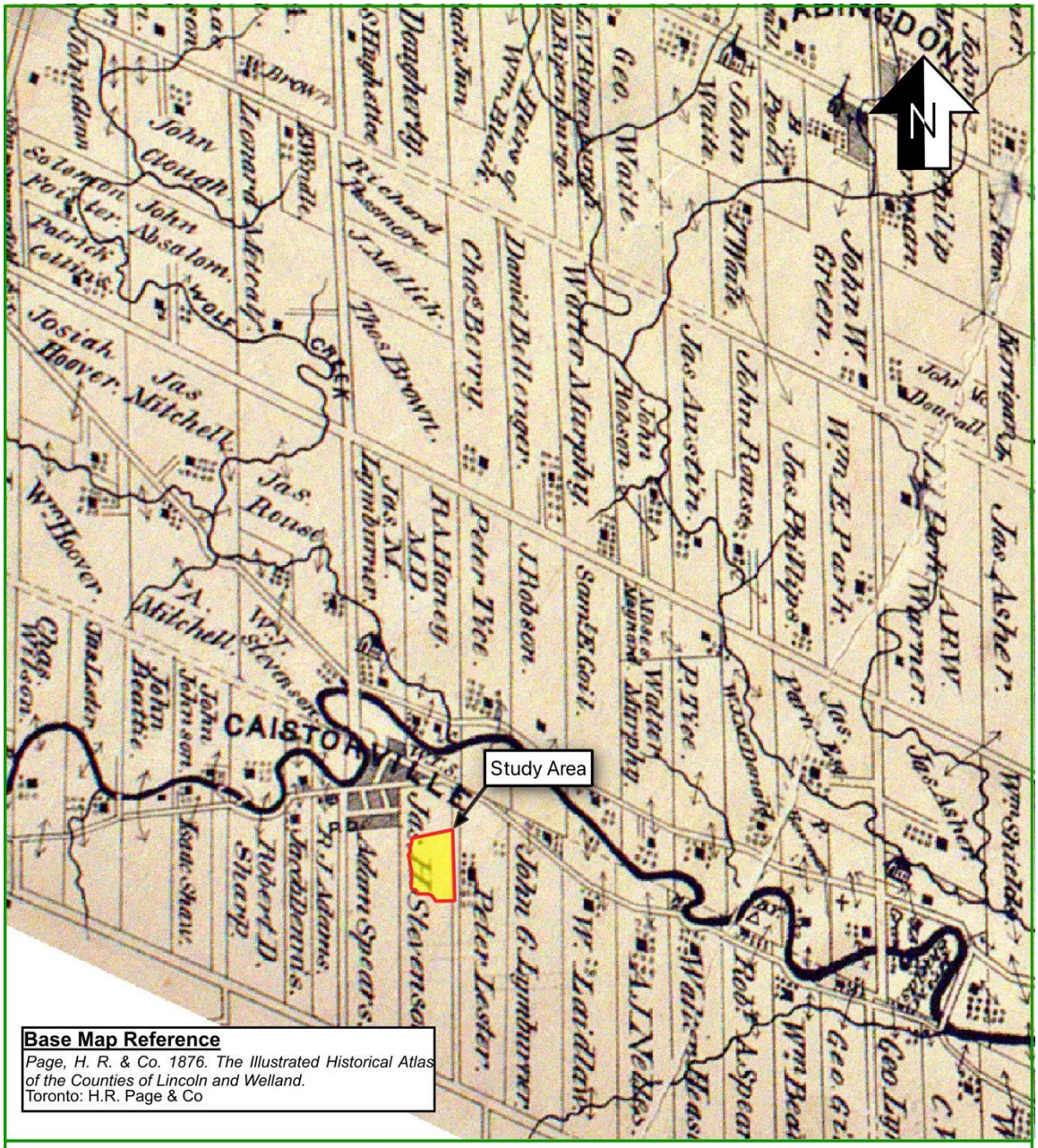


Figure 3: Map of the Development Property and Scoped Study Area

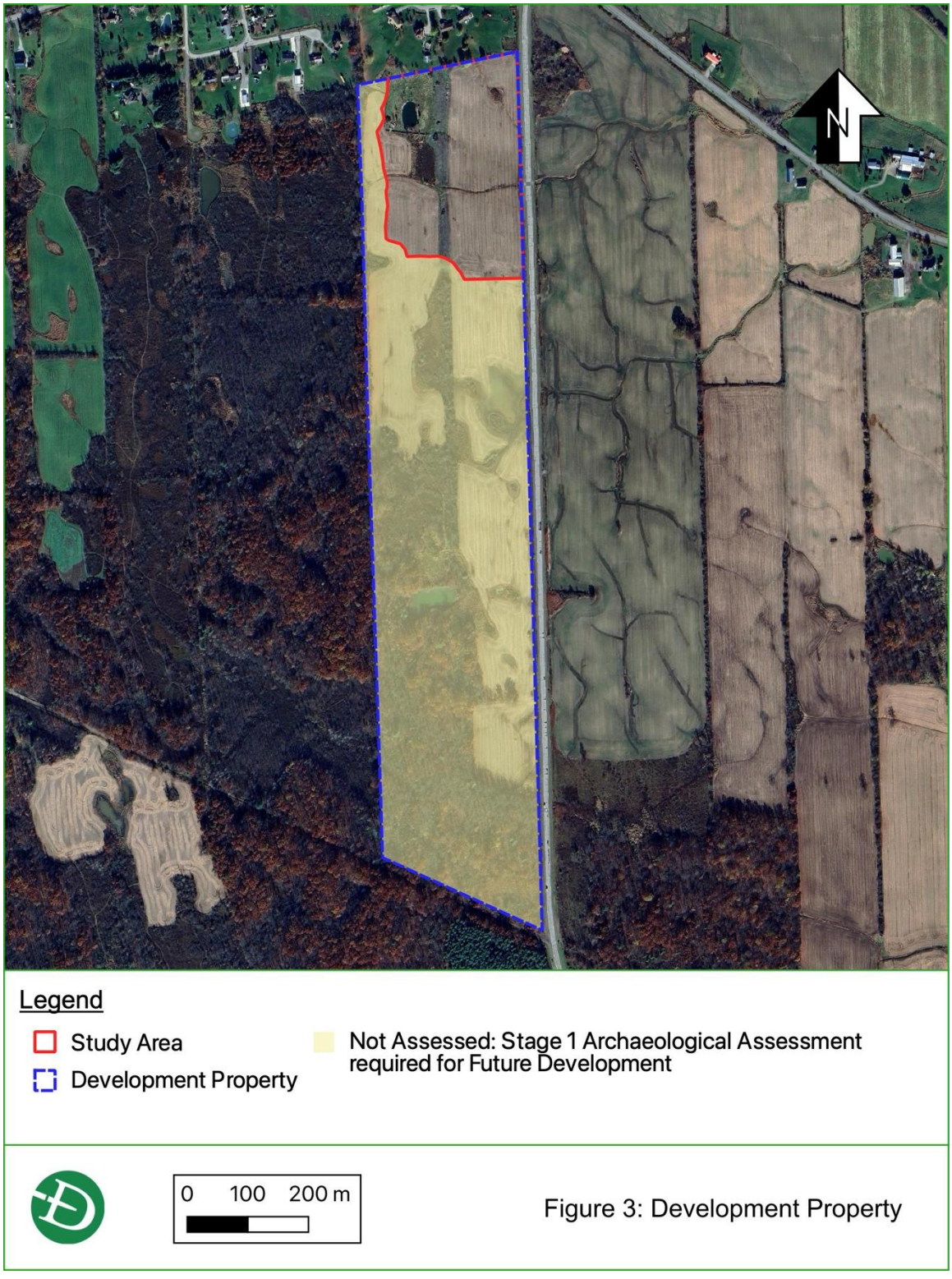


Figure 4: Previous Assessments



Figure 5: Stage 4 Results

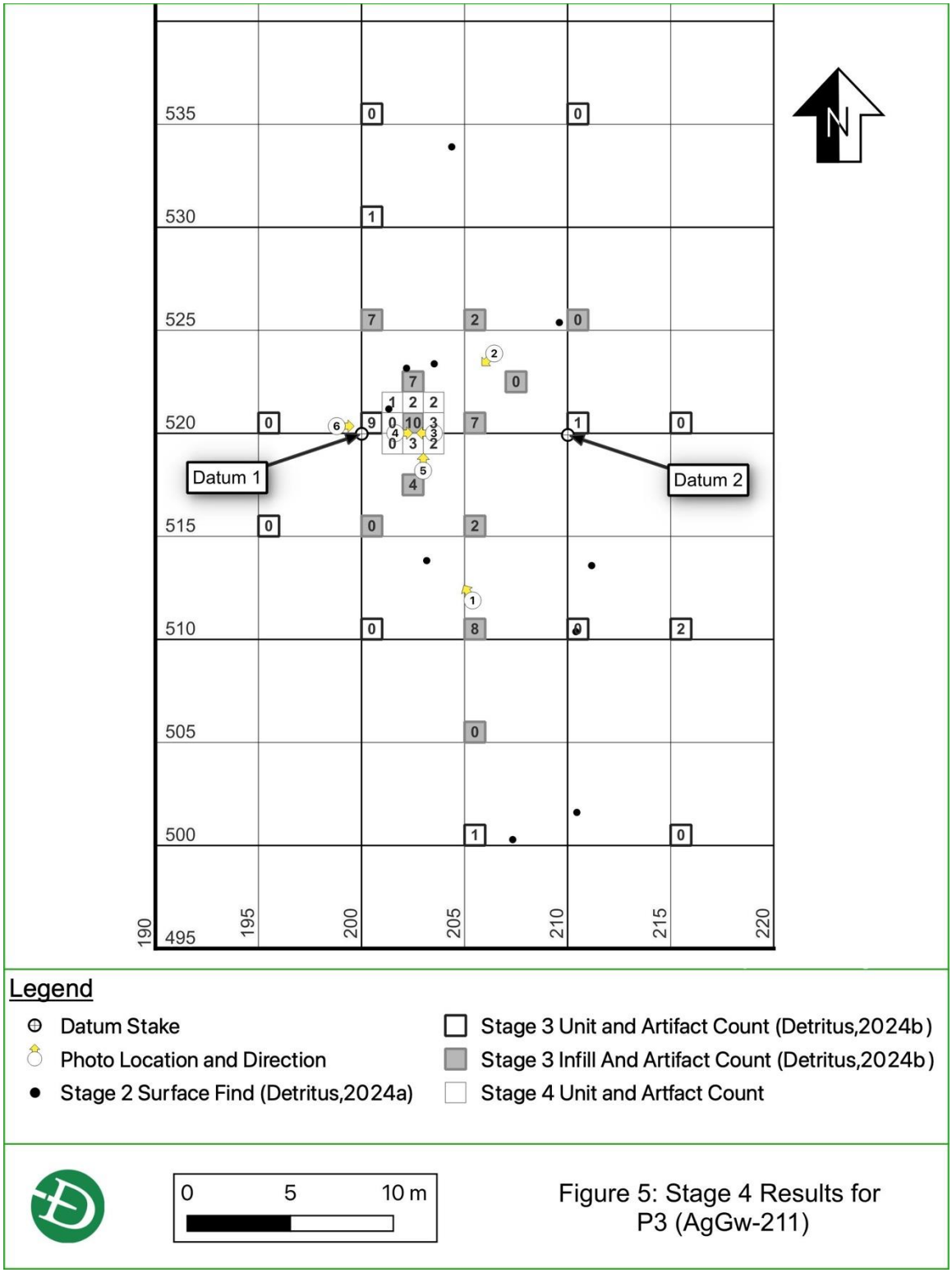
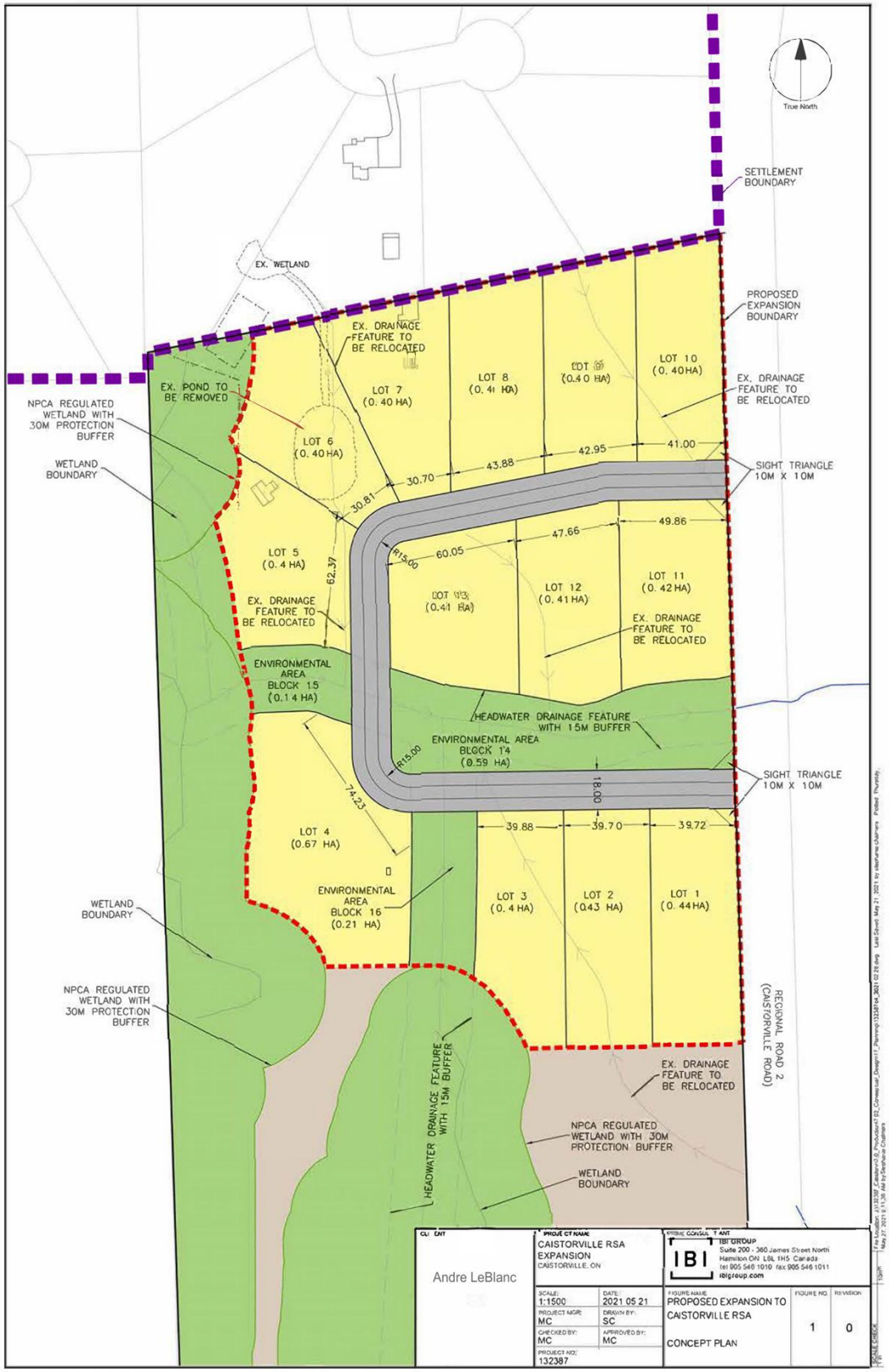


Figure 6: Development Plan



9.0 Images

9.1 Field Photos

Photo 1: Stage 4 excavation at P3 (AgGw-211), facing north, northwest



Photo 2: Stage 4 excavation at west end of P3 (AgGw-211), facing southwest



Photo 3: Stage 4 stratigraphy at P3 (AgGw-211), facing west



Photo 4: Stage 4 stratigraphy at P3 (AgGw-211), facing north



Photo 5: Completed block excavation at P3 (AgGw-211), facing north



Photo 6: Completed block excavation at P3 (AgGw-211), facing west



9.2 Artifacts

Plate 1: Representative flake made of Haldimand chert Cat# 5



Plate 2: Representative flake made of Onondaga chert Cat# 12



Stage 4 Mitigation of Development Impacts
P4 (AgGw-212)
Caistorville Road Property, Caistorville

Part of Lot 20, Concession 1, Geographic Township of Caistor, Historical County of Lincoln, now the Regional Municipality of Niagara

Submitted to:

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and

Ontario's Ministry of Citizenship and Multiculturalism

Submitted by:

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License Number: P1263
PIF Number: P1263-0036-2024
CP Number: 2024-124

ORIGINAL REPORT

January 13th, 2025

Executive Summary

Detritus Consulting Ltd. ('Detritus') was retained by Mr. Arie DeHaan of DeHaan Homes ('the Proponent') to conduct a Stage 4 mitigation of developmental impacts of site P4 (AgGw-212) located on part of Lot 20, Concession 1, in the geographic Township of Caistor, within the historical County of Lincoln, which is now the Regional Municipality of Niagara, Ontario (Figure 1). This assessment was undertaken in advance of future development on a property at Caistorville Road (the 'Development Property'; Figure 3). The development will span only the portion in the northeast that will be subject to developmental impacts (the 'Study Area'; Figure 1).

Mitigation of P4 (AgGw-212) 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 this condition, a Stage 4 mitigation by hand excavation at the site was conducted as part of the application phase of development under archaeological consulting license P1263 issued to Mr. Jonathan Peart 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 *Standards and Guidelines for Consultant Archaeologists* ('*Standards and Guidelines*'; Government of Ontario, 2011).

P4 (AgGw-212) is located on a part of a larger Development Property that is a roughly rectangular-shaped parcel situated to the southeast of Caistorville that encompassed almost the entirety of the original historic Lot 20, Concession 1. Less than one-third of the original Lot 20 had been severed to form a small neighbourhood around Broman Court to the north of the Development Property. The remainder of the lot within the Development Property comprised agricultural fields with sections of wetlands and woodlots including portions of the Caistor Canborough Slough Forest Wetland Complex, a Provincially significant Wetland ('PSW') regulated under the Niagara Peninsula Conservation Authority ('NPCA'). The Development Property measure 35.73 hectares ('ha') and is bound to the west by woodlots/wetlands, to the east by Caistorville Road, to the north by residential properties on Broman Court, and to the south by Haldibrook Road (Figure 1). The current Development Application covers only the portion of the Development Property to be subject to developmental impacts and is outside of the 30m protective buffer surrounding the PSW (the 'Study Area'; Figure 3).

The reduced Study Area measures 7.39ha and occupies the northern portion of the Development Property, bound to the north by residential properties on Broman Court, to the west by a 30m buffer surrounding the PSW, and to the east by Caistorville Road. The southern boundary is bound by either agricultural fields or by sections of the 30m buffer surrounding the PSW. At the time of the Stage 1-2 assessment, the Study Area included two agricultural fields, portions of woodlot with felled trees, and the northwestern corner of the Study Area comprised the remnants of a former farm that included overgrown and grassy areas (Figure 4; Detritus Consulting Ltd., 2024a).

The Stage 1-2 archaeological assessment of the Study Area included a standard pedestrian survey of the agricultural fields and test pit surveys of the felled woodlots and overgrown and grassy areas and resulted in the identification and documentation of seven pre-contact Indigenous sites and two isolated findspots. The seven archaeological sites were registered with the MCM as P1 (AgGw-209), P2 (AgGw-210), P3 (AgGw-211), P4 (AgGw-212), P5 (AgGw-213), P6 (AgGw-214), and P7 (AgGw-215) (see Tile 4 of the Supplementary Documentation to this report). Based on the results of the Stage 1-2 assessment, Detritus recommended Stage 3 site specific assessments for P1 (AgGw-209), P3 (AgGw-211), P4 (AgGw-212), P5 (AgGw-213) and P6 (AgGw-214) (Detritus Consulting Ltd., 2024a).

The Stage 3 assessment of P4 (AgGw-212) was conducted under PIF# P1263-0029-2024 between June 10th to 17th, 2024. Only the portion of the site within the Study Area was assessed during this Stage 3 assessment. The assessment recovered a total of 29 pre-contact Indigenous artifacts from

the excavation of 22 Stage 3 test units covering an area roughly 46m by 21m in the southwestern quadrant of the Study Area, along the western edge. The artifacts were manufactured from Onondaga chert and comprised debitage along with a core, a biface, and a utilized flake. According to morphological analysis, the flake assemblage from P4 (AgGw-212) featured primarily flake fragments (n=11; 42.31%) with lesser amounts of tool thinning flakes (n=10; 38.46%). In addition, three secondary flakes (11.54%) and two pieces of shatter (7.69%) were also recovered. Artifact yields during the Stage 3 excavation of P4 (AgGw-212) ranged from 0 to 11 artifacts. The highest yielding unit was 210E, 505N, which yielded 11 artifacts. The second highest yielding unit was to the north of this unit, located at 210E, 510N, and yielded seven artifacts. The other seven units surrounding 210E, 510N yielded only 0 to 4 artifacts.

Based on all Stage 3 assessment, P4 (AgGw-212) was identified as a small short-term activity area occupied by Indigenous people during the pre-contact period. The artifact assemblage was characterised by middle to late-stage lithic reduction related to the production and maintenance of formal and informal tools. Given the results of the Stage 3 assessment, wherein one test unit yielded ten or more lithic artifacts, P4 (AgGw-212), was determined to retain CHVI and Stage 4 mitigation of developmental impacts to P4 (AgGw-212) was recommended (Detritus Consulting Ltd., 2024b).

The Stage 4 mitigation of impacts of P4 (AgGw-212) was conducted between September 20th and October 3rd, 2024, under archaeological consulting license P1263 issued to Mr. Jonathan Peart by the MCM. Indigenous engagement was undertaken throughout the Stage 4 mitigation of P4 (AgGw-212). During the field investigation, representatives from the Haudenosaunee Development Institute participated as on-site monitors. Additional information on the Indigenous engagement practices conducted during the Stage 4 is provided in the Supplementary Documentation to this report.

The Stage 4 mitigation of P4 (AgGw-212) resulted in the hand excavation of 32 0ne-metre square units and 7 partial one-metre square units. The Stage 4 block excavation expanded from the highest yielded Stage 3 unit (210E, 505N) located in the western end of the site extent near the Study Area boundary. The Stage 4 excavation block measured 7.8m north to south by 6m east to west. The limits of the block were extended until yields dropped to less than ten non-diagnostic pre-contact Indigenous artifacts per unit or until the Study Area boundary was reached. The exposed edge of the excavation block along the Study Area boundary was documented with photographs and profile drawings (Photos 7 to 11 and 17). The edge was covered in geotextile fabric, backfilled, and compacted to prevent collapse (Photos 12 to 13).

The Stage 4 mitigation of P4 (AgGw-212) recovered a total of 279 pre-contact Indigenous artifacts, comprising 272 pieces of debitage, two projectile point fragments (articulating), three scrapers, and two utilized flakes. All of the lithic tools and all but one of the flakes were made of Onondaga chert. Only one flake was made of Haldimand chert. Artifact yields among the Stage 4 units ranged from 0 to 15. Of the Stage 4 units excavated, only 11 units contained 10 or more artifacts. No Indigenous ceramics, features, or fire cracked rock were recovered during any stage of investigation.

Debitage recovered from P4 (AgGw-212) was dominated by flake fragments (38.60%) followed by nearly equal proportions of secondary flakes (25.37%) and tool thinning flakes (29.78%). Additionally, the assemblage included only 4 primary flakes (1.47%) and 13 pieces of shatter (4.78%). This variety of flake types provides evidence that middle to late-stage lithic reduction activities were undertaken at the site related to the manufacture and maintenance of informal and formal tools such as projectile points. A total of 24 flakes (8.82% of the lithic assemblage) were either pot-lidded or burnt which suggests that a hearth was present at this site. However, the Stage 4 excavations also found no evidence of soil staining, fire cracked rock, nor any other evidence of a hearth.

Based on the quantity and distribution of artifacts, the site likely represents a single activity area centered in the middle of the Stage 4 excavation block. Additionally, the high proportion of debitage coupled with relatively low diversity of tool types suggests a short duration occupation by seasonally mobile Indigenous people prior to contact with European settlers. The presence of a

possible Brewerton series projectile point suggests that the site may date to the Middle Archaic, but the point is too fragmented for a confident identification.

The Stage 4 mitigation of P4 (AgGw-212) is now complete. **The CHVI of P4 (AgGw-212) has been fully documented and the information will be preserved for future study. P4 (AgGw-212) has no further CHVI, as per Section 7.11.4 Standard 1 of the *Standards and Guidelines* (Government of Ontario, 2011).**

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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First Nations Representatives:	Haudenosaunee Development Institute Ira Harris Alex Hill Johnny Powless Jessie Longboat Owen Greene
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Acknowledgments

Generous contributions by Mr. Arie DeHaan of DeHaan Homes made this report possible.

1.0 Project Context

1.1 Development Context

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The purpose of a Stage 4 mitigation of impacts by hand excavation is to document an archaeological site through its controlled removal in order to address archaeological concerns under land use planning and development processes. In compliance with the *Standards and Guidelines* (Government of Ontario, 2011), the objectives of the following Stage 4 investigation are:

- To document the archaeological context, cultural features, and artifacts for all parts of the site;
- to document the removal of the archaeological site; and
- to preserve the information recovered about the archaeological site for future study.

The licensee received permission from the Proponent to enter the Study Area and conduct all required archaeological fieldwork activities at P4 (AgGw-212), including the recovery of artifacts.

1.2 Historical Context

1.2.1 Post-Contact Indigenous 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 (Heidenreich, 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, 2002). 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 Year 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 Indigenous 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, H. & Co., 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, in 1847 (Smith, 2002).

Despite the encroachment of European settlers on previously established Indigenous 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

Site P4 (AgGw-212) is located within part of Lot 20, Concession 1, in the geographic Township of Caistor, within the historical County of Lincoln, which is 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, 2012-2024). 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).

In July 1792, Simcoe divided Upper Canada into 19 counties, including Lincoln County, 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, the Study Area became part of the Niagara District (Archives of Ontario, 2012-2024). 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, of which Caistor Township was a part. The two counties would be amalgamated once again in 1970 to form the Regional Municipality of Niagara.

The Township of Caistor derived its name from the north English town of Caistor in Lincolnshire and was opened for settlement in 1798. The first non-indigenous settler of the township was an escaped slave and black man named Diamond, who, in 1778 constructed an isolated cabin along a spring grove at the banks of the Welland River and resided there (McBride, 2009). In 1782, Diamond sold his cabin to Hendrich Dochstader, a United Empire Loyalist from New York State. Among the first European settlers to actively farm in the area, there was John, James, Alexander and Matthew Lymburner, who arrived between 1794 and 1796. John Lymburner built the first mill in the township in 1799, located on Lot 6, Concession 2 (Middleton & Landon, 1927). By the

middle of the 18th century, Caistor Township was home to 306 residents, and was producing a significant crop of wheat, barley, peas and oats (Mitchell & Co., 1865).

Community centres within Caistor Township included Abingdon, Caistor Centre, and Caistorville. Caistorville would become a prosperous community along the Welland River. At its height, Caistorville included two churches, one Anglican and one Methodist, two general stores, two taverns and eventually a post office and public school (Exploring Niagara, 2017).

The current Study Area occupies a part of Lot 20, Concession 1 in Caistor Township. According to the *Historical Atlas*, the lot was bounded by the early settlement of Caistorville in its northwest corner (Page & Co., 1876). The entire lot was owned by Jason H. Stevenson, who was a freehold farmer (Union Publishing Company, 1885). The Study Area is located in the northern portion of the lot along a historic road, now known as Caistorville Road. The Welland River, labelled as Chippawa Creek, is depicted running alongside the early community of Caistorville to the north. Several structures, orchards and the early community of Warner are also depicted along Chippawa Creek to either side.

It should be recognised, however, that although significant and detailed landowner information is available on the current *Illustrated Atlas*, 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).

1.2.3 Recent Reports

Two archaeological assessment reports have been written for archaeological work pertaining to the Study Area or specifically P4 (AgGw-212) and are detailed in Table 1, below.

Table 1: Archaeological Assessment Reports for P6 (AgGw-214)

Year	Title	Author	PIF#s
2024	*Stage 1-2 Archaeological Assessment of Caistorville Road Property, Caistorville on Part of Lot 20, Concession 1, Geographic Township of Caistor, Historical County of Lincoln, now the Regional Municipality of Niagara* (Detritus Consulting Ltd., 2024a)	Detritus	P462-0261-2024
2024	*Stage 3 Archaeological Assessments, P3 (AgGw-211), P4 (AgGw-212), P5 (AgGw-213), and P6 (AgGw-214), Caistorville, Part of Lot 20, Concession 1, Geographic Township of Caistor, Historical County of Lincoln, now Regional Municipality of Niagara* (Detritus Consulting Ltd., 2024b)	Detritus	P1263-0029-2024

The results of these previous investigations will be discussed in greater detail in Section 1.3.4.

1.3 Archaeological Context

1.3.1 Property Description and Physical Setting

P4 (AgGw-212) is located on a part of a larger Development Property that is a roughly rectangular-shaped parcel situated to the southeast of Caistorville that encompassed almost the entirety of the original historic Lot 20, Concession 1. Less than one-third of the original Lot 20 had been severed to form a small neighbourhood around Broman Court to the north of the Development Property. The remainder of the lot within the Development Property comprised agricultural fields with sections of wetlands and woodlots including portions of the Caistor Canborough Slough Forest Wetland Complex, a Provincially significant Wetland ('PSW') regulated under the Niagara Peninsula Conservation Authority ('NPCA'). The Development Property measure 35.73 hectares ('ha') and is bound to the west by woodlots/wetlands, to the east by Caistorville Road, to the north by residential properties on Broman Court, and to the south by Haldibrook Road (Figure 1). The current Development Application covers only the portion of the Development Property to be subject to developmental impacts and is outside of the 30m protective buffer surrounding the PSW (the 'Study Area'; Figure 3).

The reduced Study Area measures 7.39ha and occupies the northern portion of the Development Property, bound to the north by residential properties on Broman Court, to the west by a 30m buffer surrounding the PSW, and to the east by Caistorville Road. The southern boundary is bound by either agricultural fields or by sections of the 30m buffer surrounding the PSW. At the time of the Stage 1-2 assessment, the Study Area included two agricultural fields, portions of woodlot with felled trees, and the northwestern corner of the Study Area comprised the remnants of a former farm that included overgrown and grassy areas (Figure 4; Detritus Consulting Ltd., 2024a).

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 located within Haldimand Clay Plain physiographic region (Chapman & Putnam, 1984). During pre-contact and early contact times, this area comprised a mixture of deciduous trees and open areas. In the early 19th century, Euro-Canadian settlers began to clear the forests for agricultural purposes, which have been ongoing in the vicinity of the Study Area for over 100 years. 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 & Presant, 1989). 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 & Putnam, 1984, p. 156

Huffman and Dumanski add that the soil within the region is suitable for corn and soybeans in rotation with cereal grains as well as alfalfa and clover (Huffman & 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, Euro-Canadian settlers began to clear the forests for agricultural purposes.

The closest source of potable water is the Welland River that runs west to east approximately 400m to the north of the Study Area.

1.3.2 Pre-Contact Indigenous Land Use

This portion of southern Ontario 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 2 provides a general outline of the cultural chronology of Caistor Township (Ellis & Ferris, 1990).

Table 2: Cultural Chronology for Caistor 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

Time Period	Cultural Period	Comments
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 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 AgGw.

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, no sites have been registered within 1km of the Study Area. 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

The Study Area was subject to a Stage 1-2 archaeological assessment conducted by Detritus under PIF# P462-0291-2024 (Detritus Consulting Ltd., 2024a). The Stage 1 background research 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 the Study Area (Figure 4).

The subsequent Stage 2 field assessment of the Study Area was conducted on November 27th, 2023, and April 24th, 2024. The Study Area boundaries were not marked by the proponent prior to the Stage 2 field work. The limits of the Study Area were established in the field using a georeferenced shapefile produced using QGIS and uploaded to a hand-held GPS device running Qfield. This investigation began with a property inspection, which determined that the artificial pond, the two stone-lined ditches, and the two building foundations within the former farm retained no, or low, archaeological potential based on the identification of extensive and deep land alteration that has severely damaged the integrity of archaeological resources. The marshy area in the east agricultural field meanwhile, was evaluated as being permanently wet and therefore was determined to retain no archaeological potential. The previously disturbed and permanently wet areas, as confirmed during a Stage 2 property inspection, were mapped and photo documented.

The remainder of the Study Area comprised the overgrown and grassy areas, the portions of woodlot with felled trees, and two agricultural fields within the Study Area. The felled woodlots and overgrown and grassy areas that were inaccessible to ploughing were assessed by means of a

typical test pit survey at 5m intervals. No archaeological resources were observed. The two agricultural fields were deemed accessible for ploughing and were assessed using a typical pedestrian survey at five-metre intervals. This investigation resulted in the identification and documentation of seven pre-contact Indigenous sites and two isolated findspots. The seven archaeological sites were registered with the MCM as P1 (AgGw-209), P2 (AgGw-210), P3 (AgGw-211), P4 (AgGw-212), P5 (AgGw-213), P6 (AgGw-214), and P7 (AgGw-215) (see Tile 4 of the Supplementary Documentation to this report).

The Stage 2 assessment of P1 (AgGw-209) resulted in the documentation of 19 pre-contact Indigenous artifacts from 19 findspot locations scattered across an area roughly 28m by 12m in the centre of the east agricultural field located approximately 58m from the eastern edge of the Study Area. All of the artifacts recovered from the site were pieces of debitage and were manufactured from Onondaga or Selkirk chert. According to the morphological analysis the flake assemblage featured primarily secondary flakes (52.53%) with lesser amounts of fragmentary flakes as well as one piece of shatter (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P3 (AgGw-211) resulted in the documentation of 16 pre-contact Indigenous artifacts from 10 surface findspots scattered across an area roughly 12m by 38m in the west agricultural field approximately 11m from the western edge of the Study Area. The artifact assemblage comprised 14 pieces of debitage, manufactured from Onondaga, Haldimand, or Ancaster chert types and 1 scraper manufactured from Onondaga chert. According to the morphological analysis, the flake assemblage featured primarily tool thinning flakes (40.00%) with lesser amounts of fragment flakes and secondary flakes. In addition, one piece of shatter was also recovered (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P4 (AgGw-212) resulted in the documentation of 45 pre-contact Indigenous artifacts from 22 surface findspots scattered across an area roughly 44m by 18m in the southwestern corner of the west agricultural field within the Study Area. The artifact assemblage comprised 41 pieces of debitage, 2 bifaces, and 2 scrapers. The artifacts recovered from the site were all manufactured from Onondaga chert. According to the morphological analysis, the flake assemblage featured primarily fragment flakes (48.78%) with lesser amounts of secondary flakes and tool thinning flakes. In addition, one piece of shatter was also recovered (Detritus Consulting Ltd., 2024a). During the assessment of P4 (AgGw-212), Detritus documented the entire surface extent of the site. Following completion of the fieldwork, the Study Area boundaries were confirmed and the southwestern portion of the site extent was determined to fall outside the Study Area.

The Stage 2 assessment of P5 (AgGw-213) resulted in the documentation of 15 pre-contact Indigenous artifacts from 11 surface findspots scattered across an area roughly 31m by 20m in the southwestern corner of the east agricultural field approximately 17m away from the southern edge of the Study Area. The artifacts recovered from the site were all pieces of debitage manufactured from Onondaga, Ancaster, or Haldimand chert. According to the morphological analysis, the flake assemblage featured primarily fragment flakes (46.67%) with lesser amounts of tool thinning flakes and secondary flakes (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P6 (AgGw-214) resulted in the documentation of 26 pre-contact Indigenous artifacts from 20 surface findspots scattered across an area roughly 41m by 40m in the southeastern portion of east agricultural field located approximately 14m from the eastern edge of the Study Area. The artifact assemblage comprised 24 pieces of debitage, 1 biface, and 1 core. The artifacts recovered from the site were manufactured from Onondaga, Ancaster, or Selkirk chert. According to the morphological analysis, the flake assemblage featured primarily tool thinning (37.50%) and fragment flakes (33.33%) with lesser amounts of shatter flakes along with two secondary flakes (Detritus Consulting Ltd., 2024a).

Based on the results of the Stage 2 investigation, P1 (AgGw-209), P3 (AgGw-211), P4 (AGW-212), P5 (AgGw-213), and P6 (AgGw-214) were interpreted as small activity areas for the late stages of lithic reduction activities. Given the presence of at least 10 non-diagnostic pre-contact Indigenous artifacts in a 10m by 10m pedestrian survey area within an area on or west of the Niagara Escarpment, P1 (AgGw-209), P3 (AgGw-211), P4 (AGW-212), P5 (AgGw-213), and P6 (AgGw-214) 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, 2011), retained CHVI and were recommended for Stage 3 Site Specific assessment (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P2 (AgGw-210) resulted in the documentation of two pre-contact Indigenous artifacts from two findspot locations located approximately 14m from each other in the northwestern portion of the east agricultural field within the Study Area. One piece of debitage was recovered and identified as a fragmentary flake manufactured from Haldimand chert. Additionally, a single fragmentary projectile point manufactured from Onondaga chert was recovered during the pedestrian survey of P2 (AgGw-210). The notched projectile point is missing most of the base and has an irregular shape with one nearly straight edge and one convex edge. It was deemed a possible Stanley type point dating to the Middle Archaic (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P7 (AgGw-215) resulted in the documentation of 6 pre-contact Indigenous artifacts from 6 surface findspots scattered across an area roughly 15m by 32m in the eastern portion of the east agricultural field approximately 40m from the eastern edge of the Study Area. The artifact assemblage comprised one projectile point fragment manufactured from Onondaga chert and five pieces of debitage manufactured from Onondaga, Haldimand, and Ancaster chert. According to the morphological analysis, the flake assemblage featured primarily fragment flakes (60.00%) along with one primary flake and one secondary flake (Detritus Consulting Ltd., 2024a).

Findspot 1 comprised a single piece of debitage manufactured from Onondaga chert recovered during the pedestrian survey of the east agricultural field approximately 48m to the north of P1 (AgGw-209). Findspot 2 comprises a single piece of debitage manufactured from Haldimand chert recovered during the pedestrian survey of the east agricultural field approximately 24m to the north of P1 (AgGw-209). Both were identified as fragment flakes (Detritus Consulting Ltd., 2024a).

Given the results of the Stage 2 investigation, P2 (AgGw-210), P7 (AgGw-215), Findspot 1, and Findspot 2 were interpreted as small activity areas of unknown function, occupied by unspecified Indigenous people during the pre-contact period. As a result of the isolated nature of P2 (AgGw-210), P7 (AgGw-215), Findspot 1, and Findspot 2, they did not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines* (Government of Ontario 2011). The CHVI of P2 (AgGw-210), P7 (AgGw-215), Findspot 1, and Findspot 2 were judged to be sufficiently documented.

The Stage 3 assessment of P4 (AgGw-212) was conducted under PIF# P1263-0029-2024 between June 10th to 17th, 2024. Only the portion of the site within the Study Area was assessed during this Stage 3 assessment. The assessment recovered a total of 29 pre-contact Indigenous artifacts from the excavation of 22 Stage 3 test units covering an area roughly 46m by 21m in the southwestern quadrant of the Study Area, along the western edge. The artifacts were manufactured from Onondaga chert and comprised debitage along with a core, a biface, and a utilized flake. According to morphological analysis, the flake assemblage from P4 (AgGw-212) featured primarily flake fragments (n=11; 42.31%) with lesser amounts of tool thinning flakes (n=10; 38.46%). In addition, three secondary flakes (11.54%) and two pieces of shatter (7.69%) were also recovered. Artifact yields during the Stage 3 excavation of P4 (AgGw-212) ranged from 0 to 11 artifacts. The highest yielding unit was 210E, 505N, which yielded 11 artifacts. The second highest yielding unit was to the north of this unit, located at 210E, 510N, and yielded seven artifacts. The other seven units surrounding 210E, 510N yielded only 0 to 4 artifacts.

Based on all Stage 3 assessment, P4 (AgGw-212) was identified as a small short-term activity area occupied by Indigenous people during the pre-contact period. The artifact assemblage was characterised by middle to late-stage lithic reduction related to the production and maintenance of formal and informal tools. Given the results of the Stage 3 assessment, wherein one test unit yielded ten or more lithic artifacts, P4 (AgGw-212), was determined to retain CHVI and Stage 4 mitigation of developmental impacts to P4 (AgGw-212) was recommended (Detritus Consulting Ltd., 2024b).

The Stage 3 assessments of P1 (AgGw-209), P3 (AgGw-211), P5 (AgGw-213) and P6 (AgGw-214) were conducted by Detritus in 2024. None of the test units excavated at P1 (AgGw-209) produced 10 or more pre-contact Indigenous artifacts, and as such Stage 4 mitigation, were not

recommended for P1 (AgGw-209). Whereas at least one unit at each of P3 (AgGw-211), P5 (AgGw-213) and P6 (AgGw-214) did produce 10 or more pre-contact Indigenous artifacts, and Stage 4 mitigation were recommended for P3 (AgGw-211), P5 (AgGw-213) and P6 (AgGw-214).

These Stage 3 and Stage 4 reports were in preparation at the time of this report's writing.

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 (Government of Ontario, 2011), to determine areas of archaeological potential within the 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, 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 sites locations and types to varying degrees. The MCM (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.

As was discussed above, the closest source potable water is the Welland River that runs west to east approximately 400m 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 Plain physiographic region. As was discussed earlier, the soils within this region are imperfectly drained, but suitable for pre-contact and post contact Indigenous agricultural. Given this, the distance to potable water and the length of occupation of Caistor Township prior to the arrival of Euro-Canadian settlers, the pre-contact Indigenous archaeological potential, as evidenced by the seven pre-contact sites within 1km, 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) map of Caistor Township shows the Study Area in close proximity to historical infrastructure including early roads. Considering the location of the Study Area near to the early community of Caistorville and the Welland River, the potential for post-contact Euro-Canadian archaeological resources is judged to be moderate to high.

2.0 Field Methods

The Stage 4 mitigation of impacts assessment of P4 (AgGw-212) was conducted between September 20th and October 3rd , 2024, under archaeological consulting license P1263 issued to Mr. Jonathan Peart by the MCM. These investigations 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, 2011).

Additionally, in accordance with Section 3.4, Standard 2 of the *Standards and Guidelines* (Government of Ontario, 2011) and Section 1.1, Standard 1 of the *Engaging Aboriginal Communities in Archaeology* technical bulletin (Government of Ontario, 2022), Indigenous engagement was undertaken throughout the Stage 4 mitigation of P4 (AgGw-212). During the field investigation, representatives from the Haudenosaunee Development Institute participated as on-site monitors. Additional information on the Indigenous engagement practices conducted during the Stage 4 is provided in the Supplementary Documentation to this report.

During the assessment, the weather was warm and ranged from partly cloudy to overcast with daily high temperatures ranging from 18˚ to 24˚ Celsius (Table 3). The soil was dry and screened well. 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, 2011). 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, 2011). Photos 1 to 13 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, 2011).

Table 3: Field and Weather Conditions

Date	Weather	Field Conditions	Tasks
20 Sept 2024	Partly cloudy with a high of 24°C	soils dry and screened well	Unit excavations
26 Sept 2024	Mostly cloudy with a high of 23°C	soils dry and screened well	Unit excavations
27 Sept 2024	Mostly cloudy with a high of 21°C	soils dry and screened well	Unit excavations
1 Oct 2024	Overcast with a high of 21°C	soils dry and screened well	Unit excavations
2 Oct 2024	Partly cloudy with a high of 18°C	soils dry and screened well	Unit excavations
3 Oct 2024	Partly cloudy with a high of 22°C	soils dry and screened well	Unit excavations and shoring up Study Area boundary

Upon arrival at the site, the original Stage 3 grid was still in place and all excavated units still visible, thus meeting the conditions of Section 4.2.1, Standard 5 of the *Standards and Guidelines* (Government of Ontario, 2011). Prior to the completion of the Stage 4 mitigation, Peter Verheij from Upper Canada Consultants, surveyed and staked the Study Area boundary in the vicinity of site P4 (AgGw-212).

The Stage 4 mitigation of P4 (AgGw-212) resulted in the hand excavation of 32 one-metre square units and 7 partial one-metre square units conducted according to Sections 4.2.1 and 4.2.2 of the *Standards and Guidelines* (Government of Ontario, 2011). These units surrounded the highest yielding Stage 3 unit located at 210E, 505N located in the western end of the site extent near the Study Area boundary, and resulted in a single, continuous Stage 4 excavation block measuring 7.8m north to south and 6m east to west (Figure 5).

Artifact yields among the Stage 4 units ranged from 0 to 15. The extent of the excavation block was determined in accordance with Section 4.2.2, Standard 4 and Table 4.1 of the *Standards and Guidelines* (Government of Ontario, 2011). The limits of the block were extended until yields dropped to less than ten non-diagnostic pre-contact Indigenous artifacts per unit or until the Study Area boundary was reached. The exposed edge of the excavation block along the Study Area boundary was documented with photographs and profile drawings (Photos 7 to 11 and Photo 17).

The edge was covered in geotextile fabric, backfilled, and compacted to prevent collapse (Photos 12 to 13).

All Stage 4 units were excavated by hand in systematic levels, as per Section 4.2.1, Standards 1 and 6 of the *Standards and Guidelines* (Government of Ontario, 2011). Soils present at this site included topsoil and subsoil. Topsoil consisted of a light-to-medium brown clayey loam ploughzone topsoil. Subsoil consisted of an orange-brown heavy clay subsoil. Artifacts were only found in topsoil. All units were excavated into the first five centimetres ('cm') of subsoil, as per Section 4.2.2, Standard 6 of the *Standards and Guidelines* (Government of Ontario, 2011). Overall, the Stage 4 units at P4 (AgGw-212) ranged in depth from 27cm to 33cm.

All soil was screened through six-millimetre hardware cloth to facilitate the recovery of small artifacts, as per Section 4.2.2, Standard 6 of the *Standards and Guidelines* (Government of Ontario, 2011). All artifacts recovered during the Stage 4 block excavation were recorded with reference to their one-metre grid unit number and retained for laboratory analysis and description, as per Section 4.2.1, Standards 8 of the *Standards and Guidelines* (Government of Ontario, 2011). The subsoil surface of each unit was shovel shined, trowelled, and examined for any evidence of subsurface cultural features. No subsurface features were observed.

The Stage 4 mitigation of P4 (AgGw-212) resulted in the recovery of 279 pre-contact Indigenous artifacts, comprising 272 pieces of debitage, 2 projectile point fragments (articulating), 3 scrapers, and 2 utilized flakes. No Indigenous ceramics, or fire cracked rock were recovered during any stage of investigation.

3.0 Record of Finds

The Stage 4 mitigation of P4 (AgGw-212) was conducted employing the methods described in Section 2.0 above. Maps indicating the location of the site, and UTM coordinates recorded during the assessment, are 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 of Document Type	Additional Comments
3 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
39 Digital Photographs	Detritus' office	Stored digitally in project file

All of the material culture collected during the Stage 4 mitigation the P4 (AgGw-212) is contained in one box and will be temporarily housed in the offices of Detritus 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.

3.1 Cultural Material

The Stage 4 mitigation of P4 (AgGw-212) resulted in the recovery of 279 pre-contact Indigenous artifacts, comprising 272 pieces of debitage, 2 projectile point fragments (articulating), 3 scrapers, and 2 utilized flakes. Photographs of a representative sample artifacts recovered from the Stage 4 assessment are depicted in Section 9.2 of this report. The artifacts collected during the Stage 4 assessment were manufactured from Onondaga or Haldimand chert. Chert type identifications were accomplished visually using reference materials located in the Detritus office.

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 & von Bitter, 1989). Primary outcrops have also been reported along the banks of the Grand River (Ellis & Ferris, 1990). Onondaga chert 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 Indigenous people (Eley & 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 & von Bitter, 1989).

3.2 Artifact Analysis

Debitage

Debitage is the waste product from the production of stone tools and is the most frequently recovered artifact on pre-contact Indigenous sites in southern Ontario. Debitage has a low significance and interpretive value when it is not associated with any diagnostic material, therefore they cannot be used to determine the cultural affiliation or time period of the occupation of a site.

All pieces of the debitage recovered during the Stage 4 mitigation of P4 (AgGw-212) were subject to morphological analysis following the classification scheme described by Lennox, Dodd and Murphy for the Wiacek Site (Lennox, Dodd, & Murphy, 1986) and expanded upon by Fisher for the Adder Orchard site (Fisher, 1997).

Primary and secondary flakes, along with cortical removal flakes, are a product of percussion flaking undertaken during the initial reduction phases of raw material into blanks, bifaces and preforms. These early-stage reduction flakes tend to exhibit minimal dorsal flake scarring, and are

often characterized by the presence of cortex, or the original unflaked chert exterior, on their dorsal surfaces and proximal ends. For cortical removal flakes, over half of the dorsal surface comprises cortex; for primary flakes, less than half. Secondary flakes, meanwhile, may not contain any cortex. Thinning flakes are produced during the latter stages of lithic reduction, when blanks, bifaces, and preforms are shaped into projectile points and formal tools. They are the result of pressure flaking, where the maker uses a softer material such as antler, wood or bone to apply direct pressure onto a specific part of the tool. 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 have some identifiable flake characteristics but cannot be classified with certainty into a specific category.

The results of the morphological analysis of the debitage recovered from P4 (AgGw-212) are detailed in Table 5.

Table 5: Flake Analysis for P4 (AgGw-212)

Chert Type	Primary		Secondary		Thinning		Fragment		Shatter		Total Analyzed	
	n	%	n	%	n	%	n	%	n	%	n	%
Onondaga	4	1.47	69	25.37	81	29.78	104	38.24	13	4.78	**271**	**99.63**
Haldimand	0	0.00	0	0.00	0	0.00	1	0.37	0	0.00	**1**	**0.37**
Total	**4**	**1.47**	**69**	**25.37**	**81**	**29.78**	**105**	**38.60**	**13**	**4.78**	**272**	**100.00**

According to the morphological analysis, debitage recovered from P4 (AgGw-212) was dominated by flake fragments (n=105; 38.60%) followed by nearly equal proportions of secondary flakes (n=69; 25.37%) and tool thinning flakes (n=81; 29.78%). Additionally, the assemblage included only 4 primary flakes (1.47%) and 13 pieces of shatter (4.78%). All the lithic tools and all but one of the flakes were made of Onondaga chert. Only one flake fragment was made of Haldimand chert (Plate 6). This variety of flake types provides evidence that middle to late-stage lithic reduction activities were undertaken at the site related to the manufacture and maintenance of informal and formal tools such as projectile points.

Furthermore, a total of 24 flakes were either pot-lidded or burnt. Thermally altered lithics suggests intentional heat-treatment to improve knappability or at minimum proximity to a fire. The moderately high proportion (8.82% of the lithic assemblage) of thermally altered lithics suggests that a hearth was present at this site. However, the Stage 3 and Stage 4 excavations found no evidence of soil staining, fire cracked rock, nor any other evidence of a hearth.

Projectile Points

The Stage 4 mitigation recovered a broken projectile point made of Onondaga chert. The point was found in two sections and recovered in adjacent units on the western side of the site. Cat# 19 is a finely made notched projectile point medial fragment and appears to be corner-notched but is missing most of the base. Cat# 19 articulates with Cat# 51, which is a distal projectile point fragment (Plate 1). The combined point most closely matches the attributes of a Brewerton series projectile point dating to the Middle Archaic period but is too fragmented for a confident identification (Ellis & Ferris, 1990). Cat# 19 is a medial projectile point fragment that measures 16.5mm length, 25.6mm width, 6.2mm thick and has a 12.6mm neck. Cat# 51 is a distal projectile point fragment that measures 16.2mm length, 20.2mm width and 5.3mm thick.

Scrapers

The Stage 4 mitigation recovered three scrapers, which included two end-scrapers and one side-scraper. Due to their long span of production, scrapers cannot be used to determine the cultural affiliation or time period of the occupation of a site.

Cat# 32 is an end-scraper made from a large secondary Onondaga flake. The tool exhibits use-wear and retouch along the rounded distal margin. Cat# 32 measures 40.5mm length by 37.7mm width by 7.7mm thick (Plate 2).

Cat# 65 is a side-scraper made from a curved flake blade out of Onondaga chert. The tool has unifacial use-wear along both lateral margins and measures 46.2mm length by 19.9mm width by 8.1mm thick (Plate 4).

The last scraper, Cat# 86, is an end-scraper made from a secondary Onondaga flake. The tool has unifacial retouch and use-wear along the distal margin and use-wear along one lateral edge. Cat# 86 measures 33.9mm length by 26.3mm width by 5.7mm thick (Plate 5).

Utilized Flakes

The Stage 4 mitigation recovered a total of two utilized flakes made of Onondaga chert. Utilized flakes are pieces of debitage that show evidence of use. They are considered informal tools that were discarded after use. As a result, they cannot be used to determine the cultural affiliation or time period of the occupation of a site.

Cat# 55 is a utilized flake made from a secondary Onondaga flake. The tool has light use-wear along one edge and measures 32.3mm length by 24.1mm width by 6.1mm thick (Plate 3).

Cat# 121 is a utilized flake made from an Onondaga flake fragment. The tool has unifacial use-wear along opposing flake lateral margins. Cat# 121 measures 18.8mm length by 12.9mm width by 3.7mm thick (Plate 7).

3.3 Artifact Distribution and Settlement Pattern

The Stage 4 mitigation of P4 (AgGw-212) resulted in the hand excavation of 32 one-metre square units and 7 partial one-metre square units. The Stage 4 block excavation expanded from the highest yielded Stage 3 unit (210E, 505N) located in the western end of the site extent near the Study Area boundary. The Stage 4 excavation block measured 7.8m north to south by 6m east to west. The limits of the block were extended until yields dropped to less than ten non-diagnostic pre-contact Indigenous artifacts per unit or until the Study Area boundary was reached.

The Stage 4 mitigation of P4 (AgGw-212) recovered a total of 279 pre-contact Indigenous artifacts, comprising 272 pieces of debitage, 2 projectile point fragments (articulating), 3 scrapers, and 2 utilized flakes. All of the lithic tools and all but one of the flakes were made of Onondaga chert. Only one flake was made of Haldimand chert. Artifact yields among the Stage 4 units ranged from 0 to 15. Of the Stage 4 units excavated, only 11 contained 10 or more artifacts. No Indigenous ceramics, features, or fire cracked rock were recovered during any stage of investigation.

Debitage recovered from P4 (AgGw-212) was dominated by flake fragments (38.60%) followed by nearly equal proportions of secondary flakes (25.37%) and tool thinning flakes (29.78%). Additionally, the assemblage included only 4 primary flakes (1.47%) and 13 pieces of shatter (4.78%). This variety of flake types provides evidence that middle to late-stage lithic reduction activities were undertaken at the site related to the manufacture and maintenance of informal and formal tools such as projectile points. A total of 24 flakes (8.82% of the lithic assemblage) were either pot-lidded or burnt which suggests that a hearth was present at this site. However, the Stage 4 excavations found no evidence of soil staining, fire cracked rock nor any other evidence of a hearth.

Based on the quantity and distribution of artifacts, the site likely represents a single activity area centered in the middle of the Stage 4 excavation block. Additionally, the high proportion of debitage coupled with relatively low diversity of tool types suggests a short duration occupation by seasonally mobile Indigenous people prior to contact with European settlers. The presence of a possible Brewerton series projectile point suggests that the site may date to the Middle Archaic, but the point is too fragmented for a confident identification.

3.4 Artifact Catalogue

See Appendix 10.1 for the Stage 4 artifact assemblage catalogue for P4 (AgGw-212). A sample of artifacts are depicted in Section 9.2 of this report.

4.0 Analysis and Conclusions

Detritus was retained by the Proponent to conduct a Stage 4 mitigation of developmental impacts of site P4 (AgGw-212) located on part of Lot 20, Concession 1, in the geographic Township of Caistor, within the historical Township of West Lincoln, which is now the Regional Municipality of Niagara, Ontario (Figure 1). This assessment was undertaken in advance of future development on the Development Property. The development will span only the Study Area (Figure 3).

The Stage 4 mitigation of impacts assessment of P4 (AgGw-212) was conducted between September 20th and October 3rd, 2024, under archaeological consulting license P1263 issued to Mr. Jonathan Peart by the MCM. Indigenous engagement was undertaken throughout the Stage 4 mitigation of P4 (AgGw-212). During the field investigation, representatives from the Haudenosaunee Development Institute participated as on-site monitors. Additional information on the Indigenous engagement practices conducted during the Stage 4 is provided in the Supplementary Documentation to this report.

The Stage 4 mitigation of P4 (AgGw-212) resulted in the hand excavation of 32 one-metre square units and 7 partial one-metre square units. The Stage 4 block excavation expanded from the highest yielded Stage 3 unit (210E, 505N) located in the western end of the site extent near the Study Area boundary. The Stage 4 excavation block measured 7.8m north to south by 6m east to west. The limits of the block were extended until yields dropped to less than ten non-diagnostic pre-contact Indigenous artifacts per unit or until the Study Area boundary was reached. The exposed edge of the excavation block along the Study Area boundary was documented with photographs and profile drawings (Photos 7 to 11 and 17). The edge was covered in geotextile fabric, backfilled, and compacted to prevent collapse (Photos 12 to 13).

The Stage 4 mitigation of P4 (AgGw-212) recovered a total of 279 pre-contact Indigenous artifacts, comprising 272 pieces of debitage, 2 projectile point fragments (articulating), 3 scrapers, and 2 utilized flakes. All of the lithic tools and all but one of the flakes were made of Onondaga chert. Only one flake was made of Haldimand chert. Artifact yields among the Stage 4 units ranged from 0 to 15. Of the Stage 4 units excavated, only 11 units contained 10 or more artifacts. No Indigenous ceramics, features, or fire cracked rock were recovered during any stage of investigation.

Debitage recovered from P4 (AgGw-212) was dominated by flake fragments (38.60%) followed by nearly equal proportions of secondary flakes (25.37%) and tool thinning flakes (29.78%). Additionally, the assemblage included only 4 primary flakes (1.47%) and 13 pieces of shatter (4.78%). This variety of flake types provides evidence that middle to late-stage lithic reduction activities were undertaken at the site related to the manufacture and maintenance of informal and formal tools such as projectile points. A total of 24 flakes (8.82% of the lithic assemblage) were either pot-lidded or burnt which suggests that a hearth was present at this site. However, the Stage 4 excavations found no evidence of soil staining, fire cracked rock, nor any other evidence of a hearth.

Based on the quantity and distribution of artifacts, the site likely represents a single activity area centered in the middle of the Stage 4 excavation block. Additionally, the high proportion of debitage coupled with relatively low diversity of tool types suggests a short duration occupation by seasonally mobile Indigenous people prior to contact with European settlers. The presence of a possible Brewerton series projectile point suggests that the site may date to the Middle Archaic, but the point is too fragmented for a confident identification.

5.0 Recommendations

The Stage 4 mitigation of P4 (AgGw-212) is now complete. **The CHVI of P4 (AgGw-212) has been fully documented and the information will be preserved for future study. P4 (AgGw-212) retains no further CHVI, as per Section 7.11.4 Standard 1 of the *Standards and Guidelines* (Government of Ontario, 2011).**

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 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 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.

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8.0 Maps

Figure 1: Study Area Location Map

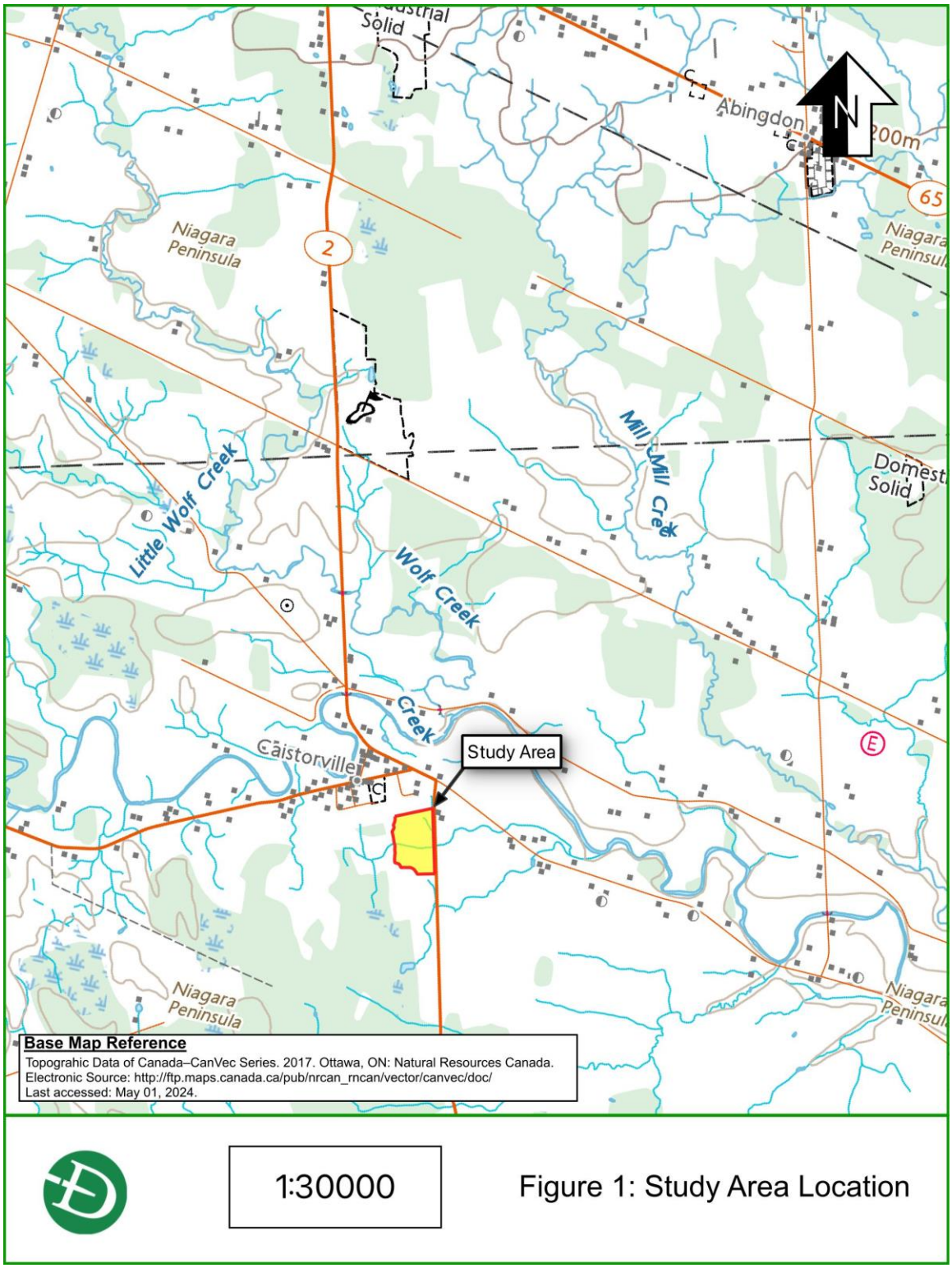
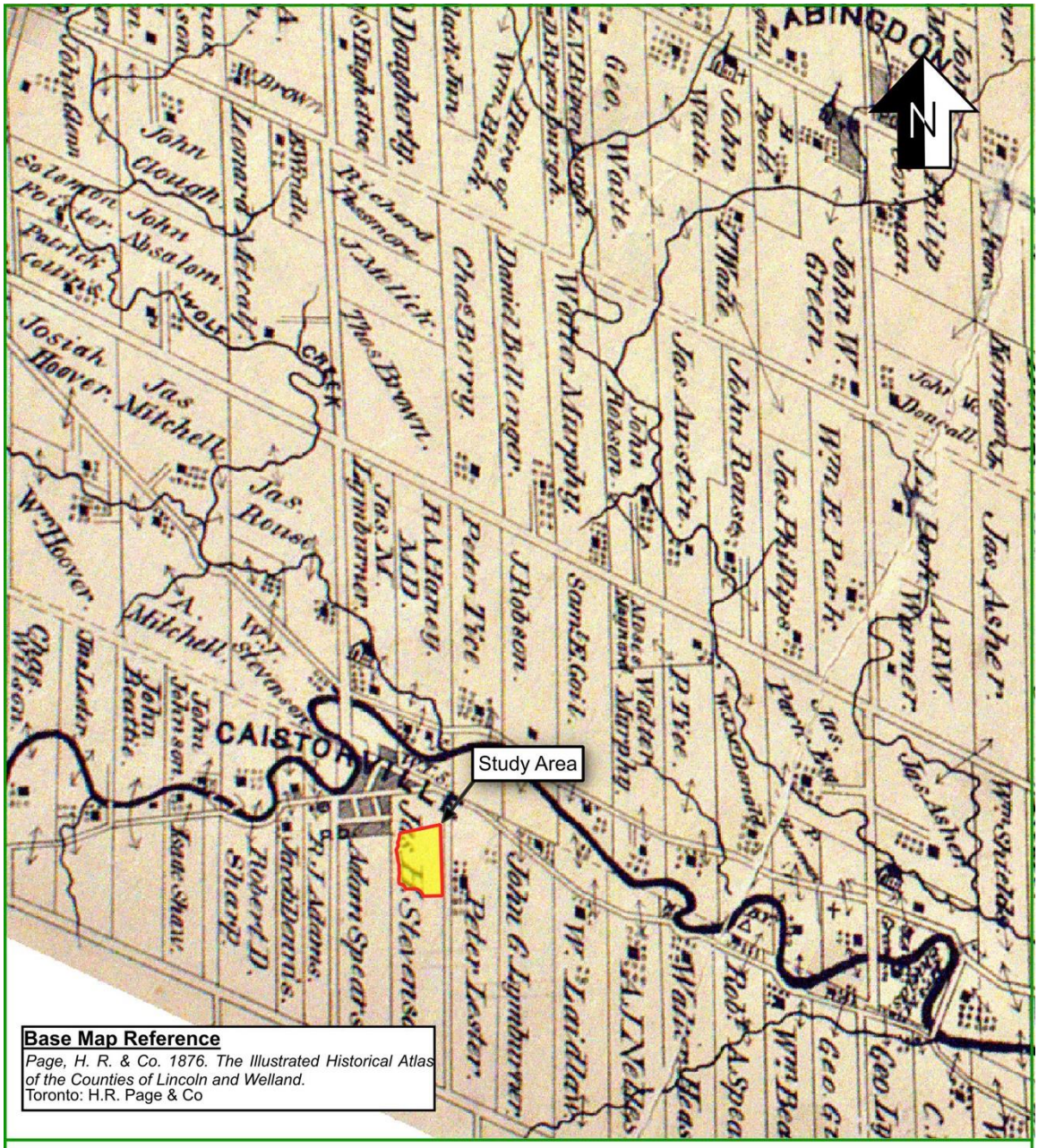


Figure 2: Historic Map Showing Study Area



Not to Scale

Figure 2: Portion of H. R. Page & Co. 1876 Historical Atlas Map of Caistor Township

Figure 3: Map of the Development Property and Scoped Study Area

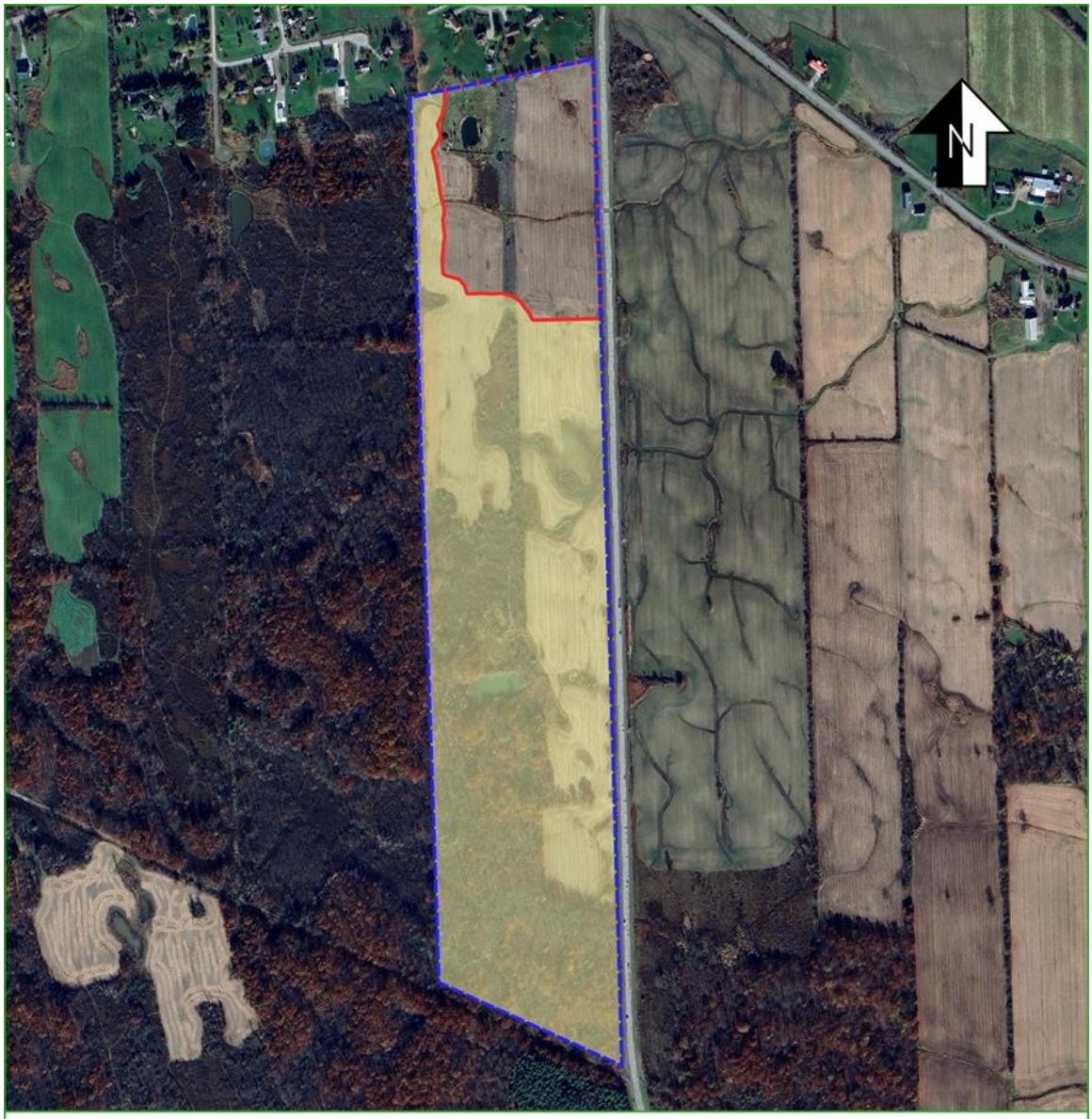


Figure 4: Previous Assessments



Figure 5: Stage 4 Results

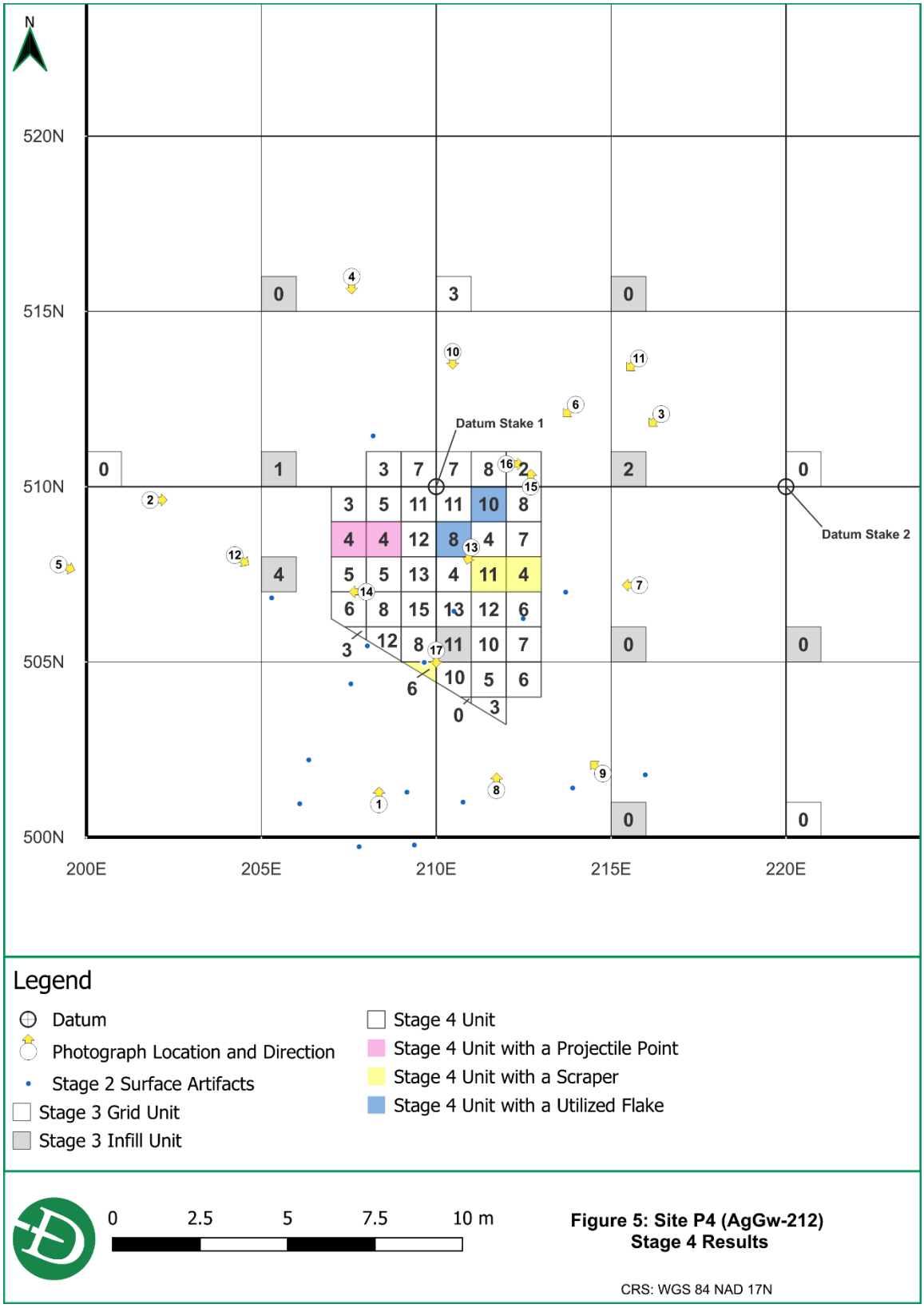


Figure 6: Stage 3 and 4 Results

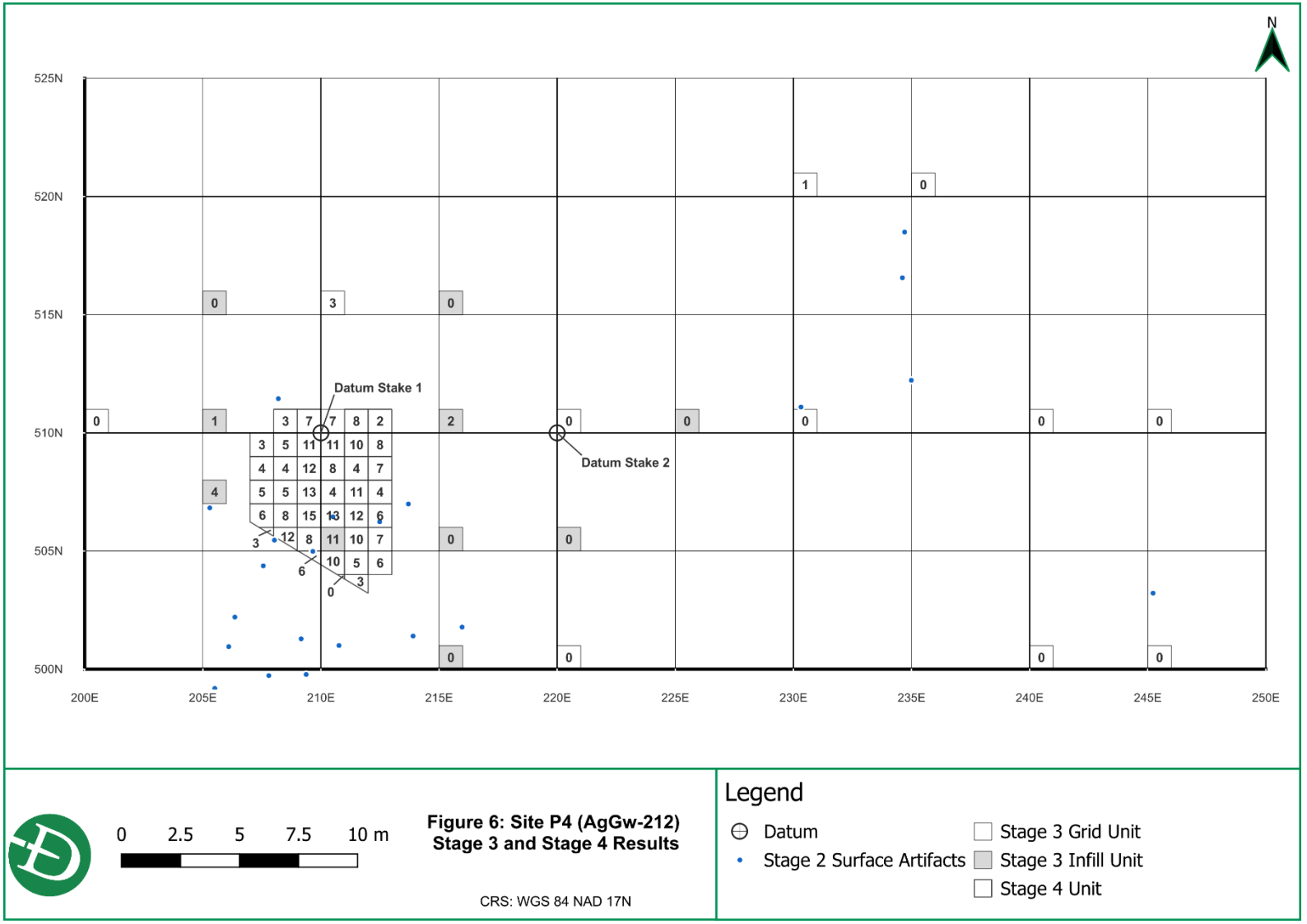
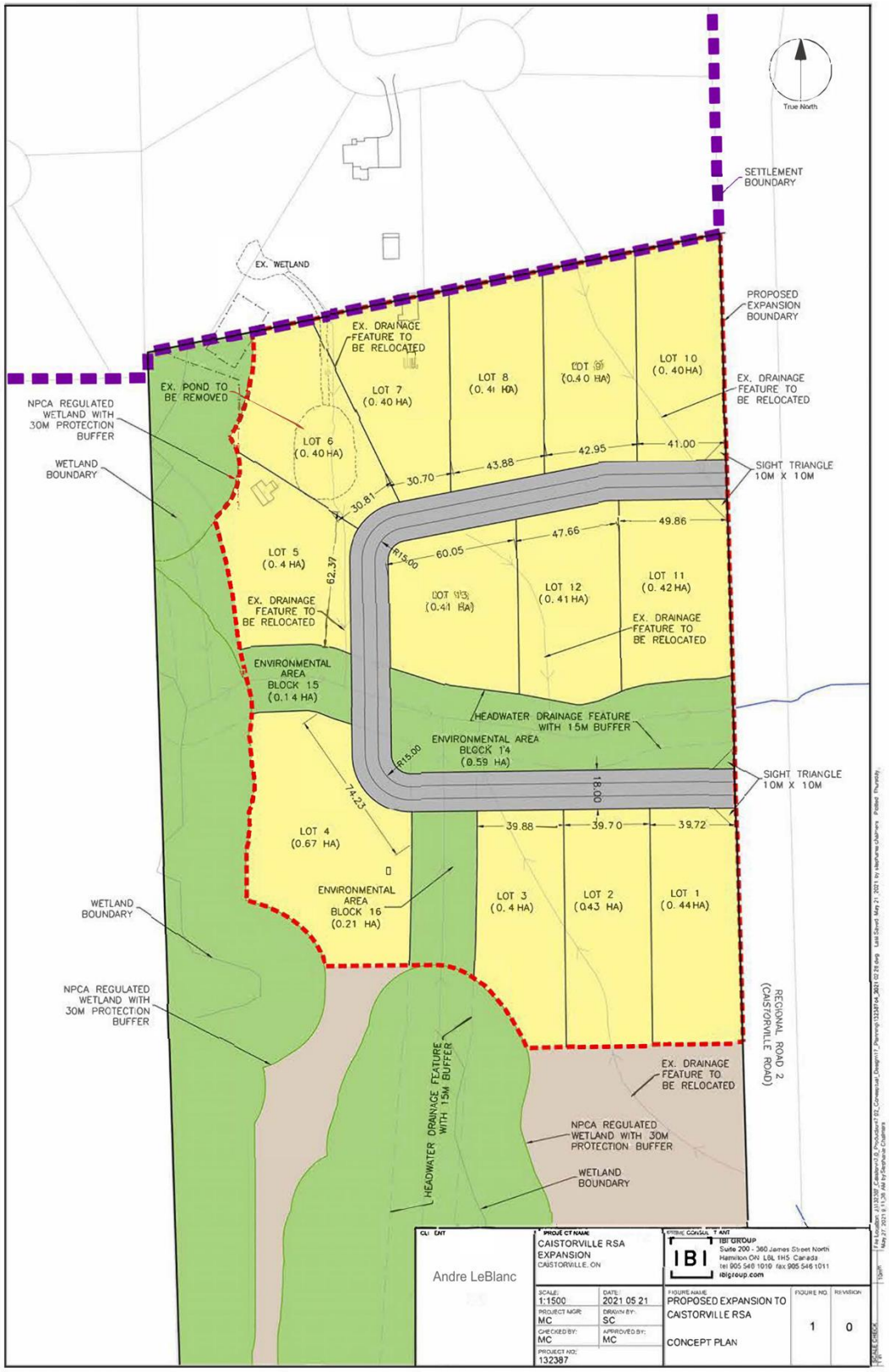


Figure 7: Development Plan



9.0 Images

9.1 Field Photos

Photo 1: Stage 4 excavation at P4 (AgGw-212), facing north



Photo 2: Stage 4 excavation at P4 (AgGw-212), facing east



Photo 3: Stage 4 excavation at P4 (AgGw-212), facing southwest



Photo 4: Stage 4 excavation at P4 (AgGw-212), facing south



Photo 5: Stage 4 excavation at P4 (AgGw-212) showing the excavation up to the PSW boundary, facing southeast



Photo 6: Stage 4 excavation at P4 (AgGw-212), facing southwest

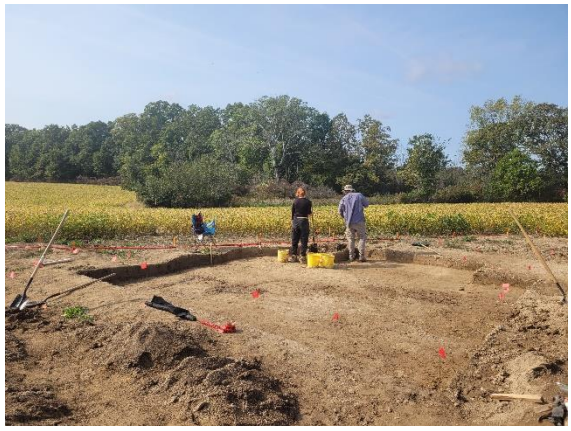


Photo 7: Completed Stage 4 excavation block at P4 (AgGw-212), facing west



Photo 8: Completed Stage 4 excavation block at P4 (AgGw-212), facing north



Photo 9: Completed Stage 4 excavation block at P4 (AgGw-212), facing northwest



Photo 10: Completed Stage 4 excavation block at P4 (AgGw-212), facing south



Photo 11: Completed Stage 4 block excavation at P4 (AgGw-212), facing southwest



Photo 12: Backfilled and shored up Study Area boundary through P4 (AgGw-212), facing southeast



Photo 13: Backfilled and shored up Study Area boundary through P4 (AgGw-212), facing south by southwest



Photo 14: Soil profile at P4 (AgGw-212), facing west



Photo 15: Soil profile at P4 (AgGw-212), facing north



Photo 16: Soil profile at P4 (AgGw-212), facing east



Photo 17: Soil profile at P4 (AgGw-212), facing south



9.2 Artifacts

Plate 1: Projectile point made of Onondaga chert and found in two fragments; Cat# 19 (proximal) and Cat# 51 (distal)



Plate 2: Onondaga chert end-scraper; Cat# 32



Plate 3: Onondaga chert utilized flake; Cat# 55



Plate 4: Onondaga chert side-scraper; Cat#65



Plate 5: Onondaga chert end-scraper; Cat# 86



Plate 6: Representative Haldimand flake; Cat# 111



Plate 7: Onondaga chert utilized flake; Cat# 121



10.0 Appendix

10.1 P4 (AgGw-212) Stage 4 Artifact Catalogue

Cat#	Context	Easting	Northing	Depth(m)	Artifact	Freq.	Chert Type	Morphology	Comments
1	Unit excavation	208	507	0.3	debitage	2	Onondaga	secondary	
2	Unit excavation	208	507	0.3	debitage	2	Onondaga	fragment	
3	Unit excavation	208	507	0.3	debitage	1	Onondaga	fragment	pot-lidded
4	Unit excavation	212	510	0.29	debitage	1	Onondaga	secondary	pot-lidded
5	Unit excavation	212	510	0.29	debitage	1	Onondaga	secondary	
6	Unit excavation	212	508	0.29	debitage	2	Onondaga	secondary	
7	Unit excavation	212	508	0.29	debitage	2	Onondaga	tool thinning	
8	Unit excavation	212	508	0.29	debitage	3	Onondaga	fragment	
9	Unit excavation	210	507	0.26	debitage	1	Onondaga	secondary	
10	Unit excavation	210	507	0.26	debitage	3	Onondaga	fragment	
11	Unit excavation	207	505	0.3	debitage	1	Onondaga	secondary	
12	Unit excavation	207	505	0.3	debitage	2	Onondaga	fragment	
13	Unit excavation	211	508	0.3	debitage	2	Onondaga	secondary	
14	Unit excavation	211	508	0.3	debitage	1	Onondaga	tool thinning	
15	Unit excavation	211	508	0.3	debitage	1	Onondaga	fragment	
16	Unit excavation	208	508	0.28	debitage	1	Onondaga	secondary	
17	Unit excavation	208	508	0.28	debitage	1	Onondaga	fragment	
18	Unit excavation	208	508	0.28	debitage	1	Onondaga	shatter	
19	Unit excavation	208	508	0.28	projectile point	1	Onondaga	-	medial fragment of a finely made notched projectile point; missing base, most closely resembles Middle Archaic points such as Brewerton but is non-diagnostic; articulates with CAT#51; 16.5mm length, 25.6mm width, 6.2mm thick and 12.6mm neck
20	Unit excavation	207	507	0.21	debitage	2	Onondaga	secondary	
21	Unit excavation	207	507	0.21	debitage	1	Onondaga	tool thinning	

Cat#	Context	Easting	Northing	Depth(m)	Artifact	Freq.	Chert Type	Morphology	Comments
22	Unit excavation	207	507	0.21	debitage	2	Onondaga	fragment	
23	Unit excavation	208	510	0.29	debitage	1	Onondaga	secondary	
24	Unit excavation	208	510	0.29	debitage	2	Onondaga	tool thinning	
25	Unit excavation	207	506	0.3	debitage	1	Onondaga	secondary	
26	Unit excavation	207	506	0.3	debitage	1	Onondaga	tool thinning	
27	Unit excavation	207	506	0.3	debitage	1	Onondaga	tool thinning	pot-lidded
28	Unit excavation	207	506	0.3	debitage	3	Onondaga	fragment	
29	Unit excavation	212	507	0.31	debitage	1	Onondaga	secondary	
30	Unit excavation	212	507	0.31	debitage	1	Onondaga	tool thinning	
31	Unit excavation	212	507	0.31	debitage	1	Onondaga	fragment	
32	Unit excavation	212	507	0.31	scraper	1	Onondaga	secondary	end-scraper made from a large secondary flake, use-wear and retouch along rounded distal margin; measures 40.5mm length by 37.7mm width by 7.7 mm thick
33	Unit excavation	208	506	0.28	debitage	4	Onondaga	secondary	
34	Unit excavation	208	506	0.28	debitage	2	Onondaga	fragment	
35	Unit excavation	208	506	0.28	debitage	1	Onondaga	shatter	
36	Unit excavation	208	506	0.28	debitage	1	Onondaga	shatter	pot-lidded
37	Unit excavation	208	509	0.25	debitage	3	Onondaga	secondary	
38	Unit excavation	208	509	0.25	debitage	1	Onondaga	fragment	
39	Unit excavation	208	509	0.25	debitage	1	Onondaga	shatter	
40	Unit excavation	212	506	0.31	debitage	1	Onondaga	secondary	
41	Unit excavation	212	506	0.31	debitage	1	Onondaga	tool thinning	
42	Unit excavation	212	506	0.31	debitage	4	Onondaga	fragment	
43	Unit excavation	209	510	0.3	debitage	1	Onondaga	secondary	pot-lidded
44	Unit excavation	209	510	0.3	debitage	4	Onondaga	tool thinning	
45	Unit excavation	209	510	0.3	debitage	2	Onondaga	fragment	
46	Unit excavation	212	505	0.29	debitage	2	Onondaga	secondary	pot-lidded
47	Unit excavation	212	505	0.29	debitage	2	Onondaga	tool thinning	

Cat#	Context	Easting	Northing	Depth(m)	Artifact	Freq.	Chert Type	Morphology	Comments
48	Unit excavation	212	505	0.29	debitage	3	Onondaga	fragment	
49	Unit excavation	207	508	0.3	debitage	1	Onondaga	secondary	
50	Unit excavation	207	508	0.3	debitage	2	Onondaga	fragment	
51	Unit excavation	207	508	0.3	projectile point	1	Onondaga	-	distal projectile point fragment; articulates with CAT#19; 16.2mm length, 20.2mm width and 5.3mm thick
52	Unit excavation	212	504	0.3	debitage	1	Onondaga	secondary	
53	Unit excavation	212	504	0.3	debitage	2	Onondaga	tool thinning	
54	Unit excavation	212	504	0.3	debitage	3	Onondaga	fragment	
55	Unit excavation	210	508	0.31	utilized flake	1	Onondaga	secondary	utilized flake with light use-wear along one margin; 32.5mm length by 24.1mm width by 6.1mm thick
56	Unit excavation	210	508	0.31	debitage	1	Onondaga	secondary	
57	Unit excavation	210	508	0.31	debitage	4	Onondaga	tool thinning	
58	Unit excavation	210	508	0.31	debitage	2	Onondaga	fragment	
59	Unit excavation	211	504	0.27	debitage	1	Onondaga	secondary	
60	Unit excavation	211	504	0.27	debitage	3	Onondaga	tool thinning	
61	Unit excavation	211	504	0.27	debitage	1	Onondaga	fragment	
62	Unit excavation	209	504	0.28	debitage	2	Onondaga	tool thinning	
63	Unit excavation	209	504	0.28	debitage	2	Onondaga	fragment	
64	Unit excavation	209	504	0.28	debitage	1	Onondaga	fragment	pot-lidded
65	Unit excavation	209	504	0.28	scraper	1	Onondaga	secondary	side-scraper made from a curved flake blade, has unifacial use-wear along both lateral margins; 46.2mm length by 19.9mm width by 8.1mm thick
66	Unit excavation	209	505	0.27	debitage	2	Onondaga	secondary	
67	Unit excavation	209	505	0.27	debitage	1	Onondaga	tool thinning	
68	Unit excavation	209	505	0.27	debitage	5	Onondaga	fragment	
69	Unit excavation	211	503	0.28	debitage	1	Onondaga	tool thinning	
70	Unit excavation	211	503	0.28	debitage	2	Onondaga	fragment	
71	Unit excavation	211	505	0.27	debitage	2	Onondaga	secondary	

Cat#	Context	Easting	Northing	Depth(m)	Artifact	Freq.	Chert Type	Morphology	Comments
72	Unit excavation	211	505	0.27	debitage	3	Onondaga	tool thinning	
73	Unit excavation	211	505	0.27	debitage	1	Onondaga	tool thinning	pot-lidded and possibly heat-treated
74	Unit excavation	211	505	0.27	debitage	3	Onondaga	fragment	
75	Unit excavation	211	505	0.27	debitage	1	Onondaga	shatter	pot-lidded
76	Unit excavation	211	510	0.29	debitage	2	Onondaga	tool thinning	
77	Unit excavation	211	510	0.29	debitage	6	Onondaga	fragment	
78	Unit excavation	212	509	0.32	debitage	2	Onondaga	secondary	
79	Unit excavation	212	509	0.32	debitage	1	Onondaga	tool thinning	
80	Unit excavation	212	509	0.32	debitage	3	Onondaga	fragment	
81	Unit excavation	212	509	0.32	debitage	1	Onondaga	fragment	pot-lidded
82	Unit excavation	212	509	0.32	debitage	1	Onondaga	shatter	
83	Unit excavation	211	507	0.29	debitage	3	Onondaga	secondary	
84	Unit excavation	211	507	0.29	debitage	4	Onondaga	tool thinning	
85	Unit excavation	211	507	0.29	debitage	3	Onondaga	fragment	
86	Unit excavation	211	507	0.29	scraper	1	Onondaga	secondary	end-scraper made from a secondary flake, unifacial retouch and use-wear along distal margin as well as use-wear along one lateral margin; 33.9mm length by 26.3mm width by 5.7mm thick
87	Unit excavation	208	505	0.3	debitage	5	Onondaga	secondary	
88	Unit excavation	208	505	0.3	debitage	4	Onondaga	tool thinning	
89	Unit excavation	208	505	0.3	debitage	2	Onondaga	fragment	
90	Unit excavation	208	505	0.3	debitage	1	Onondaga	fragment	possibly heat-treated
91	Unit excavation	210	504	0.29	debitage	2	Onondaga	secondary	
92	Unit excavation	210	504	0.29	debitage	3	Onondaga	tool thinning	
93	Unit excavation	210	504	0.29	debitage	3	Onondaga	fragment	
94	Unit excavation	210	504	0.29	debitage	1	Onondaga	fragment	pot-lidded
95	Unit excavation	210	504	0.29	debitage	1	Onondaga	shatter	
96	Unit excavation	209	508	0.27	debitage	3	Onondaga	secondary	

Cat#	Context	Easting	Northing	Depth(m)	Artifact	Freq.	Chert Type	Morphology	Comments
97	Unit excavation	209	508	0.27	debitage	4	Onondaga	tool thinning	
98	Unit excavation	209	508	0.27	debitage	4	Onondaga	fragment	
99	Unit excavation	209	508	0.27	debitage	1	Onondaga	shatter	pot-lidded
100	Unit excavation	207	509	0.27	debitage	1	Onondaga	tool thinning	
101	Unit excavation	207	509	0.27	debitage	2	Onondaga	fragment	
102	Unit excavation	209	507	0.29	debitage	3	Onondaga	primary	equivocal blocky material
103	Unit excavation	209	507	0.29	debitage	3	Onondaga	tool thinning	
104	Unit excavation	209	507	0.29	debitage	4	Onondaga	fragment	
105	Unit excavation	209	507	0.29	debitage	2	Onondaga	fragment	pot-lidded
106	Unit excavation	209	507	0.29	debitage	1	Onondaga	shatter	pot-lidded
107	Unit excavation	209	509	0.33	debitage	1	Onondaga	secondary	
108	Unit excavation	209	509	0.33	debitage	1	Onondaga	secondary	pot-lidded
109	Unit excavation	209	509	0.33	debitage	6	Onondaga	tool thinning	
110	Unit excavation	209	509	0.33	debitage	1	Onondaga	fragment	
111	Unit excavation	209	509	0.33	debitage	1	Haldimand	fragment	
112	Unit excavation	209	509	0.33	debitage	1	Onondaga	shatter	pot-lidded
113	Unit excavation	210	506	0.3	debitage	3	Onondaga	secondary	
114	Unit excavation	210	506	0.3	debitage	4	Onondaga	tool thinning	
115	Unit excavation	210	506	0.3	debitage	4	Onondaga	fragment	
116	Unit excavation	210	506	0.3	debitage	1	Onondaga	fragment	pot-lidded
117	Unit excavation	210	506	0.3	debitage	1	Onondaga	shatter	possibly heat-treated
118	Unit excavation	211	509	0.31	debitage	4	Onondaga	secondary	
119	Unit excavation	211	509	0.31	debitage	3	Onondaga	tool thinning	
120	Unit excavation	211	509	0.31	debitage	2	Onondaga	fragment	
121	Unit excavation	211	509	0.31	utilized flake	1	Onondaga	fragment	flake fragment with unifacial use-wear along opposing flake lateral margins; 18.8mm length by 12.9mm width by 3.7mm thick
122	Unit excavation	211	506	0.29	debitage	6	Onondaga	secondary	
123	Unit excavation	211	506	0.29	debitage	3	Onondaga	tool thinning	

Cat#	Context	Easting	Northing	Depth(m)	Artifact	Freq.	Chert Type	Morphology	Comments
124	Unit excavation	211	506	0.29	debitage	3	Onondaga	fragment	
125	Unit excavation	210	509	0.29	debitage	2	Onondaga	secondary	
126	Unit excavation	210	509	0.29	debitage	4	Onondaga	tool thinning	
127	Unit excavation	210	509	0.29	debitage	1	Onondaga	tool thinning	pot-lidded
128	Unit excavation	210	509	0.29	debitage	3	Onondaga	fragment	
129	Unit excavation	210	509	0.29	debitage	1	Onondaga	fragment	pot-lidded
130	Unit excavation	209	506	0.29	debitage	1	Onondaga	primary	reddened, possible heat-treatment
131	Unit excavation	209	506	0.29	debitage	2	Onondaga	secondary	
132	Unit excavation	209	506	0.29	debitage	3	Onondaga	tool thinning	
133	Unit excavation	209	506	0.29	debitage	2	Onondaga	tool thinning	pot-lidded
134	Unit excavation	209	506	0.29	debitage	5	Onondaga	fragment	
135	Unit excavation	209	506	0.29	debitage	2	Onondaga	shatter	pot-lidded

Stage 4 Mitigation of Development Impacts
P5 (AgGw-213)
Caistorville Road Property, Caistorville

Part of Lot 20, Concession 1, Geographic Township of Caistor, Historical County of Lincoln, now the Regional Municipality of Niagara

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CP Number: 2024-125

ORIGINAL REPORT

January 10th, 2025

Executive Summary

Detritus Consulting Ltd. ('Detritus') was retained by DeHaan Homes (the 'Proponent') to conduct a Stage 4 mitigation of developmental impacts at archaeological site P5 (AgGw-213) located part of Lot 20, Concession 1, in the geographic Township of Caistor, within the historical County Lincoln, which is now the Regional Municipality of Niagara, Ontario (Figure 1). This assessment was undertaken in advance of future development on the property at Caistorville Road in Caistorville (Figure 7).

Mitigation of P5 (AgGw-213) 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 this condition, a Stage 4 mitigation by hand excavation at the site was conducted as part of the application phase of development under archaeological consulting license P1263 issued to Mr. Jonathan Peart 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 *Standards and Guidelines for Consultant Archaeologists* ('*Standards and Guidelines*'; Government of Ontario, 2011).

P5 (AgGw-213) is located on a part of a larger Development Property that is a roughly rectangular-shaped parcel situated to the southeast of Caistorville that encompassed almost the entirety of the original historic Lot 20, Concession 1. Less than one-third of the original Lot 20 had been severed to form a small neighbourhood around Broman Court to the north of the Development Property. The remainder of the lot within the Development Property comprised agricultural fields with sections of wetlands and woodlots including portions of the Caistor Canborough Slough Forest Wetland Complex, a Provincially significant Wetland ('PSW') regulated under the Niagara Peninsula Conservation Authority ('NPCA'). The Development Property measure 35.73 hectares ('ha') and is bound to the west by woodlots/wetlands, to the east by Caistorville Road, to the north by residential properties on Broman Court, and to the south by Haldibrook Road (Figure 3). The current Development Application covers only the portion of the Development Property to be subject to developmental impacts and is outside of the 30m protective buffer surrounding the PSW (the 'Study Area'; Figure 4).

The reduced Study Area measures 7.39ha and occupies the northern portion of the Development Property, bound to the north by residential properties on Broman Court, to the west by a 30m buffer surrounding the PSW, and to the east by Caistorville Road. The southern boundary is bound by either agricultural fields or by sections of the 30m buffer surrounding the PSW. At the time of the Stage 1-2 assessment, the Study Area included two agricultural fields, portions of woodlot with felled trees, and the northwestern corner of the Study Area comprised the remnants of a former farm that included overgrown and grassy areas (Figure 4; Detritus Consulting Ltd., 2024a).

The Stage 1-2 archaeological assessment of the Study Area included a standard pedestrian survey of the agricultural fields and test pit surveys of the felled woodlots and overgrown and grassy areas and resulted in the identification and documentation of seven pre-contact Indigenous sites and two isolated findspots. The seven archaeological sites were registered with the MCM as P1 (AgGw-209), P2 (AgGw-210), P3 (AgGw-211), P4 (AgGw-212), P5 (AgGw-213), P6 (AgGw-214), and P7 (AgGw-215) (see Tile 4 of the Supplementary Documentation to this report). Based on the results of the Stage 1-2 assessment, Detritus recommended Stage 3 site specific assessments for P1 (AgGw-209), P3 (AgGw-211), P4 (AgGw-212), P5 (AgGw-213) and P6 (AgGw-214) (Detritus Consulting Ltd., 2024a).

The subsequent Stage 3 assessment of P5 (AgGw-213) resulted in the documentation of 34 pre-contact Indigenous artifacts from 20 Stage 3 test units and 2 surface find locations covering an area roughly 31m by 26m in the southern half of the Study Area. The artifacts were manufactured from Onondaga or Haldimand chert. The assemblage comprised mostly debitage, along with one

biface, and one projectile point. According to morphological analysis, the Stage 3 flake assemblage from P5 (AgGw-213) featured primarily thinning flakes (43.75%) with lesser amounts of flake fragments (12.50%). In addition, two pieces of shatter (6.25%) and one secondary flake (3.13%) were also recovered. P5 (AgGw-213) was identified as a small short-term activity area occupied by Indigenous people during the pre-contact period. The artifact assemblage is characterised by late-stage lithic reduction related to the production and maintenance of formal and informal tools. The presence of a possible Adder Orchard point suggests an occupation dating to the Late Archaic. Given the results of the Stage 3 assessment, wherein one test unit from P5 (AgGw-213), yielded ten or more lithic artifacts, P5 (AgGw-213), was determined to retain CHVI and Stage 4 mitigation of developmental impacts to P5 (AgGw-213) was recommended (Detritus Consulting Ltd., 2024b).

The Stage 4 fieldwork was conducted at P5 (AgGw-213) between September 10th and October 23rd, 2024. This investigation resulted in the documentation of 709 pre-contact Indigenous artifacts from the hand excavation of 66 one-metre square units. The excavation centred on the highest yielding Stage 3 unit located at 200E, 515N in the centre of the site. The Stage 4 units formed a single continuous excavation block measuring 11m north to south and 8m east to west that followed a similar trend with the highest counts occurring in the centre of the block at 201E and 202E, 515N, and 202E, 514N. The highest yielding unit was 201E, 515N, which produced 39 artifacts, and the next highest yielding units were located immediately to the east and south of the unit both yielding 27 artifacts. An additional 27 units yielded between 10 and 25 artifacts and the remaining 36 units yielded less than 10 artifacts. The limits of the block were extended until yields dropped to less than ten non-diagnostic pre-contact Indigenous artifacts per unit.

Similar to the Stage 3 results, the vast majority of artifacts recovered during the Stage 4 mitigation of P5 (AgGw-213) were pieces of debitage (n=704) manufactured from either Onondaga (n=649; 92.19%) or Haldimand chert (n= 55; 7.81%). Additionally, four utilized flakes and one scraper were also recovered, all of which were manufactured from Onondaga chert. According to morphological analysis the majority of the chert flakes were tool thinning flakes (45.03%) or flake fragments (31.11%). The remainder of the assemblage comprised lesser amounts of secondary flakes (18.18%), shatter (4.83%), primary flakes (<1%), and cortical removal flakes (<1%). The presence of primary flakes and the single cortical removal flake suggests that early and middle stages, in addition to late-stages of lithic reduction related to the production of formal and informal tools occurred at the site. No fire cracked rock, features nor any Indigenous pottery were recovered during the Stage 4 mitigation.

Based on the quantity and distribution of artifacts, the site likely represents a single activity area centered in the middle of the Stage 4 excavation block. Additionally, the high proportion of debitage coupled with relatively low diversity of tool types suggests a short duration occupation by seasonally mobile Indigenous people prior to contact with European settlers. The presence of a possible Adder Orchard point found during the Stage 3 assessment suggests an occupation dating to the Late Archaic. Given that six additional Indigenous activity areas, P1 (AgGw-209), P2 (AgGw-210), P3 (AgGw-211), P4 (AgGw-212), P6 (AgGw-214), and P7 (AgGw-215), as well as two findspots, were observed within the Study Area; P5 (AgGw-213) provides further evidence of the settlement patterns within a larger area of ongoing, seasonal occupation by Indigenous peoples prior to contact with European settlers.

The Stage 4 mitigation of P5 (AgGw-213) is now complete. **The CHVI of P5 (AgGw-213) has been fully documented and the information will be preserved for future study. P5 (AgGw-213) has no further CHVI, as per Section 7.11.4 Standard 1 of the *Standards and Guidelines* (Government of Ontario, 2011).**

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

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1.0 Project Context

1.1 Development Context

Detritus Consulting Ltd. ('Detritus') was retained by DeHaan Homes (the 'Proponent') to conduct a Stage 4 mitigation of developmental impacts at archaeological site P5 (AgGw-213) located part of Lot 20, Concession 1, in the geographic Township of Caistor, within the historical County of Lincoln, which is now the Regional Municipality of Niagara, Ontario (Figure 1). This assessment was undertaken in advance of future development on the property at Caistorville Road in Caistorville (Figure 7).

Mitigation of P5 (AgGw-213) 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 this condition, a Stage 4 mitigation by hand excavation at the site was conducted as part of the application phase of development under archaeological consulting license P1263 issued to Mr. Jonathan Peart 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 *Standards and Guidelines for Consultant Archaeologists* ('*Standards and Guidelines*'; Government of Ontario, 2011).

The purpose of a Stage 4 mitigation of impacts by hand excavation is to document an archaeological site through its controlled removal in order to address archaeological concerns under land use planning and development processes. In compliance with the *Standards and Guidelines* (Government of Ontario, 2011), the objectives of the following Stage 4 investigation are:

- To document the archaeological context, cultural features, and artifacts for all parts of the site;
- to document the removal of the archaeological site; and
- to preserve the information recovered about the archaeological site for future study.

The licensee received permission from the Proponent to enter the Study Area and conduct all required archaeological fieldwork activities at P5 (AgGw-213), including the recovery of artifacts.

1.2 Historical Context

1.2.1 Post-Contact Indigenous 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 (Heidenreich, 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, 2002). 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 Year 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 Indigenous 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, H. & Co., 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, in 1847 (Smith, 2002)

Despite the encroachment of European settlers on previously established Indigenous 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

P5 (AgGw-213) is located on part of Lot 20, Concession 1, in the geographic Township of Caistor, within the historical County of Lincoln, which is now the Regional Municipality of Niagara, Ontario.

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, 2012-2024). 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).

In July 1792, Simcoe divided Upper Canada into 19 counties, including Lincoln County, 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, the Study Area became part of the Niagara District (Archives of Ontario, 2012-2024). 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, of which Caistor Township was a part. The two counties would be amalgamated once again in 1970 to form the Regional Municipality of Niagara.

The Township of Caistor derived its name from the north English town of Caistor in Lincolnshire and was opened for settlement in 1798. The first non-indigenous settler of the township was an escaped slave and black man named Diamond, who, in 1778 constructed an isolated cabin along a spring grove at the banks of the Welland River and resided there (McBride, 2009). In 1782, Diamond sold his cabin to Hendrich Dochstader, a United Empire Loyalist from New York State. Among the first European settlers to actively farm in the area, there was John, James, Alexander

and Matthew Lymburner, who arrived between 1794 and 1796. John Lymburner built the first mill in the township in 1799, located on Lot 6, Concession 2 (Middleton & Landon, 1927). By the middle of the 18th century, Caistor Township was home to 306 residents, and was producing a significant crop of wheat, barley, peas and oats (Mitchell & Co., 1865).

Community centres within Caistor Township included Abingdon, Caistor Centre, and Caistorville. Caistorville would become a prosperous community along the Welland River. At its height, Caistorville included two churches, one Anglican and one Methodist, two general stores, two taverns and eventually a post office and public school (Exploring Niagara, 2017).

The current Study Area occupies a part of Lot 20, Concession 1 in Caistor Township. According to the *Historical Atlas*, the Lot was bounded by the early settlement of Caistorville in its northwest corner (Page & Co., 1876). The entire lot was owned by Jason H. Stevenson, who was a freehold farmer (Union Publishing Company, 1885). The Study Area is located in the northern portion of the Lot along a historic road, now known as Caistorville Road. The Welland River, labelled as Chippawa Creek, is depicted running alongside the town of Caistorville to the north. Several structures, orchards and the early community of Warner are also depicted along Chippawa Creek to either side.

It should be recognised, however, that although significant and detailed landowner information is available on the current *Historical Atlas*, 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).

1.2.3 Recent Reports

Two archaeological assessment reports have been written for archaeological work pertaining to the Study Area or specifically P5 (AgGw-213) and are detailed in Table 1, below.

Table 1: Archaeological Assessment Reports for P5 (AgGw-213)

Year	Title	Author	PIF#s
2024	*Stage 1-2 Archaeological Assessment of Caistorville Road Property, Caistorville on Part of Lot 20, Concession 1, Geographic Township of Caistor, Historical County of Lincoln, now the Regional Municipality of Niagara* (Detritus Consulting Ltd., 2024a)	Detritus	P462-0261-2024
2024	*Stage 3 Archaeological Assessments, P3 (AgGw-211), P4 (AgGw-212), P5 (AgGw-213), and P6 (AgGw-214), Caistorville, Part of Lot 20, Concession 1, Geographic Township of Caistor, Historical County of Lincoln, now Regional Municipality of Niagara* (Detritus Consulting Ltd., 2024b)	Detritus	P1263-0031-2024

The results of these investigations will be discussed in more detail in Section 1.3.4 below.

1.3 Archaeological Context

1.3.1 Property Description and Physical Setting

P5 (AgGw-213) is located on a part of a larger Development Property that is a roughly rectangular-shaped parcel situated to the southeast of Caistorville that encompassed almost the entirety of the original historic Lot 20, Concession 1. Less than one-third of the original Lot 20 had been severed to form a small neighbourhood around Broman Court to the north of the Development Property. The remainder of the lot within the Development Property comprised agricultural fields with sections of wetlands and woodlots including portions of the Caistor Canborough Slough Forest Wetland Complex, a Provincially significant Wetland ('PSW') regulated under the Niagara Peninsula Conservation Authority ('NPCA'). The Development Property measure 35.73 hectares ('ha') and is bound to the west by woodlots/wetlands, to the east by Caistorville Road, to the north by residential properties on Broman Court, and to the south by

Haldibrook Road (Figure 3). The current Development Application covers only the portion of the Development Property to be subject to developmental impacts and is outside of the 30m protective buffer surrounding the PSW (the 'Study Area'; Figure 4).

The reduced Study Area measures 7.39ha and occupies the northern portion of the Development Property, bound to the north by residential properties on Broman Court, to the west by a 30m buffer surrounding the PSW, and to the east by Caistorville Road. The southern boundary is bound by either agricultural fields or by sections of the 30m buffer surrounding the PSW. At the time of the Stage 1-2 assessment, the Study Area included two agricultural fields, portions of woodlot with felled trees, and the northwestern corner of the Study Area comprised the remnants of a former farm that included overgrown and grassy areas (Figure 4; Detritus Consulting Ltd., 2024a).

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 located within Haldimand Clay Plain physiographic region (Chapman & Putnam, 1984). During pre-contact and early contact times, this area comprised a mixture of deciduous trees and open areas. In the early 19th century, Euro-Canadian settlers began to clear the forests for agricultural purposes, which have been ongoing in the vicinity of the Study Area for over 100 years.

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 & Presant, 1989). 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 & Putnam, 1984, p. 156

Huffman and Dumanski add that the soil within the region is suitable for corn and soybeans in rotation with cereal grains as well as alfalfa and clover (Huffman & 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, Euro-Canadian settlers began to clear the forests for agricultural purposes.

The closest source of potable water is the Welland River that runs west to east approximately 400m to the north of the Study Area.

1.3.2 Pre-Contact Indigenous Land Use

This portion of southern Ontario 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 2 provides a general outline of the cultural chronology of Caistor Township (Ellis & Ferris, 1990).

Table 2: Cultural Chronology for Caistor 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 MCM were consulted. In Ontario, information concerning archaeological sites stored in the ASDB (Government of Ontario, n.d.) is maintained by the MCM. This database contains archaeological sites registered according to the Borden system. Under the Borden system, Canada is divided into grid blocks based on latitude and longitude. A Borden Block is approximately 13 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 AgGw.

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, no sites have been registered within 1km of the Study Area. 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

The Study Area was subject to a Stage 1-2 archaeological assessment conducted by Detritus under PIF# P462-0291-2024 (Detritus Consulting Ltd., 2024a). The Stage 1 background research 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 the Study Area (Figure 4).

The subsequent Stage 2 field assessment of the Study Area was conducted on November 27th, 2023, and April 24th, 2024. This investigation began with a property inspection, which determined that the artificial pond, the two stone-lined ditches, and the two building foundations within the former farm retained no, or low, archaeological potential based on the identification of extensive and deep land alteration that has severely damaged the integrity of archaeological resources. The marshy area in the east agricultural field meanwhile, was evaluated as being permanently wet and therefore was determined to retain no archaeological potential. The

previously disturbed and permanently wet areas, as confirmed during a Stage 2 property inspection, were mapped and photo documented.

The remainder of the Study Area comprised the overgrown and grassy areas, the portions of woodlot with felled trees, and two agricultural fields within the Study Area. The felled woodlots and overgrown and grassy areas that were inaccessible to ploughing were assessed by means of a typical test pit survey at 5m intervals. No archaeological resources were observed. The two agricultural fields were deemed accessible for ploughing and were assessed using a typical pedestrian survey at five-metre intervals. This investigation resulted in the identification and documentation of seven pre-contact Indigenous sites and two isolated findspots. The seven archaeological sites were registered with the MCM as P1 (AgGw-209), P2 (AgGw-210), P3 (AgGw-211), P4 (AgGw-212), P5 (AgGw-213), P6 (AgGw-214), and P7 (AgGw-215) (see Tile 4 of the Supplementary Documentation to this report).

The Stage 2 assessment of P1 (AgGw-209) resulted in the documentation of 19 pre-contact Indigenous artifacts from 19 findspot locations scattered across an area roughly 28m by 12m in the centre of the east agricultural field located approximately 58m from the eastern edge of the Study Area. All of the artifacts recovered from the site were pieces of debitage and were manufactured from Onondaga or Selkirk chert. According to the morphological analysis the flake assemblage featured primarily secondary flakes (52.53%) with lesser amounts of fragmentary flakes as well as one piece of shatter (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P3 (AgGw-211) resulted in the documentation of 16 pre-contact Indigenous artifacts from 10 surface findspots scattered across an area roughly 12m by 38m in the west agricultural field approximately 11m from the western edge of the Study Area. The artifact assemblage comprised 14 pieces of debitage, manufactured from Onondaga, Haldimand, or Ancaster chert types and 1 scraper manufactured from Onondaga chert. According to the morphological analysis, the flake assemblage featured primarily tool thinning flakes (40.00%) with lesser amounts of fragment flakes and secondary flakes. In addition, one piece of shatter was also recovered (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P4 (AgGw-212) resulted in the documentation of 45 pre-contact Indigenous artifacts from 22 surface findspots scattered across an area roughly 44m by 18m in the southwestern corner of the west agricultural field within the Study Area. The artifact assemblage comprised 41 pieces of debitage, 2 bifaces, and 2 scrapers. The artifacts recovered from the site were all manufactured from Onondaga chert. According to the morphological analysis, the flake assemblage featured primarily fragment flakes (48.78%) with lesser amounts of secondary flakes and tool thinning flakes. In addition, one piece of shatter was also recovered. During the assessment of P4 (AgGw-212), Detritus documented the entire surface extent of the site. Following completion of the fieldwork, the Study Area boundaries were confirmed and the southwestern portion of the site extent was determined to fall outside the Study Area and extend into the 30m protective buffer of the environmentally protected PSW (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P5 (AgGw-213) resulted in the documentation of 15 pre-contact Indigenous artifacts from 11 surface findspots scattered across an area roughly 31m by 20m in the southwestern corner of the east agricultural field approximately 17m away from the southern edge of the Study Area. The artifacts recovered from the site were all pieces of debitage manufactured from Onondaga, Ancaster, or Haldimand chert. According to the morphological analysis, the flake assemblage featured primarily fragment flakes (46.67%) with lesser amounts of tool thinning flakes and secondary flakes (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P6 (AgGw-214) resulted in the documentation of 26 pre-contact Indigenous artifacts from 20 surface findspots scattered across an area roughly 41m by 40m in the southeastern portion of east agricultural field located approximately 14m from the eastern edge of the Study Area. The artifact assemblage comprised 24 pieces of debitage, 1 biface, and 1 core. The artifacts recovered from the site were manufactured from Onondaga, Ancaster, or Selkirk chert. According to the morphological analysis, the flake assemblage featured primarily tool thinning (37.50%) and fragment flakes (33.33%) with lesser amounts of shatter flakes along with two secondary flakes (Detritus Consulting Ltd., 2024a).

Based on the results of the Stage 2 investigation, P1 (AgGw-209), P3 (AgGw-211), P4 (AGW-212), P5 (AgGw-213), and P6 (AgGw-214) were interpreted as small activity areas for the late stages of lithic reduction activities. Given the presence of at least 10 non-diagnostic pre-contact Indigenous artifacts in a 10m by 10m pedestrian survey area within an area on or west of the Niagara Escarpment, P1 (AgGw-209), P3 (AgGw-211), P4 (AGW-212), P5 (AgGw-213), and P6 (AgGw-214) 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, 2011), retained CHVI and were recommended for Stage 3 Site Specific assessment (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P2 (AgGw-210) resulted in the documentation of two pre-contact Indigenous artifacts from two findspot locations located approximately 14m from each other in the northwestern portion of the east agricultural field within the Study Area. One piece of debitage was recovered and identified as a fragmentary flake manufactured from Haldimand chert. Additionally, a single fragmentary projectile point manufactured from Onondaga chert was recovered during the pedestrian survey of P2 (AgGw-210). The notched projectile point is missing most of the base and has an irregular shape with one nearly straight edge and one convex edge. It was deemed a possible Stanley type point dating to the Middle Archaic (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P7 (AgGw-215) resulted in the documentation of 6 pre-contact Indigenous artifacts from 6 surface findspots scattered across an area roughly 15m by 32m in the eastern portion of the east agricultural field approximately 40m from the eastern edge of the Study Area. The artifact assemblage comprised one projectile point fragment manufactured from Onondaga chert and five pieces of debitage manufactured from Onondaga, Haldimand, and Ancaster chert. According to the morphological analysis, the flake assemblage featured primarily fragment flakes (60.00%) along with one primary flake and one secondary flake (Detritus Consulting Ltd., 2024a).

Findspot 1 comprised a single piece of debitage manufactured from Onondaga chert recovered during the pedestrian survey of the east agricultural field approximately 48m to the north of P1 (AgGw-209). Findspot 2 comprises a single piece of debitage manufactured from Haldimand chert recovered during the pedestrian survey of the east agricultural field approximately 24m to the north of P1 (AgGw-209). Both were identified as fragment flakes (Detritus Consulting Ltd., 2024a).

Given the results of the Stage 2 investigation, P2 (AgGw-210), P7 (AgGw-215), Findspot 1, and Findspot 2 were interpreted as small activity areas of unknown function, occupied by unspecified Indigenous people during the pre-contact period. As a result of the isolated nature of P2 (AgGw-210), P7 (AgGw-215), Findspot 1, and Findspot 2, they did not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines* (Government of Ontario 2011). The CHVI of P2 (AgGw-210), P7 (AgGw-215), Findspot 1, and Findspot 2 were judged to be sufficiently documented.

The subsequent Stage 3 assessment of P5 (AgGw-213) was conducted under PIF# P1263-0030-2024 between June 19th to 26th, 2024. The assessment recovered a total of 34 pre-contact Indigenous artifacts from 20 Stage 3 test units and 2 surface find locations covering an area roughly 31m by 26m in the southern half of the Study Area. The artifacts were manufactured from Onondaga or Haldimand chert. The assemblage comprised mostly debitage, along with one biface, and one projectile point. According to morphological analysis, the flake assemblage from P5 (AgGw-213) featured primarily thinning flakes (n=14; 43.75%) with lesser amounts of flake fragments (n=4; 12.50%). In addition, two pieces of shatter (n=2; 6.25%) and one secondary flake (n=1; 3.13%) were also recovered. Artifact yields during the Stage 3 excavation of P5 (AgGw-213) ranged from 0 to 11 artifacts. The highest yielding unit was 200E, 515N, which yielded 11 artifacts. One unit to the north of this unit located at 200E, 520N yielded seven artifacts and one unit to the south of this unit located at 200E, 510N yielded six artifacts. Two surface artifacts were collected near the southern edge of the site, and a test unit was excavated nearby (200E, 490N) that yielded no artifacts.

Based on all the available evidence, P5 (AgGw-213) has been identified as a small short-term activity area occupied by Indigenous people during the pre-contact period. The artifact

assemblage is characterised by late-stage lithic reduction related to the production and maintenance of formal and informal tools. The presence of a possible Adder Orchard point suggests an occupation dating to the Late Archaic. Given the results of the Stage 3 assessment, wherein one test unit from P5 (AgGw-213), yielded ten or more lithic artifacts, P5 (AgGw-213), was determined to retain CHVI and Stage 4 mitigation of developmental impacts to P5 (AgGw-213) was recommended (Detritus Consulting Ltd., 2024b).

The Stage 3 assessments of P1 (AgGw-209), P3 (AgGw-211), P4 (AgGw-212), and P6 (AgGw-214) were conducted by Detritus between June 2nd and 26th, 2024. None of the test units excavated at P1 (AgGw-209) produced 10 or more pre-contact Indigenous artifacts, and as such Stage 4 mitigation, was not recommended for P1 (AgGw-209). Whereas at least one unit at each of P3 (AgGw-211), P4 (AgGw-212), and P6 (AgGw-214) did produce 10 or more pre-contact Indigenous artifacts, and Stage 4 mitigation were recommended for P3 (AgGw-211), P4 (AgGw-212), and P6 (AgGw-214).

These Stage 3 and Stage 4 reports were in preparation at the time of this report's writing.

1.3.5 Archaeological Potential

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, 2011), 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, 2011), 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 discussed above, the closest source potable water is the Welland River that runs west to east approximately 400m 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 Plain physiographic region. As was discussed earlier, the soils within this region are imperfectly drained, but suitable for pre-contact and post contact Indigenous agricultural. Given this, the distance to potable water and the length of occupation of Caistor Township prior to the arrival of Euro-Canadian settlers, the pre-contact Indigenous 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* map of Caistor Township from 1876 shows the Study Area in close proximity to historical infrastructure including early roads. Considering the location of the Study Area near to the early community of Caistorville and the Welland River,

the potential for post-contact Euro-Canadian archaeological resources is judged to be moderate to high.

2.0 Field Methods

The Stage 4 mitigation of developmental impacts of P5 (AgGw-213) was conducted between September 10th and October 23rd, 2024, under archaeological consulting license P1263 issued to Mr. Jonathan Peart by the MCM. These investigations began with a review of all relevant reports of previous fieldwork on the property as per Section 4.2.1, Standard 2 of the *Standards and Guidelines* (Government of Ontario, 2011).

Additionally, in accordance with Section 3.4, Standard 2 of the *Standards and Guidelines* (Government of Ontario, 2011) and Section 1.1, Standard 1 of the *Engaging Indigenous Communities in Archaeology* technical bulletin (Government of Ontario, 2022), Indigenous engagement was undertaken throughout the Stage 4 mitigation of P5 (AgGw-213). During the field investigation, representatives from the Haudenosaunee Development Institute participated as on-site monitors. Additional information on the Indigenous engagement practices conducted during the Stage 4 mitigation is provided in the Supplementary Documentation to this report.

During the Stage 4 fieldwork, conditions were excellent and at no time were the field, weather or lighting conditions detrimental to the recovery of archaeological material as per Section 4.2.1, Standard 3 and Section 7.9.1, Standard 1a of the *Standards and Guidelines* (Government of Ontario, 2011). Table 3 provides a summary of the weather and field conditions during the Stage 4. Photos 1 to 8 illustrate field conditions including areas that met the requirements for a Stage 4 mitigation, as per Section 7.8.6, Standards 1a of the *Standards and Guidelines* (Government of Ontario, 2011). Figure 5 and Figure 6 as well as Tile 5 and Tile 6 of the Supplementary Documentation illustrate the Stage 4 mitigation methods, as well as photograph locations and directions. Tile 7 illustrates the Stage 4 mitigation methods in relation to the proposed development of the Study Area.

Table 3: Field and Weather Conditions

Date	Field Director	Weather	Tasks and Field Conditions
10 Sept 2024	Jon Cousins	Mostly sunny with a high of 23°C	Unit excavations; soils dry and screened well
11 Sept 2024	Jon Cousins	Mostly sunny with a high of 25°C	Unit excavations; soils dry and screened well
13 Sept 2024	Jon Cousins	Mostly sunny with a high of 26°C	Unit excavations; soils dry and screened well
16 Sept 2024	Jon Cousins	Sunny with a high of 28°C	Unit excavations; soils dry and screened well
18 Sept 2024	Jon Cousins	Partly cloudy with a high of 23°C	Unit excavations; soils dry and screened well
19 Sept 2024	Jon Cousins	Mostly sunny with a high of 25°C	Unit excavations; soils dry and screened well
26 Sept 2024	Jon Cousins	Mostly cloudy with a high of 23°C	Unit excavations; soils dry and screened well
27 Sept 2024	Jon Cousins	Mostly cloudy with a high of 21°C	Unit excavations; soils dry and screened well
4 Oct 2024	Jonathan Peart	Sunny with a high of 23°C	Unit excavations; soils dry and screened well
7 Oct 2024	Jonathan Peart	Sunny with a high of 16°C	Unit excavations; soils dry and screened well
8 Oct 2024	Jonathan Peart	Mostly cloudy with a high of 15°C	Unit excavations; soils dry and screened well
9 Oct 2024	Jonathan Peart	Mix of sun and clouds with a high of 12°C	Unit excavations; soils dry and screened well
10 Oct 2024	Jonathan Peart	Mostly sunny with a high of 11°C	Unit excavations; soils dry and screened well

Date	Field Director	Weather	Tasks and Field Conditions
11 Oct 2024	Jonathan Peart	Mostly sunny with a high of 21°C	Unit excavations; soils dry and screened well
15 Oct 2024	Jonathan Peart	Sunny with a high of 12°C	Unit excavations; soils dry and screened well
16 Oct 2024	Jonathan Peart	Partly cloudy with a high of 11°C	Unit excavations; soils dry and screened well
17 Oct 2024	Jonathan Peart	Mostly sunny with a high of 17°C	Unit excavations; soils dry and screened well
18 Oct 2024	Jonathan Peart	Sunny with a high of 18°C	Unit excavations; soils dry and screened well
21 Oct 2024	Jonathan Peart	Sunny with a high of 22°C	Unit excavations; soils dry and screened well
22 Oct 2024	Jonathan Peart	Sunny with a high of 21°C	Unit excavations; soils dry and screened well
23 Oct 2024	Jonathan Peart	Mostly cloudy with a high of 21°C	Unit excavations; soils dry and screened well

Upon arrival at the site, the original Stage 3 grid was still in place and all excavated units still visible, thus meeting the conditions of Section 4.2.1, Standard 5 of the *Standards and Guidelines* (Government of Ontario, 2011).

The Stage 4 mitigation of P5 (AgGw-213) resulted in the hand excavation of 66 0ne-metre square units surrounding the highest yielding Stage 3 unit at 200E, 515N in the centre of the site. These units formed a single continuous excavation block measuring 11m north to south and 8m east to west. The extent of the excavation block was determined in accordance with Section 4.2.2, Standard 4 and Table 4.1 of the *Standards and Guidelines* (Government of Ontario, 2011). Photographs of the Stage 4 excavation are provided in Section 9.1 below.

The Stage 4 units at P5 (AgGw-213) were excavated by hand in systematic levels into the first five centimetres ('cm') of subsoil, as per Section 4.2.1, Standards 1 and 6 of the *Standards and Guidelines* (Government of Ontario, 2011). All of the units contained a single stratigraphic layer, identified as ploughzone topsoil consisting of light-to-medium brown clay above a heavy orange-brown clay subsoil (Photos 9 to 12). Overall, the Stage 4 units at P5 (AgGw-213) were between 15cm to 27cm deep. Considering that each unit was excavated 5cm into subsoil, Layer 1 ranged in thickness from 10cm to 22cm across the excavation block. All of the recovered artifacts were

All of the excavated soil was screened through six-millimetre hardware cloth to facilitate the recovery of small artifacts, as per Section 4.2.2, Standard 6 of the *Standards and Guidelines* (Government of Ontario, 2011). All artifacts recovered during the Stage 4 block excavation were recorded with reference to their one-metre grid unit number and retained for laboratory analysis and description, as per Section 4.2.1, Standards 8 of the *Standards and Guidelines* (Government of Ontario, 2011). The subsoil surface of each unit was shovel-shined, trowelled, and examined for any evidence of subsurface cultural features. No subsurface features were observed. No Indigenous ceramics or fire cracked rock were recovered during any stage of investigation.

3.0 Record of Finds

The Stage 4 mitigation of developmental impacts of P5 (AgGw-213) was conducted employing the methods described in Section 2.0. Maps indicating the exact site location of the site, and all UTM coordinates recorded during the assessment, are 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 of Document Type	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
13 Digital Photographs	Detritus' office	Stored digitally in project file

All of the material culture collected during the Stage 4 mitigation of P5 (AgGw-213) is contained in one box and will be temporarily housed in the offices of Detritus 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.

3.1 Cultural Material

The Stage 4 mitigation of P5 (AgGw-213) resulted in the documentation of 709 pre-contact Indigenous artifacts manufactured from Onondaga or Haldimand chert. Chert type identification was accomplished visually using reference materials located in personal collections.

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 & von Bitter, 1989). Primary outcrops have also been reported along the banks of the Grand River (Ellis & Ferris, 1990). Onondaga chert 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 Indigenous people (Eley & 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 & von Bitter, 1989).

3.1.1 Artifact Analysis

Similar to the Stage 3 results, the vast majority of artifacts recovered during the Stage 4 mitigation P5 (AgGw-213) were pieces of debitage (n=704). The debitage was manufactured from either Onondaga (n=649; 92.19%) or Haldimand chert (n= 55; 7.81%). Additionally, four utilized flakes and one scraper were also recovered, all of which were manufactured from Onondaga chert (Table 5).

Table 5: Artifact Assemblage

Artifact	Frequency	Percentage %
debitage	704	99.29
utilized flake	4	< 1%
scraper	1	< 1%
Total	**1105**	**100.00**

Debitage

Debitage is the waste product from the production of stone tools and is the most frequently recovered artifact on pre-contact Indigenous sites in southern Ontario. Debitage has a low significance and interpretive value when it is not associated with any diagnostic material, therefore they cannot be used to determine the cultural affiliation or time period of the occupation of a site.

All pieces of the debitage recovered during the Stage 4 mitigation of P5 (AgGw-213) were subject to morphological analysis following the classification scheme described by Lennox, Dodd and Murphy for the Wiacek Site (Lennox, Dodd, & Murphy, 1986) and expanded upon by Fisher for the Adder Orchard site (Fisher, 1997).

Primary and secondary flakes, along with cortical removal flakes, are a product of percussion flaking undertaken during the initial reduction phases of raw material into blanks, bifaces and preforms. These early-stage reduction flakes tend to exhibit minimal dorsal flake scarring, and are often characterized by the presence of cortex, or the original unflaked chert exterior, on their dorsal surfaces and proximal ends. For cortical removal flakes, over half of the dorsal surface comprises cortex; for primary flakes, less than half. Secondary flakes, meanwhile, may not contain any cortex. Thinning flakes are produced during the latter stages of lithic reduction, when blanks, bifaces, and preforms are shaped into projectile points and formal tools. They are the result of pressure flaking, where the maker uses a softer material such as antler, wood or bone to apply direct pressure onto a specific part of the tool. 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 have some identifiable flake characteristics but cannot be classified with certainty into a specific category.

The results of the morphological analysis of the debitage from P5 (AgGw-213) are detailed in Table 6 below.

Table 6: Flake Analysis

Chert Type	Cortical Removal		Primary		Secondary		Thinning		Fragment		Shatter		Total Analyzed	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Onondaga	1	0.14	5	0.71	122	17.33	290	41.19	201	28.55	30	4.26	649	92.19
Haldimand	0	0.00	0	0.00	6	0.85	27	3.84	18	2.56	4	0.57	55	7.81
Total	**1**	**0.14**	**5**	**0.71**	**128**	**18.18**	**317**	**45.03**	**219**	**31.11**	**34**	**4.83**	**704**	**100.00**

According to the results of this analysis, the majority of the chert flakes were tool thinning flakes (45.03%) or flake fragments (31.11%). The remainder of the assemblage comprised lesser amounts of secondary flakes (18.18%), shatter (4.83%), primary flakes (<1%), and cortical removal flakes (<1%). The presence of primary flakes, the single cortical removal flake, and the higher number of secondary flakes than in the Stage 3 assemblage suggests that early and middle stages, in addition to late-stages, of lithic reduction related to the production of formal and informal tools occurred at the site.

This evidence suggests that all stages of lithic reduction related to the production of formal and informal tools occurred at the site, with a propensity for late-stage reduction as evidenced by the higher proportion of thinning flakes present.

Expedient Tools

Four utilized flakes (Cat# 114; Plate 4, Cat# 153; 3, Cat# 207; Plate 6 and Cat# 226; Plate 6) were recovered from the Stage 4 mitigation of P5 (AgGw-213), all manufactured from Onondaga chert. Each of the utilized flakes showed possible signs of use-wear along one margin. Utilized flakes are pieces of debitage that show evidence of use. They are considered informal tools that were discarded after use. As a result, they cannot be used to determine the cultural affiliation or time period of the occupation of a site.

Scraper

One scraper (Cat# 250; Plate 7) was recovered from the Stage 4 mitigation of P5 (AgGw-213), manufactured from Onondaga chert. The scraper is a steep-end scraper with minor retouch and use-wear along rounded distal margin. It measures 21.6mm length by 20.1mm width by 4.7mm thick. Due to their long span of production, scrapers cannot be used to determine the cultural affiliation or time period of the occupation of a site.

3.1.2 Artifact Distribution and Settlement Pattern

The Stage 4 mitigation of P5 (AgGw-213) resulted in the documentation of 709 pre-contact Indigenous artifacts from the hand excavation of 66 one-metre square units. The excavation centred on the highest yielding Stage 3 unit located at 200E, 515N in the centre of the site. The Stage 4 units formed a single continuous excavation block measuring 11m north to south and 8m east to west that followed a similar trend with the highest counts occurring in the centre of the block at 201E and 202E, 515N, and 202E, 514N. The highest yielding unit was 201E, 515N, which produced 39 artifacts, and the next highest yielding units were located immediately to the east and south of the unit both yielding 27 artifacts. An additional 27 units yielded between 10 and 25 artifacts and the remaining 36 units yielded less than 10 artifacts. The limits of the block were extended until yields dropped to less than ten non-diagnostic pre-contact Indigenous artifacts per unit.

Based on the quantity and distribution of artifacts, the site likely represents a single activity area centered in the middle of the Stage 4 excavation block. Additionally, the high proportion of debitage coupled with relatively low diversity of tool types suggests a short duration occupation by seasonally mobile Indigenous people prior to contact with European settlers.

3.1.3 Artifact Catalogue

See Appendix 10.1 for the Stage 4 artifact assemblage catalogue for P5 (AgGw-213). A sample of artifacts are depicted in Section 9.2 of this report.

4.0 Analysis and Conclusions

Detritus was retained by the Proponent to conduct a Stage 4 mitigation of developmental impacts at archaeological site P5 (AgGw-213) in advance of future development on the property at Caistorville Road in Caistorville.

The Stage 4 fieldwork was conducted at P5 (AgGw-213) between September 10th and October 23rd, 2024, This investigation resulted in the documentation of 709 pre-contact Indigenous artifacts from the hand excavation of 66one-metre square units. The excavation centred on the highest yielding Stage 3 unit located at 200E, 515N in the centre of the site. The Stage 4 units formed a single continuous excavation block measuring 11m north to south and 8m east to west that followed a similar trend with the highest counts occurring in the centre of the block at 201E and 202E, 515N, and 202E, 514N. The highest yielding unit was 201E, 515N, which produced 39 artifacts, and the next highest yielding units were located immediately to the east and south of the unit both yielding 27 artifacts. An additional 27 units yielded between 10 and 25 artifacts and the remaining 36 units yielded less than 10 artifacts. The limits of the block were extended until yields dropped to less than ten non-diagnostic pre-contact Indigenous artifacts per unit.

Similar to the Stage 3 results, the vast majority of artifacts recovered during the Stage 4 mitigation of P5 (AgGw-213) were pieces of debitage (n=704) manufactured from either Onondaga (n=649; 92.19%) or Haldimand chert (n= 55; 7.81%). Additionally, four utilized flakes and one scraper were also recovered, all of which were manufactured from Onondaga chert. According to morphological analysis the majority of the chert flakes were tool thinning flakes (45.03%) or flake fragments (31.11%). The remainder of the assemblage comprised lesser amounts of secondary flakes (18.18%), shatter (4.83%), primary flakes (<1%), and cortical removal flakes (<1%). The presence of primary flakes and the single cortical removal flake suggests that early and middle stages, in addition to late-stages of lithic reduction related to the production of formal and informal tools occurred at the site.

Based on the quantity and distribution of artifacts, the site likely represents a single activity area centered in the middle of the Stage 4 excavation block. Additionally, the high proportion of debitage coupled with relatively low diversity of tool types suggests a short duration occupation by seasonally mobile Indigenous people prior to contact with European settlers. Given that six additional Indigenous activity areas, P1 (AgGw-209), P2 (AgGw-210), P3 (AgGw-211), P4 (AgGw-212), P6 (AgGw-214), and P7 (AgGw-215), as well as two findspots, were observed within the Study Area; P5 (AgGw-213) provides further evidence of the settlement patterns within a larger area of ongoing, seasonal occupation by Indigenous peoples prior to contact with European settlers.

5.0 Recommendations

The Stage 4 mitigation of P5 (AgGw-213) is now complete. **The CHVI of P5 (AgGw-213) has been fully documented and the information will be preserved for future study. P5 (AgGw-213) has no further CHVI, as per Section 7.11.4 Standard 1 of the *Standards and Guidelines* (Government of Ontario, 2011).**

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 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 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.

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8.0 Maps

Figure 1: Study Area Location Map

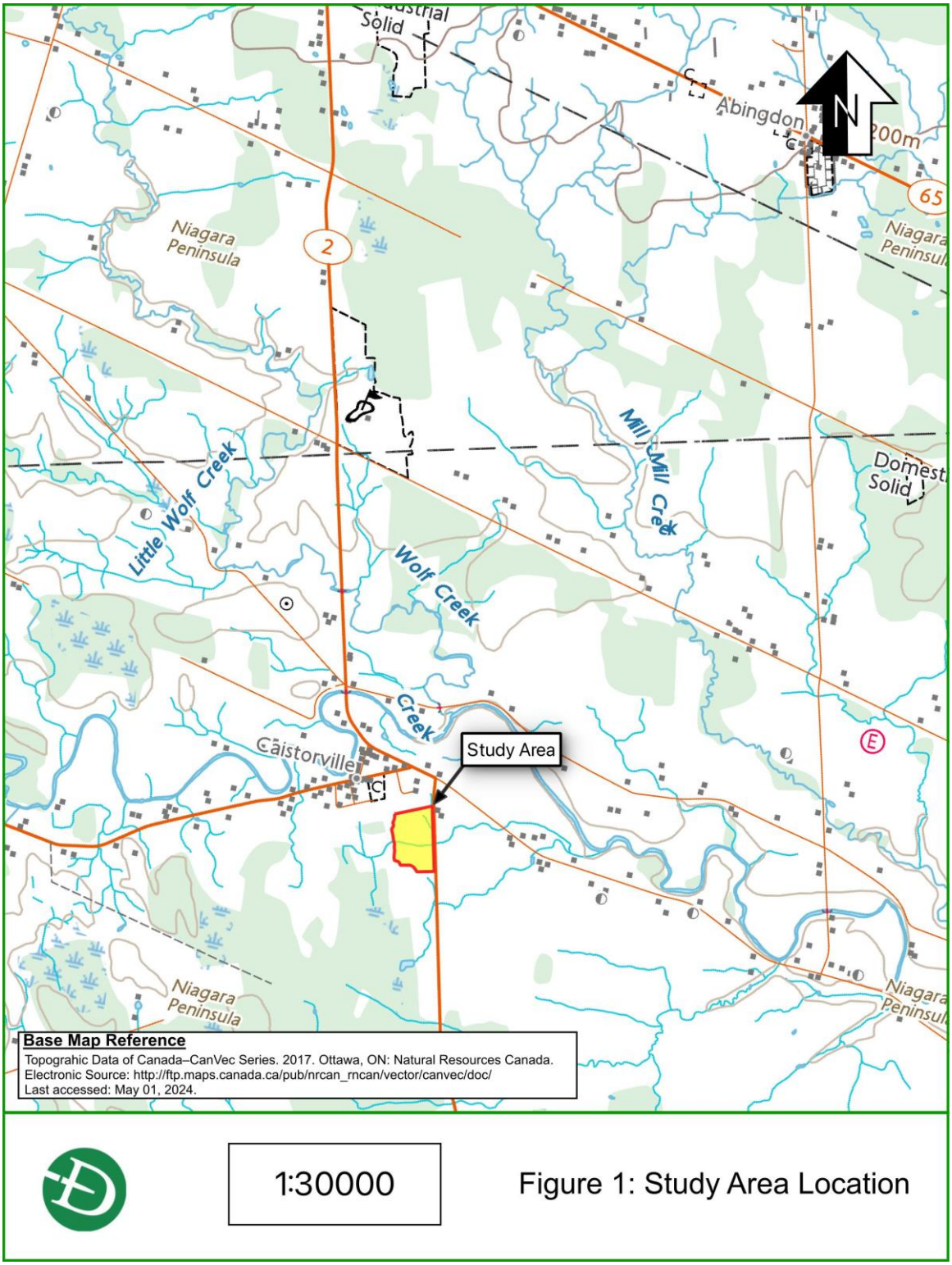
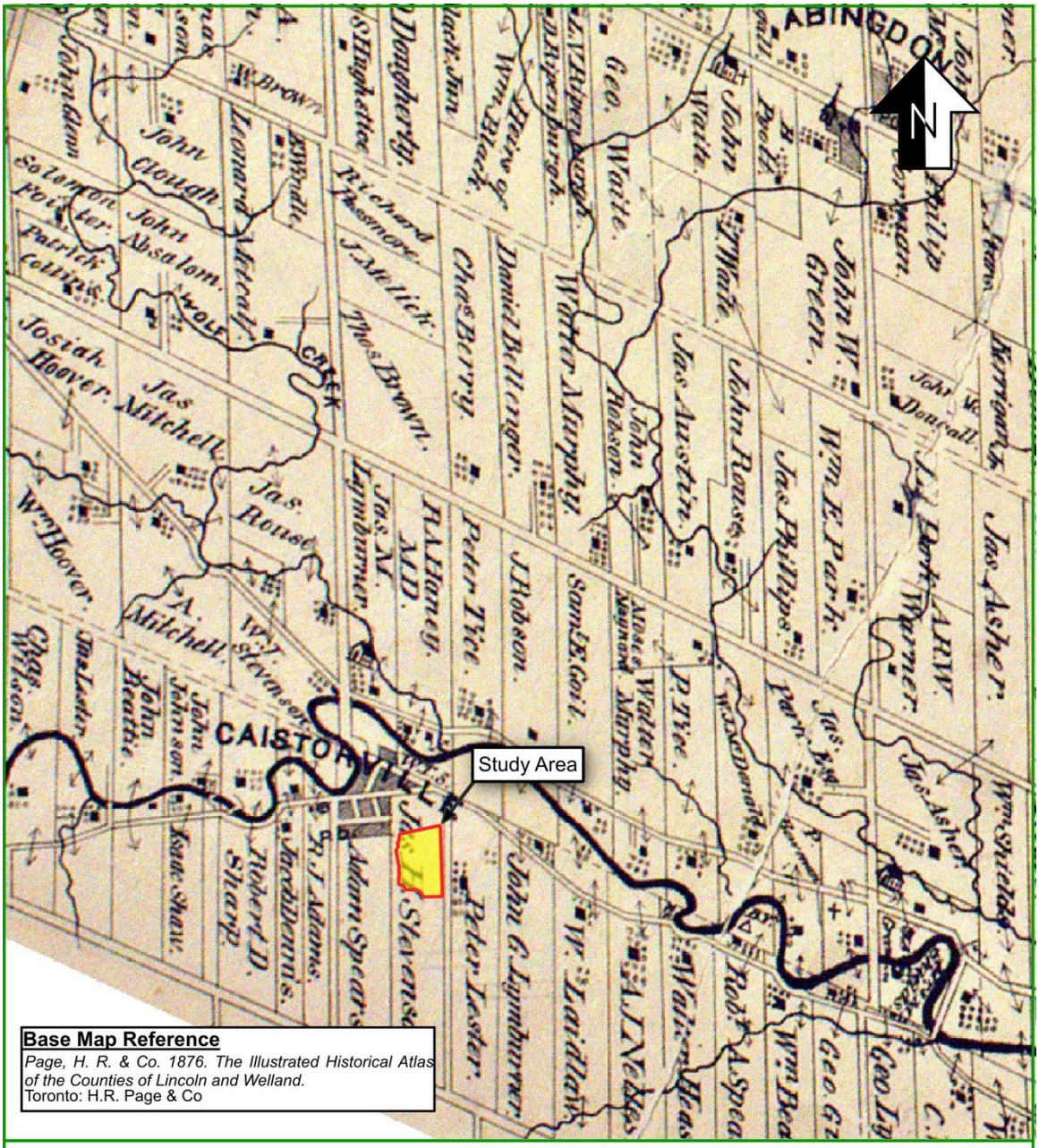


Figure 2: Historic Map Showing Study Area Location



Not to Scale

Figure 2: Portion of H. R. Page & Co. 1876 Historical Atlas Map of Caistor Township

Figure 3: Development property and Study Area

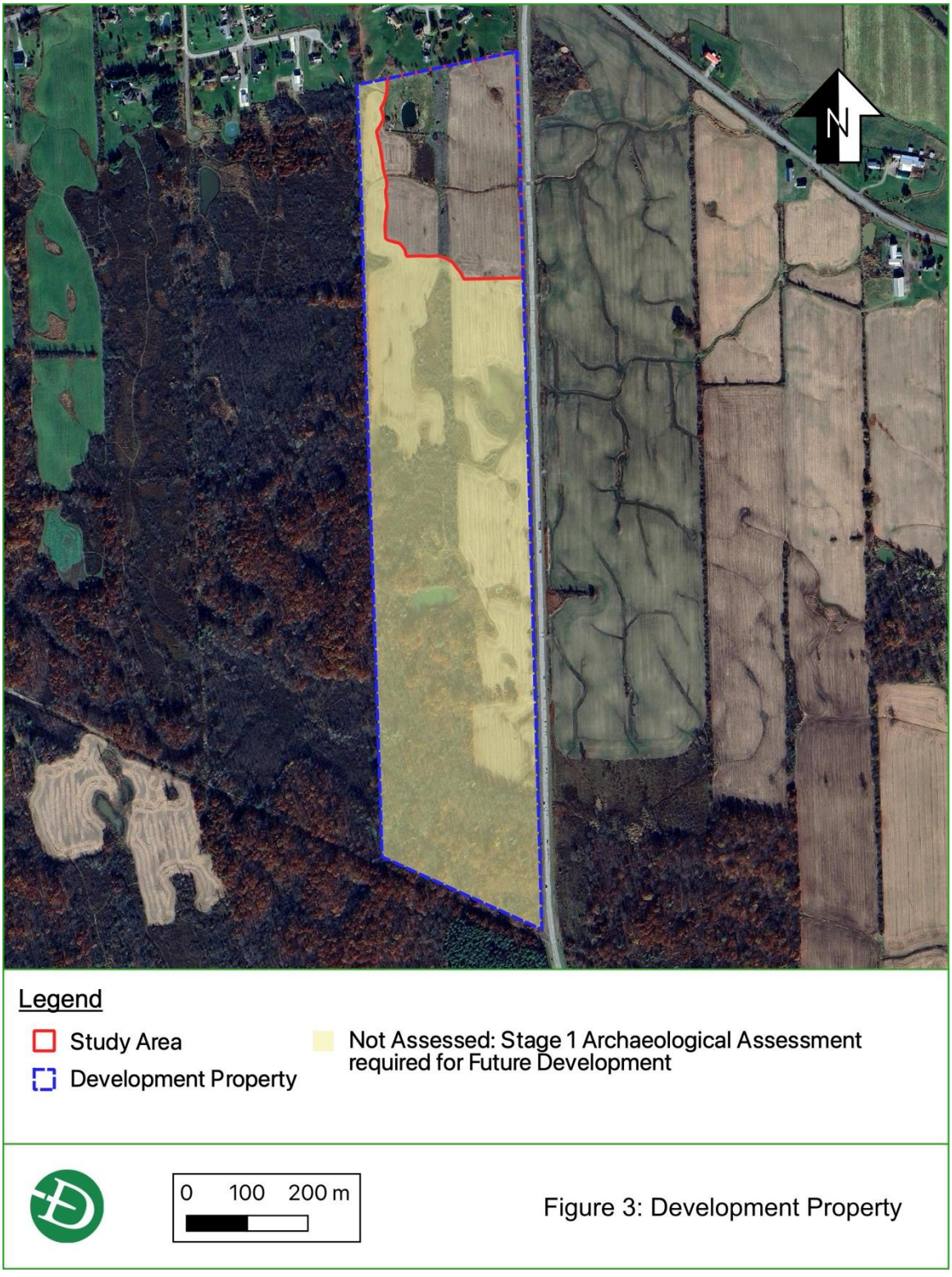


Figure 4: Previous Assessments



Legend

Study Area

Stage 1-2 Assessment
(Detritus Counsulting Ltd,2024a)

0 50 100 m

Figure 4: Previous Archaeological Assessment

Figure 5: Stage 3 and Stage 4 Results

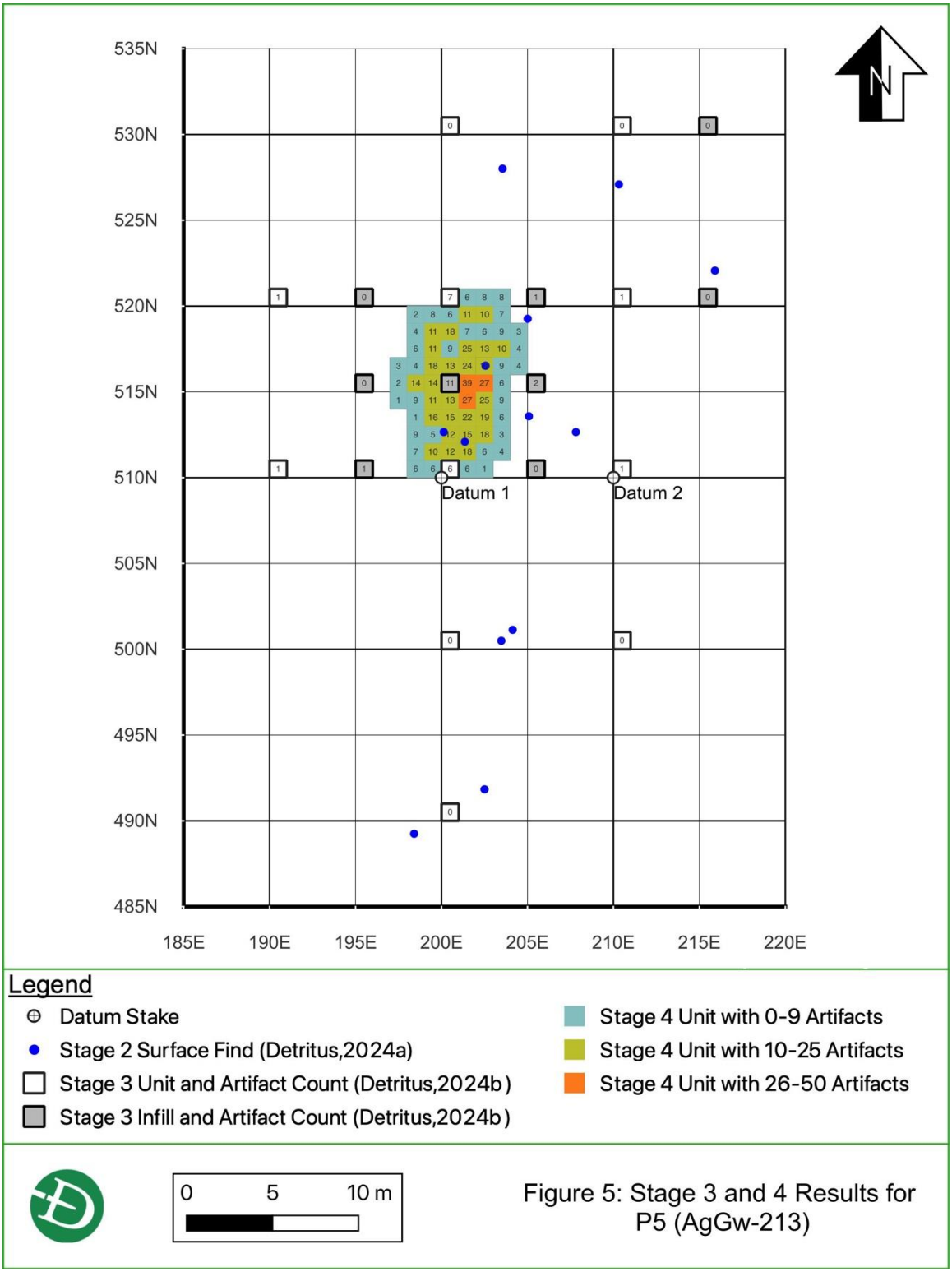


Figure 6: Stage 4 Results

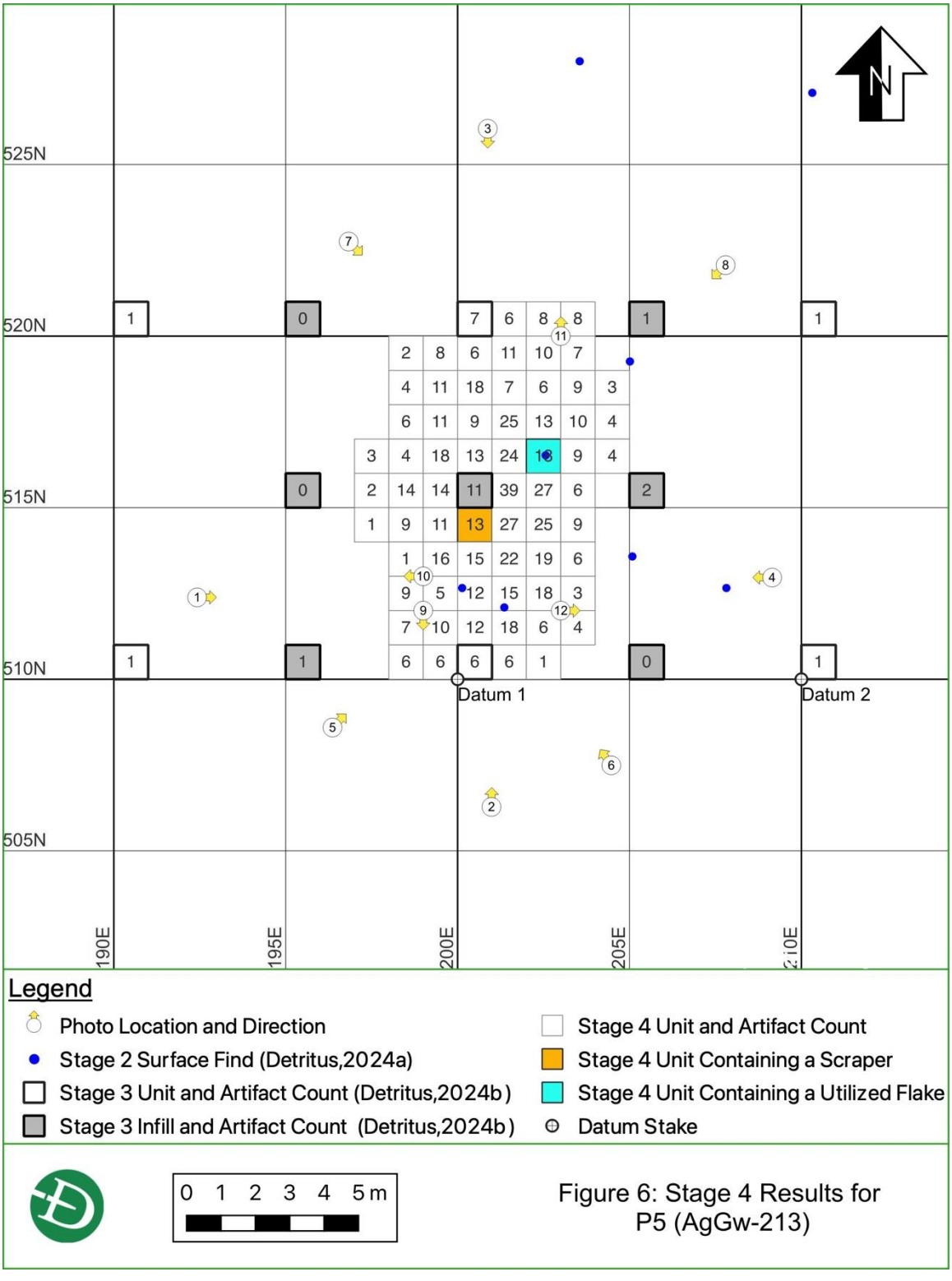
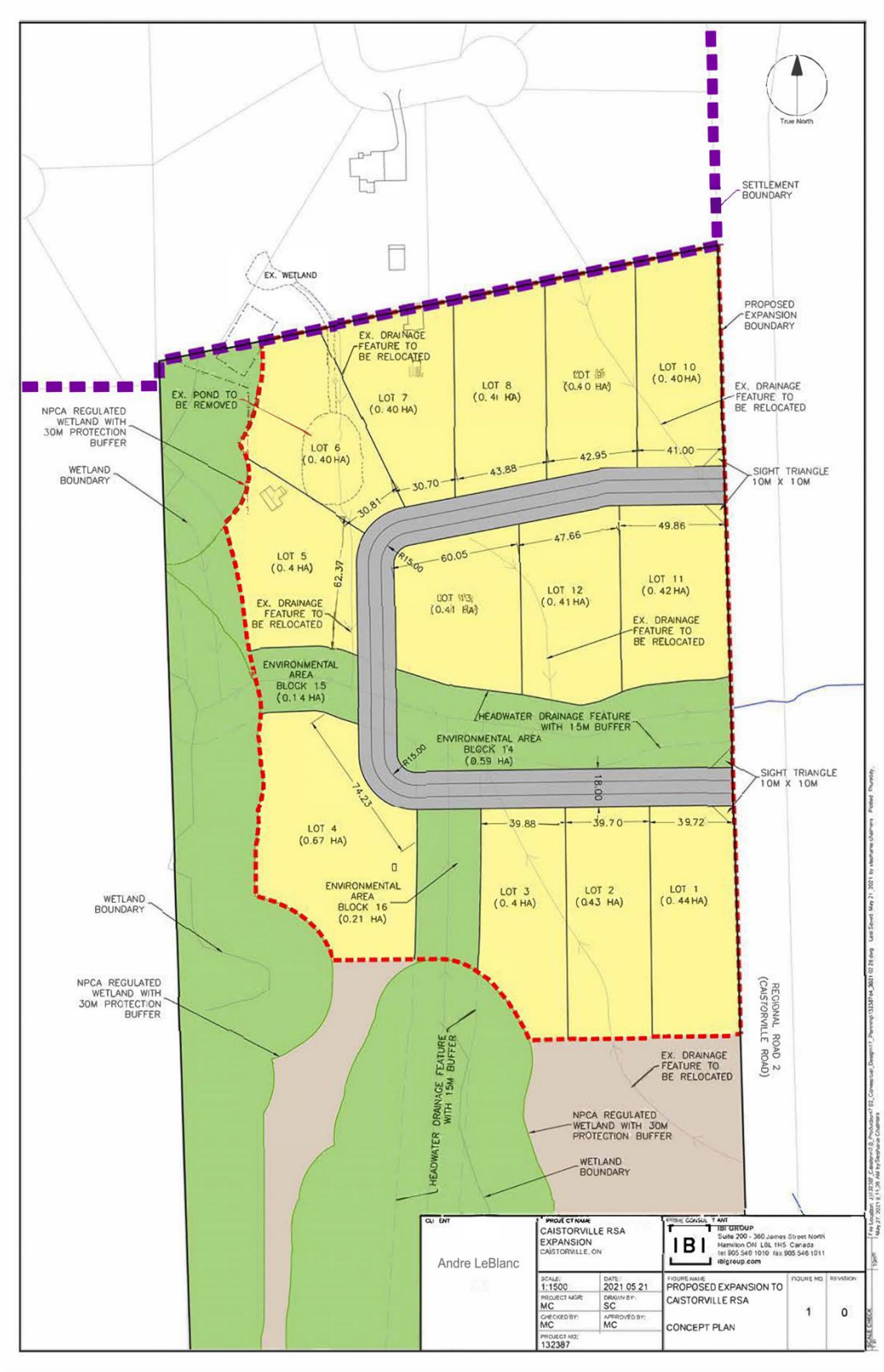


Figure 7: Development Plan



9.0 Images

9.1 Field Photos

Photo 1: Stage 4 excavation of P5 (AgGw-213), looking east



Photo 2: Stage 4 excavation of P5 (AgGw-213), looking north



Photo 3: Stage 4 excavation of P5 (AgGw-213), looking south



Photo 4: Stage 4 excavation of P5 (AgGw-213), looking west



Photo 5: Completed P5 (AgGw-213) Stage 4 excavation block, looking northeast



Photo 6: Completed P5 (AgGw-213) Stage 4 excavation block, looking northwest



Photo 7: Completed P5 (AgGw-213) Stage 4 excavation block, looking southeast



Photo 8: Completed P5 (AgGw-213) Stage 4 excavation block, looking southwest



Photo 9 South wall profile



Photo 10: West wall profile



Photo 11: North wall profile



Photo 12: East wall profile



9.2 Artifact Photos

Plate 1: Sample of debitage, manufactured from Haldimand chert, Cat# 17 top left, Cat# 96 top right, and Cat# 85 bottom row



Plate 2: Utilized flake, manufactured from Onondaga chert, Cat# 114



Plate 3: Utilized flake, manufactured from Onondaga chert, Cat# 153



Plate 4: Sample of debitage, manufactured from Onondaga chert, Cat# 154



Plate 5: Utilized flake, manufactured from Onondaga chert, Cat# 207



Plate 6: Utilized flake, manufactured from Onondaga chert, Cat# 226



Plate 7: End scraper, manufactured from Onondaga chert, Cat# 250



10.0 Appendix

10.1 P5 (AgGw-213) Stage 4 Artifact Catalogue

Cat#	Context	Northing	Easting	Depth (m)	Artifact	Frequency	Chert Type	Morphology	Comments
1	Unit Excavation	198	511	0.19	debitage	2	Onondaga	secondary	
2	Unit Excavation	198	511	0.19	debitage	3	Onondaga	tool thinning	
3	Unit Excavation	198	511	0.19	debitage	2	Onondaga	fragment	
4	Unit Excavation	197	515	0.19	debitage	1	Onondaga	secondary	
5	Unit Excavation	197	515	0.19	debitage	1	Onondaga	fragment	
6	Unit Excavation	198	519	0.19	debitage	2	Onondaga	tool thinning	
7	Unit Excavation	197	514	0.21	debitage	1	Onondaga	tool thinning	
8	Unit Excavation	203	512	0.25	debitage	2	Onondaga	secondary	
9	Unit Excavation	203	512	0.25	debitage	1	Onondaga	tool thinning	
10	Unit Excavation	199	510	0.22	debitage	2	Onondaga	secondary	
11	Unit Excavation	199	510	0.22	debitage	1	Onondaga	tool thinning	
12	Unit Excavation	199	510	0.22	debitage	3	Onondaga	fragment	
13	Unit Excavation	198	518	0.22	debitage	1	Onondaga	secondary	
14	Unit Excavation	198	518	0.22	debitage	1	Onondaga	tool thinning	
15	Unit Excavation	198	518	0.22	debitage	2	Onondaga	fragment	
16	Unit Excavation	201	518	0.21	debitage	4	Onondaga	tool thinning	
17	Unit Excavation	201	518	0.21	debitage	1	Haldimand	tool thinning	
18	Unit Excavation	201	518	0.21	debitage	1	Onondaga	fragment	
19	Unit Excavation	201	518	0.21	debitage	1	Haldimand	fragment	
20	Unit Excavation	198	513	0.2	debitage	1	Haldimand	secondary	
21	Unit Excavation	198	517	0.19	debitage	1	Onondaga	secondary	
22	Unit Excavation	198	517	0.19	debitage	2	Onondaga	tool thinning	
23	Unit Excavation	198	517	0.19	debitage	3	Onondaga	fragment	
24	Unit Excavation	198	516	0.2	debitage	1	Onondaga	secondary	
25	Unit Excavation	198	516	0.2	debitage	1	Onondaga	tool thinning	
26	Unit Excavation	198	516	0.2	debitage	1	Onondaga	fragment	
27	Unit Excavation	198	516	0.2	debitage	1	Onondaga	shatter	
28	Unit Excavation	197	516	0.19	debitage	1	Onondaga	tool thinning	heat-treated
29	Unit Excavation	197	516	0.19	debitage	1	Haldimand	tool thinning	
30	Unit Excavation	197	516	0.19	debitage	1	Onondaga	tool thinning	
31	Unit Excavation	202	511	0.27	debitage	2	Onondaga	tool thinning	
32	Unit Excavation	202	511	0.27	debitage	2	Haldimand	tool thinning	
33	Unit Excavation	202	511	0.27	debitage	2	Onondaga	fragment	
34	Unit Excavation	202	518	0.22	debitage	2	Onondaga	secondary	
35	Unit Excavation	202	518	0.22	debitage	1	Onondaga	tool thinning	
36	Unit Excavation	202	518	0.22	debitage	1	Haldimand	tool thinning	
37	Unit Excavation	202	518	0.22	debitage	2	Onondaga	fragment	
38	Unit Excavation	204	516	0.26	debitage	1	Onondaga	tool thinning	

Cat#	Context	Northing	Easting	Depth (m)	Artifact	Frequency	Chert Type	Morphology	Comments
39	Unit Excavation	204	516	0.26	debitage	2	Onondaga	fragment	
40	Unit Excavation	204	516	0.26	debitage	1	Onondaga	shatter	
41	Unit Excavation	204	518	0.25	debitage	2	Onondaga	secondary	
42	Unit Excavation	204	518	0.25	debitage	1	Onondaga	fragment	
43	Unit Excavation	203	513	0.25	debitage	4	Onondaga	tool thinning	
44	Unit Excavation	203	513	0.25	debitage	1	Haldimand	secondary	
45	Unit Excavation	203	513	0.25	debitage	1	Onondaga	shatter	
46	Unit Excavation	203	511	0.27	debitage	1	Onondaga	secondary	
47	Unit Excavation	203	511	0.27	debitage	2	Onondaga	tool thinning	
48	Unit Excavation	203	511	0.27	debitage	1	Haldimand	shatter	
49	Unit Excavation	199	512	0.25	debitage	3	Onondaga	tool thinning	
50	Unit Excavation	199	512	0.25	debitage	2	Haldimand	tool thinning	
51	Unit Excavation	204	517	0.26	debitage	1	Onondaga	secondary	
52	Unit Excavation	204	517	0.26	debitage	1	Onondaga	tool thinning	
53	Unit Excavation	204	517	0.26	debitage	2	Onondaga	fragment	
54	Unit Excavation	202	510	0.25	debitage	1	Onondaga	secondary	
55	Unit Excavation	203	514	0.25	debitage	1	Onondaga	secondary	
56	Unit Excavation	203	514	0.25	debitage	5	Onondaga	tool thinning	
57	Unit Excavation	203	514	0.25	debitage	2	Onondaga	fragment	
58	Unit Excavation	203	514	0.25	debitage	1	haldimand	fragment	
59	Unit Excavation	199	519	0.21	debitage	3	Onondaga	secondary	
60	Unit Excavation	199	519	0.21	debitage	2	Onondaga	tool thinning	
61	Unit Excavation	199	519	0.21	debitage	3	Onondaga	fragment	
62	Unit Excavation	201	520	0.23	debitage	5	Onondaga	tool thinning	
63	Unit Excavation	201	520	0.23	debitage	1	Onondaga	fragment	
64	Unit Excavation	203	520	0.23	debitage	1	Onondaga	secondary	
65	Unit Excavation	203	520	0.23	debitage	2	Onondaga	tool thinning	
66	Unit Excavation	203	520	0.23	debitage	1	Haldimand	tool thinning	heat-treated
67	Unit Excavation	203	520	0.23	debitage	3	Onondaga	fragment	
68	Unit Excavation	203	520	0.23	debitage	1	Haldimand	fragment	
69	Unit Excavation	200	516	0.15	debitage	2	Onondaga	secondary	
70	Unit Excavation	200	516	0.15	debitage	4	Onondaga	tool thinning	
71	Unit Excavation	200	516	0.15	debitage	2	Haldimand	tool thinning	
72	Unit Excavation	200	516	0.15	debitage	5	Onondaga	fragment	
73	Unit Excavation	200	518	0.18	debitage	1	Onondaga	secondary	
74	Unit Excavation	200	518	0.18	debitage	1	Haldimand	secondary	
75	Unit Excavation	200	518	0.18	debitage	11	Onondaga	tool thinning	
76	Unit Excavation	200	518	0.18	debitage	5	Onondaga	fragment	
77	Unit Excavation	199	513	0.19	debitage	3	Onondaga	secondary	
78	Unit Excavation	199	513	0.19	debitage	7	Onondaga	tool thinning	
79	Unit Excavation	199	513	0.19	debitage	5	Onondaga	fragment	
80	Unit Excavation	199	513	0.19	debitage	1	Onondaga	shatter	

Cat#	Context	Northing	Easting	Depth (m)	Artifact	Frequency	Chert Type	Morphology	Comments
81	Unit Excavation	198	515	0.17	debitage	4	Onondaga	secondary	
82	Unit Excavation	198	515	0.17	debitage	1	Onondaga	tool thinning	
83	Unit Excavation	198	515	0.17	debitage	1	Haldimand	tool thinning	
84	Unit Excavation	198	515	0.17	debitage	3	Onondaga	fragment	
85	Unit Excavation	198	515	0.17	debitage	4	Haldimand	fragment	
86	Unit Excavation	198	515	0.17	debitage	1	Haldimand	shatter	
87	Unit Excavation	202	514	0.2	debitage	7	Onondaga	secondary	
88	Unit Excavation	202	514	0.2	debitage	5	Onondaga	tool thinning	
89	Unit Excavation	202	514	0.2	debitage	5	Onondaga	fragment	
90	Unit Excavation	202	514	0.2	debitage	7	Onondaga	fragment	microflakes
91	Unit Excavation	202	514	0.2	debitage	1	Onondaga	shatter	
92	Unit Excavation	202	517	0.2	debitage	1	Onondaga	secondary	
93	Unit Excavation	202	517	0.2	debitage	8	Onondaga	tool thinning	
94	Unit Excavation	202	517	0.2	debitage	2	Haldimand	tool thinning	
95	Unit Excavation	202	517	0.2	debitage	1	Onondaga	fragment	
96	Unit Excavation	202	517	0.2	debitage	1	Haldimand	fragment	
97	Unit Excavation	202	519	0.22	debitage	4	Onondaga	secondary	
98	Unit Excavation	202	519	0.22	debitage	3	Onondaga	tool thinning	
99	Unit Excavation	202	519	0.22	debitage	2	Onondaga	fragment	
100	Unit Excavation	202	519	0.22	debitage	1	Haldimand	shatter	
101	Unit Excavation	199	516	0.18	debitage	1	Onondaga	primary	
102	Unit Excavation	199	516	0.18	debitage	1	Onondaga	secondary	cortex on platform
103	Unit Excavation	199	516	0.18	debitage	3	Onondaga	secondary	
104	Unit Excavation	199	516	0.18	debitage	9	Onondaga	tool thinning	
105	Unit Excavation	199	516	0.18	debitage	4	Onondaga	fragment	
106	Unit Excavation	199	517	0.28	debitage	1	Onondaga	secondary	
107	Unit Excavation	199	517	0.28	debitage	8	Onondaga	tool thinning	
108	Unit Excavation	199	517	0.28	debitage	2	Onondaga	fragment	
109	Unit Excavation	199	511	0.21	debitage	1	Onondaga	tool thinning	heat-treated
110	Unit Excavation	199	511	0.21	debitage	5	Onondaga	tool thinning	
111	Unit Excavation	199	511	0.21	debitage	1	Haldimand	tool thinning	
112	Unit Excavation	199	511	0.21	debitage	2	Onondaga	fragment	
113	Unit Excavation	199	511	0.21	debitage	1	Onondaga	shatter	
114	Unit Excavation	202	520	0.21	utilized flake	1	Onondaga	secondary	secondary flake with possible use-wear and retouch along one margin; 21.9mm length by 15.1mm width by 3.6mm thick
115	Unit Excavation	202	520	0.21	debitage	1	Onondaga	secondary	
116	Unit Excavation	202	520	0.21	debitage	2	Onondaga	tool thinning	
117	Unit Excavation	202	520	0.21	debitage	1	Haldimand	tool thinning	
118	Unit Excavation	202	520	0.21	debitage	2	Onondaga	fragment	
119	Unit Excavation	202	520	0.21	debitage	1	Onondaga	shatter	

Cat#	Context	Northing	Easting	Depth (m)	Artifact	Frequency	Chert Type	Morphology	Comments
120	Unit Excavation	203	518	0.23	debitage	2	Onondaga	secondary	
121	Unit Excavation	203	518	0.23	debitage	2	Onondaga	tool thinning	
122	Unit Excavation	203	518	0.23	debitage	1	Haldimand	tool thinning	
123	Unit Excavation	203	518	0.23	debitage	2	Onondaga	fragment	
124	Unit Excavation	203	518	0.23	debitage	2	Onondaga	shatter	
125	Unit Excavation	200	519	0.23	debitage	1	Onondaga	secondary	
126	Unit Excavation	200	519	0.23	debitage	3	Onondaga	tool thinning	
127	Unit Excavation	200	519	0.23	debitage	1	Onondaga	fragment	
128	Unit Excavation	200	519	0.23	debitage	1	Onondaga	shatter	
129	Unit Excavation	200	512	0.25	debitage	1	Onondaga	primary	
130	Unit Excavation	200	512	0.25	debitage	7	Onondaga	secondary	
131	Unit Excavation	200	512	0.25	debitage	1	Onondaga	tool thinning	
132	Unit Excavation	200	512	0.25	debitage	1	Onondaga	tool thinning	microflake
133	Unit Excavation	200	512	0.25	debitage	1	Onondaga	fragment	
134	Unit Excavation	200	512	0.25	debitage	1	Haldimand	fragment	
135	Unit Excavation	200	513	0.21	debitage	1	Onondaga	secondary	
136	Unit Excavation	200	513	0.21	debitage	10	Onondaga	tool thinning	
137	Unit Excavation	200	513	0.21	debitage	2	Onondaga	fragment	potlidded
138	Unit Excavation	200	513	0.21	debitage	2	Onondaga	fragment	
139	Unit Excavation	198	512	0.22	debitage	1	Onondaga	secondary	
140	Unit Excavation	198	512	0.22	debitage	3	Onondaga	tool thinning	
141	Unit Excavation	198	512	0.22	debitage	1	Haldimand	tool thinning	
142	Unit Excavation	198	512	0.22	debitage	3	Onondaga	fragment	
143	Unit Excavation	198	512	0.22	debitage	1	Haldimand	fragment	
144	Unit Excavation	199	518	0.24	debitage	5	Onondaga	secondary	
145	Unit Excavation	199	518	0.24	debitage	4	Onondaga	tool thinning	
146	Unit Excavation	199	518	0.24	debitage	2	Onondaga	fragment	
147	Unit Excavation	201	513	0.22	debitage	3	Onondaga	secondary	
148	Unit Excavation	201	513	0.22	debitage	9	Onondaga	tool thinning	
149	Unit Excavation	201	513	0.22	debitage	1	Haldimand	tool thinning	
150	Unit Excavation	201	513	0.22	debitage	2	Onondaga	fragment	
151	Unit Excavation	201	513	0.22	debitage	5	Onondaga	fragment	microflakes
152	Unit Excavation	201	513	0.22	debitage	1	Onondaga	shatter	
153	Unit Excavation	201	513	0.22	utilized flake	1	Onondaga	secondary	secondary flake with use-wear along one margin
154	Unit Excavation	198	510	0.21	debitage	2	Onondaga	secondary	
155	Unit Excavation	198	510	0.21	debitage	1	Onondaga	tool thinning	
156	Unit Excavation	198	510	0.21	debitage	3	Onondaga	fragment	
157	Unit Excavation	201	512	0.23	debitage	1	Onondaga	secondary	
158	Unit Excavation	201	512	0.23	debitage	8	Onondaga	tool thinning	
159	Unit Excavation	201	512	0.23	debitage	1	Onondaga	tool thinning	heat-treated
160	Unit Excavation	201	512	0.23	debitage	5	Onondaga	fragment	

Cat#	Context	Northing	Easting	Depth (m)	Artifact	Frequency	Chert Type	Morphology	Comments
161	Unit Excavation	203	515	0.24	debitage	2	Onondaga	secondary	
162	Unit Excavation	203	515	0.24	debitage	2	Onondaga	tool thinning	
163	Unit Excavation	203	515	0.24	debitage	1	Haldimand	tool thinning	
164	Unit Excavation	203	515	0.24	debitage	1	Haldimand	fragment	
165	Unit Excavation	203	517	0.27	debitage	4	Onondaga	secondary	
166	Unit Excavation	203	517	0.27	debitage	2	Onondaga	fragment	
167	Unit Excavation	203	517	0.27	debitage	2	Onondaga	fragment	microflakes
168	Unit Excavation	203	517	0.27	debitage	2	Onondaga	shatter	
169	Unit Excavation	201	515	0.2	debitage	5	Onondaga	secondary	
170	Unit Excavation	201	515	0.2	debitage	19	Onondaga	tool thinning	
171	Unit Excavation	201	515	0.2	debitage	5	Onondaga	fragment	
172	Unit Excavation	201	515	0.2	debitage	6	Onondaga	fragment	microflakes
173	Unit Excavation	201	515	0.2	debitage	4	Onondaga	shatter	
174	Unit Excavation	198	514	0.19	debitage	2	Onondaga	secondary	
175	Unit Excavation	198	514	0.19	debitage	4	Onondaga	tool thinning	
176	Unit Excavation	198	514	0.19	debitage	3	Onondaga	fragment	
177	Unit Excavation	201	517	0.25	debitage	6	Onondaga	secondary	
178	Unit Excavation	201	517	0.25	debitage	6	Onondaga	tool thinning	
179	Unit Excavation	201	517	0.25	debitage	2	Haldimand	tool thinning	microflakes
180	Unit Excavation	201	517	0.25	debitage	6	Onondaga	fragment	
181	Unit Excavation	201	517	0.25	debitage	2	Onondaga	fragment	
182	Unit Excavation	201	517	0.25	debitage	2	Haldimand	fragment	microflakes
183	Unit Excavation	201	517	0.25	debitage	1	Haldimand	shatter	
184	Unit Excavation	202	515	0.23	debitage	1	Onondaga	shatter	
185	Unit Excavation	202	515	0.23	debitage	2	Onondaga	secondary	
186	Unit Excavation	202	515	0.23	debitage	1	Haldimand	secondary	
187	Unit Excavation	202	515	0.23	debitage	14	Onondaga	tool thinning	
188	Unit Excavation	202	515	0.23	debitage	7	Onondaga	fragment	
189	Unit Excavation	202	515	0.23	debitage	1	Haldimand	fragment	
190	Unit Excavation	202	515	0.23	debitage	1	Onondaga	shatter	
191	Unit Excavation	200	517	0.16	debitage	4	Onondaga	tool thinning	
192	Unit Excavation	200	517	0.16	debitage	2	Onondaga	tool thinning	microflakes
193	Unit Excavation	200	517	0.16	debitage	3	Onondaga	fragment	
194	Unit Excavation	203	519	0.21	debitage	1	Onondaga	secondary	
195	Unit Excavation	203	519	0.21	debitage	3	Onondaga	tool thinning	
196	Unit Excavation	203	519	0.21	debitage	1	Haldimand	tool thinning	
197	Unit Excavation	203	519	0.21	debitage	2	Onondaga	fragment	
198	Unit Excavation	201	510	0.27	debitage	3	Onondaga	tool thinning	
199	Unit Excavation	201	510	0.27	debitage	2	Onondaga	fragment	
200	Unit Excavation	201	510	0.27	debitage	1	Onondaga	shatter	
201	Unit Excavation	202	513	0.21	debitage	1	Haldimand	secondary	
202	Unit Excavation	202	513	0.21	debitage	3	Onondaga	secondary	

Cat#	Context	Northing	Easting	Depth (m)	Artifact	Frequency	Chert Type	Morphology	Comments
203	Unit Excavation	202	513	0.21	debitage	7	Onondaga	tool thinning	
204	Unit Excavation	202	513	0.21	debitage	1	Haldimand	tool thinning	
205	Unit Excavation	202	513	0.21	debitage	4	Onondaga	fragment	
206	Unit Excavation	202	513	0.21	debitage	2	Onondaga	shatter	
207	Unit Excavation	202	513	0.21	utilized flake	1	Onondaga	secondary	secondary flake modified with use-wear and retouch along one lateral margin; 21.7mm length by 20.3mm width by 6.6mm thick
208	Unit Excavation	201	511	0.22	debitage	1	Onondaga	cortical removal	blocky, equivocal
209	Unit Excavation	201	511	0.22	debitage	2	Onondaga	secondary	
210	Unit Excavation	201	511	0.22	debitage	9	Onondaga	tool thinning	
211	Unit Excavation	201	511	0.22	debitage	6	Onondaga	fragment	
212	Unit Excavation	199	515	0.18	debitage	1	Onondaga	secondary	
213	Unit Excavation	199	515	0.18	debitage	1	Onondaga	shatter	
214	Unit Excavation	199	515	0.18	debitage	3	Onondaga	tool thinning	
215	Unit Excavation	199	515	0.18	debitage	2	Haldimand	tool thinning	microflakes
216	Unit Excavation	199	515	0.18	debitage	1	Haldimand	fragment	
217	Unit Excavation	199	515	0.18	debitage	3	Onondaga	fragment	microflakes
218	Unit Excavation	199	515	0.18	debitage	3	Onondaga	fragment	
219	Unit Excavation	202	516	0.18	debitage	1	Onondaga	primary	
220	Unit Excavation	202	516	0.18	debitage	3	Onondaga	secondary	
221	Unit Excavation	202	516	0.18	debitage	2	Haldimand	tool thinning	
222	Unit Excavation	202	516	0.18	debitage	6	Onondaga	tool thinning	
223	Unit Excavation	202	516	0.18	debitage	1	Onondaga	tool thinning	microflake
224	Unit Excavation	202	516	0.18	debitage	2	Onondaga	fragment	microflake
225	Unit Excavation	202	516	0.18	debitage	2	Onondaga	fragment	
226	Unit Excavation	202	516	0.18	utilized flake	1	Onondaga	secondary	secondary flake with possible use-wear along one margin; 32.7mm length by 17.2mm width by 5.2mm thick
227	Unit Excavation	202	512	0.25	debitage	1	Onondaga	primary	
228	Unit Excavation	202	512	0.25	debitage	2	Onondaga	secondary	
229	Unit Excavation	202	512	0.25	debitage	6	Onondaga	tool thinning	
230	Unit Excavation	202	512	0.25	debitage	9	Onondaga	fragment	
231	Unit Excavation	201	519	0.19	debitage	2	Onondaga	secondary	
232	Unit Excavation	201	519	0.19	debitage	4	Onondaga	tool thinning	
233	Unit Excavation	201	519	0.19	debitage	1	Onondaga	tool thinning	microflake
234	Unit Excavation	201	519	0.19	debitage	2	Onondaga	fragment	
235	Unit Excavation	201	519	0.19	debitage	2	Haldimand	fragment	
236	Unit Excavation	201	514	0.21	debitage	1	Haldimand	secondary	

Cat#	Context	Northing	Easting	Depth (m)	Artifact	Frequency	Chert Type	Morphology	Comments
237	Unit Excavation	201	514	0.21	debitage	11	Onondaga	tool thinning	
238	Unit Excavation	201	514	0.21	debitage	1	Onondaga	tool thinning	microflake
239	Unit Excavation	201	514	0.21	debitage	10	Onondaga	fragment	
240	Unit Excavation	201	514	0.21	debitage	2	Onondaga	fragment	microflake
241	Unit Excavation	201	514	0.21	debitage	2	Onondaga	shatter	
242	Unit Excavation	203	516	0.24	debitage	3	Onondaga	secondary	
243	Unit Excavation	203	516	0.24	debitage	3	Onondaga	tool thinning	
244	Unit Excavation	203	516	0.24	debitage	1	Onondaga	fragment	
245	Unit Excavation	203	516	0.24	debitage	2	Onondaga	shatter	
246	Unit Excavation	199	514	0.24	debitage	2	Onondaga	secondary	
247	Unit Excavation	199	514	0.24	debitage	3	Onondaga	tool thinning	
248	Unit Excavation	199	514	0.24	debitage	5	Onondaga	fragment	
249	Unit Excavation	199	514	0.24	debitage	1	Onondaga	shatter	
250	Unit Excavation	200	514	0.21	scraper	1	Onondaga	secondary	steep-end scraper with minor retouch and use-wear along rounded distal margin; 21.6mm length by 20.1mm width by 4.7mm thick
251	Unit Excavation	200	514	0.21	debitage	4	Onondaga	tool thinning	microflakes
252	Unit Excavation	200	514	0.21	debitage	4	Onondaga	tool thinning	
253	Unit Excavation	200	514	0.21	debitage	4	Onondaga	fragment	
254	Unit Excavation	200	511	0.21	debitage	1	Onondaga	secondary	
255	Unit Excavation	200	511	0.21	debitage	3	Onondaga	tool thinning	microflakes
256	Unit Excavation	200	511	0.21	debitage	3	Onondaga	tool thinning	
257	Unit Excavation	200	511	0.21	debitage	4	Onondaga	fragment	
258	Unit Excavation	200	511	0.21	debitage	1	Onondaga	shatter	
259	Unit Excavation	201	516	0.19	debitage	1	Onondaga	primary	
260	Unit Excavation	201	516	0.19	debitage	8	Onondaga	secondary	
261	Unit Excavation	201	516	0.19	debitage	11	Onondaga	tool thinning	
262	Unit Excavation	201	516	0.19	debitage	2	Onondaga	fragment	
263	Unit Excavation	201	516	0.19	debitage	1	Haldimand	fragment	
264	Unit Excavation	201	516	0.19	debitage	1	Onondaga	shatter	

Stage 4 Mitigation of Development Impacts
P6 (AgGw-214)
Caistorville Road Property, Caistorville

Part of Lot 20, Concession 1, Geographic Township of Caistor, Historical County of Lincoln, now the Regional Municipality of Niagara

Submitted to:

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and

Ontario's Ministry of Citizenship and Multiculturalism

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ORIGINAL REPORT

January 7th, 2025

Executive Summary

Detritus Consulting Ltd. ('Detritus') was retained by DeHaan Homes (the 'Proponent') to conduct a Stage 4 mitigation of developmental impacts at archaeological site P6 (AgGw-214) located part of Lot 20, Concession 1, in the geographic Township of Caistor, within the historical County of Lincoln, which is now the Regional Municipality of Niagara, Ontario (Figure 1). This assessment was undertaken in advance of future development on the property at Caistorville Road in Caistorville (Figure 7).

Mitigation of P6 (AgGw-214) 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 this condition, a Stage 4 mitigation by hand excavation at the site was conducted as part of the application phase of development under archaeological consulting license P1263 issued to Mr. Jonathan Peart 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 *Standards and Guidelines for Consultant Archaeologists* ('*Standards and Guidelines*'; Government of Ontario, 2011).

P6 (AgGw-214) is located on a part of a larger Development Property that is a roughly rectangular-shaped parcel situated to the southeast of Caistorville that encompassed almost the entirety of the original historic Lot 20, Concession 1. Less than one-third of the original Lot 20 had been severed to form a small neighbourhood around Broman Court to the north of the Development Property. The remainder of the lot within the Development Property comprised agricultural fields with sections of wetlands and woodlots including portions of the Caistor Canborough Slough Forest Wetland Complex, a Provincially significant Wetland ('PSW') regulated under the Niagara Peninsula Conservation Authority ('NPCA'). The Development Property measure 35.73 hectares ('ha') and is bound to the west by woodlots/wetlands, to the east by Caistorville Road, to the north by residential properties on Broman Court, and to the south by Haldibrook Road (Figure 3). The current Development Application covers only the portion of the Development Property to be subject to developmental impacts and is outside of the 30m protective buffer surrounding the PSW (the 'Study Area'; Figure 4).

The reduced Study Area measures 7.39ha and occupies the northern portion of the Development Property, bound to the north by residential properties on Broman Court, to the west by a 30m buffer surrounding the PSW, and to the east by Caistorville Road. The southern boundary is bound by either agricultural fields or by sections of the 30m buffer surrounding the PSW. At the time of the Stage 1-2 assessment, the Study Area included two agricultural fields, portions of woodlot with felled trees, and the northwestern corner of the Study Area comprised the remnants of a former farm that included overgrown and grassy areas (Figure 4; Detritus Consulting Ltd., 2024a).

The Stage 1-2 archaeological assessment of the Study Area included a standard pedestrian survey of the agricultural fields and test pit surveys of the felled woodlots and overgrown and grassy areas and resulted in the identification and documentation of seven pre-contact Indigenous sites and two isolated findspots. The seven archaeological sites were registered with the MCM as P1 (AgGw-209), P2 (AgGw-210), P3 (AgGw-211), P4 (AgGw-212), P5 (AgGw-213), P6 (AgGw-214), and P7 (AgGw-215) (see Tile 4 of the Supplementary Documentation to this report). Based on the results of the Stage 1-2 assessment, Detritus recommended Stage 3 site specific assessments for P1 (AgGw-209), P3 (AgGw-211), P4 (AgGw-212), P5 (AgGw-213) and P6 (AgGw-214) (Detritus Consulting Ltd., 2024a).

The subsequent Stage 3 assessment of P6 (AgGw-214) resulted in the documentation of 103 pre-contact Indigenous artifacts from 30 Stage 3 test units covering an area roughly 41m by 46m in the southeastern quadrant of the agricultural field. All the artifacts recovered from the site were manufactured from Onondaga or Haldimand chert and comprised mostly pieces of debitage along

with one side-notched projectile point fragment and four scrapers. According to morphological analysis, the flake assemblage from P6 (AgGw-214) featured primarily fragmentary flakes with lesser amounts of tool thinning flakes. In addition, 19 secondary flakes and 13 pieces of shatter were also recovered. P6 (AgGw-214) was identified as a small short-term activity area occupied by Indigenous people during the pre-contact period characterised by middle to late-stage lithic reduction related to the production and maintenance of formal and informal tools. Given the results of the Stage 3 assessment, wherein three test units from P6 (AgGw-214), yielded ten or more lithic artifacts, P6 (AgGw-214), was determined to retain CHVI and Stage 4 mitigation of developmental impacts to P6 (AgGw-214) was recommended (Detritus Consulting Ltd., 2024b).

The Stage 4 fieldwork was conducted at P6 (AgGw-214) between August 30th and October 26th, 2024. This investigation resulted in the documentation of 1,105 pre-contact Indigenous artifacts from the hand excavation of 97 one-metre square units. The excavation centred on the three highest yielding Stage 3 units, 235E, 510N; 235E, 515N; and 235E, 505N. The Stage 4 units formed a single, continuous excavation block measuring 13m north to south and 11m east to west that followed a similar trend with the highest counts occurring in the centre of the block mostly along the 235E line running north to south. The highest yielding unit was 235E, 514N, which produced 49 artifacts, and the next highest yielding unit was located immediately adjacent to the east at 236E, 509N, which produced 44 artifacts. These were the only two units with more than 40 artifacts, while 16 units produced between 20 and 40 artifacts, 24 units produced between 10 and 20 artifacts, and the remaining 55 units produced less than 10 artifacts. Artifact yields decreased on all sides. The limits of the block were extended until yields dropped to less than ten non-diagnostic pre-contact Indigenous artifacts per unit.

The vast majority of artifacts recovered during the Stage 4 mitigation of P6 (AgGw-214) were pieces of debitage (n=1,098; 99.37%). Additionally, three utilized flakes and one each of a projectile point, biface, scraper, and preform were also recovered. The recovered projectile point shares characteristics with either Meadowwood (Early Woodland period) or Brewerton (Middle Archaic period) series projectile points but is too fragmented for confident classification (Ellis & Ferris, 1990). According to morphological analysis of the debitage, almost 75% of the chert flakes were either flake fragments (n=752; 68.49%) or pieces of block shatter (n=60; 5.46%). Among those that could be classified, which was approximately 25% of the debitage assemblage, the majority were thinning flakes (n=241; 21.95%) along with lesser amounts of secondary flakes (n=42; 3.83%) and microflakes (n=3; <1%). This evidence suggests that middle- to late-stages of lithic reduction related to the manufacture of formal and informal tools occurred at the site, with a propensity for late-stage reduction as evidenced by the number of thinning flakes present.

Based on all the available evidence, P6 (AgGw-214) has been identified as a small short-term activity area occupied by Indigenous people during the pre-contact period. The artifact assemblage is characterised by middle to late-stage lithic reduction related to the manufacture and maintenance of formal and informal tools. Given that six additional Indigenous activity areas, P1 (AgGw-209), P2 (AgGw-210), P3 (AgGw-211), P4 (AgGw-212), P5 (AgGw-213), and P7 (AgGw-215), as well as two findspots, were observed within the Study Area; P6 (AgGw-214) provides further evidence of the settlement patterns within a larger area of ongoing, seasonal occupation by Indigenous peoples prior to contact with European settlers.

The Stage 4 mitigation of P6 (AgGw-214) is now complete. **The CHVI of P6 (AgGw-214) has been fully documented and the information will be preserved for future study. P6 (AgGw-214) has no further CHVI, as per Section 7.11.4 Standard 1 of the *Standards and Guidelines* (Government of Ontario, 2011).**

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

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Acknowledgments

Generous contributions by Mr. Arie DeHaan from DeHaan Homes made this report possible.

1.0 Project Context

1.1 Development Context

Detritus Consulting Ltd. ('Detritus') was retained by DeHaan Homes (the 'Proponent') to conduct a Stage 4 mitigation of developmental impacts at archaeological site P6 (AgGw-214) located part of Lot 20, Concession 1, in the geographic Township of Caistor, within the historical County of Lincoln, which is now the Regional Municipality of Niagara, Ontario (Figure 1). This assessment was undertaken in advance of future development on the property at Caistorville Road in Caistorville (Figure 7).

Mitigation of P6 (AgGw-214) 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 this condition, a Stage 4 mitigation by hand excavation at the site was conducted as part of the application phase of development under archaeological consulting license P1263 issued to Mr. Jonathan Peart 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 *Standards and Guidelines for Consultant Archaeologists* ('*Standards and Guidelines*'; Government of Ontario, 2011).

The purpose of a Stage 4 mitigation of impacts by hand excavation is to document an archaeological site through its controlled removal in order to address archaeological concerns under land use planning and development processes. In compliance with the *Standards and Guidelines* (Government of Ontario, 2011), the objectives of the following Stage 4 investigation are:

- To document the archaeological context, cultural features, and artifacts for all parts of the site;
- to document the removal of the archaeological site; and
- to preserve the information recovered about the archaeological site for future study.

The licensee received permission from the Proponent to enter the Study Area and conduct all required archaeological fieldwork activities at P6 (AgGw-214), including the recovery of artifacts.

1.2 Historical Context

1.2.1 Post-Contact Indigenous 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 (Heidenreich, 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, 2002). 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 Year 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 Indigenous 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, H. & Co., 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, in 1847 (Smith, 2002)

Despite the encroachment of European settlers on previously established Indigenous 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

P6 (AgGw-214) is located on part of Lot 20, Concession 1, in the geographic Township of Caistor, within the historical County of Lincoln, which is now the Regional Municipality of Niagara, Ontario.

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, 2012-2024). 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).

In July 1792, Simcoe divided Upper Canada into 19 counties, including Lincoln County, 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, the Study Area became part of the Niagara District (Archives of Ontario, 2012-2024). 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, of which Caistor Township was a part. The two counties would be amalgamated once again in 1970 to form the Regional Municipality of Niagara.

The Township of Caistor derived its name from the north English town of Caistor in Lincolnshire and was opened for settlement in 1798. The first non-indigenous settler of the township was an escaped slave and black man named Diamond, who, in 1778 constructed an isolated cabin along a spring grove at the banks of the Welland River and resided there (McBride, 2009). In 1782, Diamond sold his cabin to Hendrich Dochstader, a United Empire Loyalist from New York State. Among the first European settlers to actively farm in the area, there was John, James, Alexander

and Matthew Lymburner, who arrived between 1794 and 1796. John Lymburner built the first mill in the township in 1799, located on Lot 6, Concession 2 (Middleton & Landon, 1927). By the middle of the 18th century, Caistor Township was home to 306 residents, and was producing a significant crop of wheat, barley, peas and oats (Mitchell & Co., 1865).

Community centres within Caistor Township included Abingdon, Caistor Centre, and Caistorville. Caistorville would become a prosperous community along the Welland River. At its height, Caistorville included two churches, one Anglican and one Methodist, two general stores, two taverns and eventually a post office and public school (Exploring Niagara, 2017).

The current Study Area occupies a part of Lot 20, Concession 1 in Caistor Township. According to the *Historical Atlas*, the Lot was bounded by the early settlement of Caistorville in its northwest corner (Page & Co., 1876). The entire lot was owned by Jason H. Stevenson, who was a freehold farmer (Union Publishing Company, 1885). The Study Area is located in the northern portion of the Lot along a historic road, now known as Caistorville Road. The Welland River, labelled as Chippawa Creek, is depicted running alongside the town of Caistorville to the north. Several structures, orchards and the early community of Warner are also depicted along Chippawa Creek to either side.

It should be recognised, however, that although significant and detailed landowner information is available on the current *Historical Atlas*, 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).

1.2.3 Recent Reports

Two archaeological assessment reports have been written for archaeological work pertaining to the Study Area or specifically P6 (AgGw-214) and are detailed in Table 1, below.

Table 1: Archaeological Assessment Reports for P6 (AgGw-214)

Year	Title	Author	PIF#s
2024	*Stage 1-2 Archaeological Assessment of Caistorville Road Property, Caistorville on Part of Lot 20, Concession 1, Geographic Township of Caistor, Historical County of Lincoln, now the Regional Municipality of Niagara* (Detritus Consulting Ltd., 2024a)	Detritus	P462-0261-2024
2024	*Stage 3 Archaeological Assessments, P3 (AgGw-211), P4 (AgGw-212), P5 (AgGw-213), and P6 (AgGw-214), Caistorville, Part of Lot 20, Concession 1, Geographic Township of Caistor, Historical County of Lincoln, now Regional Municipality of Niagara* (Detritus Consulting Ltd., 2024b)	Detritus	P1263-0031-2024

The results of these investigations will be discussed in more detail in Section 1.3.4 below.

1.3 Archaeological Context

1.3.1 Property Description and Physical Setting

P6 (AgGw-214) is located on a part of a larger Development Property that is a roughly rectangular-shaped parcel situated to the southeast of Caistorville that encompassed almost the entirety of the original historic Lot 20, Concession 1. Less than one-third of the original Lot 20 had been severed to form a small neighbourhood around Broman Court to the north of the Development Property. The remainder of the lot within the Development Property comprised agricultural fields with sections of wetlands and woodlots including portions of the Caistor Canborough Slough Forest Wetland Complex, a Provincially significant Wetland ('PSW') regulated under the Niagara Peninsula Conservation Authority ('NPCA'). The Development Property measure 35.73 hectares ('ha') and is bound to the west by woodlots/wetlands, to the east by Caistorville Road, to the north by residential properties on Broman Court, and to the south by

Haldibrook Road (Figure 3). The current Development Application covers only the portion of the Development Property to be subject to developmental impacts and is outside of the 30m protective buffer surrounding the PSW (the 'Study Area'; Figure 4).

The reduced Study Area measures 7.39ha and occupies the northern portion of the Development Property, bound to the north by residential properties on Broman Court, to the west by a 30m buffer surrounding the PSW, and to the east by Caistorville Road. The southern boundary is bound by either agricultural fields or by sections of the 30m buffer surrounding the PSW. At the time of the Stage 1-2 assessment, the Study Area included two agricultural fields, portions of woodlot with felled trees, and the northwestern corner of the Study Area comprised the remnants of a former farm that included overgrown and grassy areas (Figure 4; Detritus Consulting Ltd., 2024a).

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 located within Haldimand Clay Plain physiographic region (Chapman & Putnam, 1984). During pre-contact and early contact times, this area comprised a mixture of deciduous trees and open areas. In the early 19th century, Euro-Canadian settlers began to clear the forests for agricultural purposes, which have been ongoing in the vicinity of the Study Area for over 100 years.

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 & Presant, 1989). 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 & Putnam, 1984, p. 156

Huffman and Dumanski add that the soil within the region is suitable for corn and soybeans in rotation with cereal grains as well as alfalfa and clover (Huffman & 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, Euro-Canadian settlers began to clear the forests for agricultural purposes.

The closest source of potable water is the Welland River that runs west to east approximately 400m to the north of the Study Area.

1.3.2 Pre-Contact Indigenous Land Use

This portion of southern Ontario 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 2 provides a general outline of the cultural chronology of Caistor Township (Ellis & Ferris, 1990).

Table 2: Cultural Chronology for Caistor 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 MCM were consulted. In Ontario, information concerning archaeological sites stored in the ASDB (Government of Ontario, n.d.) is maintained by the MCM. This database contains archaeological sites registered according to the Borden system. Under the Borden system, Canada is divided into grid blocks based on latitude and longitude. A Borden Block is approximately 13 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 AgGw.

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, no sites have been registered within 1km of the Study Area. 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

The Study Area was subject to a Stage 1-2 archaeological assessment conducted by Detritus under PIF# P462-0291-2024 (Detritus Consulting Ltd., 2024a). The Stage 1 background research 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 the Study Area (Figure 4).

The subsequent Stage 2 field assessment of the Study Area was conducted on November 27th, 2023, and April 24th, 2024. This investigation began with a property inspection, which determined that the artificial pond, the two stone-lined ditches, and the two building foundations within the former farm retained no, or low, archaeological potential based on the identification of extensive and deep land alteration that has severely damaged the integrity of archaeological resources. The marshy area in the east agricultural field meanwhile, was evaluated as being permanently wet and therefore was determined to retain no archaeological potential. The

previously disturbed and permanently wet areas, as confirmed during a Stage 2 property inspection, were mapped and photo documented.

The remainder of the Study Area comprised the overgrown and grassy areas, the portions of woodlot with felled trees, and two agricultural fields within the Study Area. The felled woodlots and overgrown and grassy areas that were inaccessible to ploughing were assessed by means of a typical test pit survey at 5m intervals. No archaeological resources were observed. The two agricultural fields were deemed accessible for ploughing and were assessed using a typical pedestrian survey at five-metre intervals. This investigation resulted in the identification and documentation of seven pre-contact Indigenous sites and two isolated findspots. The seven archaeological sites were registered with the MCM as P1 (AgGw-209), P2 (AgGw-210), P3 (AgGw-211), P4 (AgGw-212), P5 (AgGw-213), P6 (AgGw-214), and P7 (AgGw-215) (see Tile 4 of the Supplementary Documentation to this report).

The Stage 2 assessment of P1 (AgGw-209) resulted in the documentation of 19 pre-contact Indigenous artifacts from 19 findspot locations scattered across an area roughly 28m by 12m in the centre of the east agricultural field located approximately 58m from the eastern edge of the Study Area. All of the artifacts recovered from the site were pieces of debitage and were manufactured from Onondaga or Selkirk chert. According to the morphological analysis the flake assemblage featured primarily secondary flakes (52.53%) with lesser amounts of fragmentary flakes as well as one piece of shatter (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P3 (AgGw-211) resulted in the documentation of 16 pre-contact Indigenous artifacts from 10 surface findspots scattered across an area roughly 12m by 38m in the west agricultural field approximately 11m from the western edge of the Study Area. The artifact assemblage comprised 14 pieces of debitage, manufactured from Onondaga, Haldimand, or Ancaster chert types and 1 scraper manufactured from Onondaga chert. According to the morphological analysis, the flake assemblage featured primarily tool thinning flakes (40.00%) with lesser amounts of fragment flakes and secondary flakes. In addition, one piece of shatter was also recovered (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P4 (AgGw-212) resulted in the documentation of 45 pre-contact Indigenous artifacts from 22 surface findspots scattered across an area roughly 44m by 18m in the southwestern corner of the west agricultural field within the Study Area. The artifact assemblage comprised 41 pieces of debitage, 2 bifaces, and 2 scrapers. The artifacts recovered from the site were all manufactured from Onondaga chert. According to the morphological analysis, the flake assemblage featured primarily fragment flakes (48.78%) with lesser amounts of secondary flakes and tool thinning flakes. In addition, one piece of shatter was also recovered (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P5 (AgGw-213) resulted in the documentation of 15 pre-contact Indigenous artifacts from 11 surface findspots scattered across an area roughly 31m by 20m in the southwestern corner of the east agricultural field approximately 17m away from the southern edge of the Study Area. The artifacts recovered from the site were all pieces of debitage manufactured from Onondaga, Ancaster, or Haldimand chert. According to the morphological analysis, the flake assemblage featured primarily fragment flakes (46.67%) with lesser amounts of tool thinning flakes and secondary flakes (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P6 (AgGw-214) resulted in the documentation of 26 pre-contact Indigenous artifacts from 20 surface findspots scattered across an area roughly 41m by 40m in the southeastern portion of east agricultural field located approximately 14m from the eastern edge of the Study Area. The artifact assemblage comprised 24 pieces of debitage, 1 biface, and 1 core. The artifacts recovered from the site were manufactured from Onondaga, Ancaster, or Selkirk chert. According to the morphological analysis, the flake assemblage featured primarily tool thinning (37.50%) and fragment flakes (33.33%) with lesser amounts of shatter flakes along with two secondary flakes (Detritus Consulting Ltd., 2024a).

Based on the results of the Stage 2 investigation, P1 (AgGw-209), P3 (AgGw-211), P4 (AGW-212), P5 (AgGw-213), and P6 (AgGw-214) were interpreted as small activity areas for the late stages of lithic reduction activities. Given the presence of at least 10 non-diagnostic pre-contact Indigenous artifacts in a 10m by 10m pedestrian survey area within an area on or west of the Niagara

Escarpment, P1 (AgGw-209), P3 (AgGw-211), P4 (AGW-212), P5 (AgGw-213), and P6 (AgGw-214) 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, 2011), retained CHVI and were recommended for Stage 3 Site Specific assessment (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P2 (AgGw-210) resulted in the documentation of two pre-contact Indigenous artifacts from two findspot locations located approximately 14m from each other in the northwestern portion of the east agricultural field within the Study Area. One piece of debitage was recovered and identified as a fragmentary flake manufactured from Haldimand chert. Additionally, a single fragmentary projectile point manufactured from Onondaga chert was recovered during the pedestrian survey of P2 (AgGw-210). The notched projectile point is missing most of the base and has an irregular shape with one nearly straight edge and one convex edge. It was deemed a possible Stanley type point dating to the Middle Archaic (Detritus Consulting Ltd., 2024a).

The Stage 2 assessment of P7 (AgGw-215) resulted in the documentation of 6 pre-contact Indigenous artifacts from 6 surface findspots scattered across an area roughly 15m by 32m in the eastern portion of the east agricultural field approximately 40m from the eastern edge of the Study Area. The artifact assemblage comprised one projectile point fragment manufactured from Onondaga chert and five pieces of debitage manufactured from Onondaga, Haldimand, and Ancaster chert. According to the morphological analysis, the flake assemblage featured primarily fragment flakes (60.00%) along with one primary flake and one secondary flake (Detritus Consulting Ltd., 2024a).

Findspot 1 comprised a single piece of debitage manufactured from Onondaga chert recovered during the pedestrian survey of the east agricultural field approximately 48m to the north of P1 (AgGw-209). Findspot 2 comprises a single piece of debitage manufactured from Haldimand chert recovered during the pedestrian survey of the east agricultural field approximately 24m to the north of P1 (AgGw-209). Both were identified as fragment flakes (Detritus Consulting Ltd., 2024a).

Given the results of the Stage 2 investigation, P2 (AgGw-210), P7 (AgGw-215), Findspot 1, and Findspot 2 were interpreted as small activity areas of unknown function, occupied by unspecified Indigenous people during the pre-contact period. As a result of the isolated nature of P2 (AgGw-210), P7 (AgGw-215), Findspot 1, and Findspot 2, they did not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines* (Government of Ontario 2011). The CHVI of P2 (AgGw-210), P7 (AgGw-215), Findspot 1, and Findspot 2 were judged to be sufficiently documented.

The subsequent Stage 3 assessment of P6 (AgGw-214) was conducted under PIF# P1263-0031-2024 between June 26th to July 24th, 2024, and resulted in the documentation of 103 pre-contact Indigenous artifacts from 30 Stage 3 test units covering an area roughly 41m by 46m in the southeastern quadrant of the agricultural field. All the artifacts recovered from the site were manufactured from Onondaga or Haldimand chert and comprised mostly pieces of debitage along with one projectile point and four scrapers. According to morphological analysis, the flake assemblage from P6 (AgGw-214) featured primarily fragmentary flakes with lesser amounts of tool thinning flakes. In addition, 19 secondary flakes and 13 pieces of shatter were also recovered. Artifact yields during the Stage 3 excavation of P6 (AgGw-214) ranged from 0 to 38 artifacts. The highest yielding unit was 235E, 510N, which yielded 38 artifacts. One unit to the north of this unit located at 235E, 515N yielded 13 artifacts and one unit to the south of this unit yielded 16 artifacts. The second highest yielding unit was located at 235E, 505N. Units on the 5m grid located to the east and west of this unit yielded one artifact.

Based on all the available evidence, P6 (AgGw-214) was identified as a small short-term activity area occupied by Indigenous people during the pre-contact period. The artifact assemblage is characterised by middle to late-stage lithic reduction related to the production and maintenance of formal and informal tools. Given the results of the Stage 3 assessment, wherein three test units from P6 (AgGw-214), yielded ten or more lithic artifacts, P6 (AgGw-214), was determined to retain CHVI and Stage 4 mitigation of developmental impacts to P6 (AgGw-214) was recommended (Detritus Consulting Ltd., 2024b).

The Stage 3 assessments of P1 (AgGw-209), P3 (AgGw-211), P4 (AgGw-212), and P5 (AgGw-213) were conducted by Detritus between June 2nd and 26th, 2024. None of the test units excavated at P1 (AgGw-209) produced 10 or more pre-contact Indigenous artifacts, and as such Stage 4 mitigation, were not recommended for P1 (AgGw-209). Whereas at least one unit at each of P3 (AgGw-211), P4 (AgGw-212), and P5 (AgGw-213) did produce 10 or more pre-contact Indigenous artifacts, and Stage 4 mitigation were recommended for P3 (AgGw-211), P4 (AgGw-212), and P5 (AgGw-213).

These Stage 3 and Stage 4 reports were in preparation at the time of this report's writing.

1.3.5 Archaeological Potential

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, 2011), 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, 2011), 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 discussed above, the closest source potable water is the Welland River that runs west to east approximately 400m 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 Plain physiographic region. As was discussed earlier, the soils within this region are imperfectly drained, but suitable for pre-contact and post contact Indigenous agricultural. Given this, the distance to potable water and the length of occupation of Caistor Township prior to the arrival of Euro-Canadian settlers, the pre-contact Indigenous 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* map of Caistor Township from 1876 shows the Study Area in close proximity to historical infrastructure including early roads. Considering the location of the Study Area near to the early community of Caistorville and the Welland River, the potential for post-contact Euro-Canadian archaeological resources is judged to be moderate to high.

2.0 Field Methods

The Stage 4 mitigation of developmental impacts of P6 (AgGw-214) was conducted between August 30th and October 25th, 2024, under archaeological consulting license P1263 issued to Mr. Jonathan Peart by the MCM. These investigations began with a review of all relevant reports of previous fieldwork on the property as per Section 4.2.1, Standard 2 of the *Standards and Guidelines* (Government of Ontario, 2011).

Additionally, in accordance with Section 3.4, Standard 2 of the *Standards and Guidelines* (Government of Ontario, 2011) and Section 1.1, Standard 1 of the *Engaging Indigenous Communities in Archaeology* technical bulletin (Government of Ontario, 2022), Indigenous engagement was undertaken throughout the Stage 4 mitigation of P6 (AgGw-214). During the field investigation, representatives from the Haudenosaunee Development Institute participated as on-site monitors. Additional information on the Indigenous engagement practices conducted during the Stage 4 mitigation is provided in the Supplementary Documentation to this report.

During the Stage 4 fieldwork, conditions were excellent and at no time were the field, weather or lighting conditions detrimental to the recovery of archaeological material as per Section 4.2.1, Standard 3 and Section 7.9.1, Standard 1a of the *Standards and Guidelines* (Government of Ontario, 2011). Table 3 provides a summary of the weather and field conditions during the Stage 4. Photos 1 to 12 illustrate field conditions including areas that met the requirements for a Stage 4 mitigation, as per Section 7.8.6, Standards 1a of the *Standards and Guidelines* (Government of Ontario, 2011). Figure 5 and Figure 6 as well as Tile 5 and Tile 6 of the Supplementary Documentation illustrate the Stage 4 mitigation methods, as well as photograph locations and directions. Tile 7 illustrates the Stage 4 mitigation methods in relation to the proposed development of the Study Area.

Table 3: Field and Weather Conditions

Date	Weather	Field Conditions	Tasks
August 30, 2024	22°C	N/A	Meet at site
September 5, 2024	Clear; 23°C	Dry to damp; screens well	Unit excavation
September 6, 2024	Cloudy; 18°C	Dry, screens well	Unit excavation
September 10, 2024	Clear; 19°C	Dry to moist, screens moderately well	Unit excavation
September 11, 2024	Clear; 22°C	Dry to damp, screens well	Unit excavation
September 12, 2024	Clear; 23°C	Dry to damp, screens well	Unit excavation
September 15, 2024	Clear; 24°C	Dry to damp, screens well	Unit excavation
September 18, 2024	Partly cloudy; 24°C	Dry to damp, screens well	Unit excavation; block expansion; move back dirt
September 19, 2024	Partly cloudy; 22°C	Dry to damp, screens well	Unit excavation; block expansion; move back dirt
September 20, 2024	Clear; 25°C, feels like 29°C	Dry to damp, screens well	Unit excavation
October 1, 2024	Overcast; 19°C	Dry to damp, screens well	Unit excavation
October 2, 2024	A few clouds; 16°C	Dry to damp, screens well	Unit excavation block expansion
October 3, 2024	Partly cloudy; 19°C	Damp, screens moderately well	Unit excavation; block expansion
October 4, 2024	Partly cloudy; 20°C	Dry, screens well	Unit excavation; block expansion
October 7, 2024	Partly cloudy; 15°C	Dry to damp, screens very well to moderately well	Unit excavation block expansion
October 8, 2024	Partly cloudy; 7°C	Dry very hard and compacted, screens well	Unit excavation; block expansion; move back dirt
October 9, 2024	Partly cloudy; 13°C	Dry to damp, screens very well to moderately	Unit excavation

Date	Weather	Field Conditions	Tasks
October 10, 2024	A few clouds; 12°C	Dry to slightly damp, screens very well	Unit excavation; block expansion
October 11, 2024	Clear; 16°C	Dry to slightly damp, screens very well	Unit excavation; block expansion; move back dirt
October 15, 2024	Partly cloudy; 8°C	Dry to damp; screens well	Unit excavation
October 16, 2024	Partly cloudy; 8°C	Dry to damp; screens moderately well	Unit excavation
October 17, 2024	Clear; 2°C	Damp to wet, screens moderately	Unit excavation
October 21, 2024	A few clouds; 21°C	Dry to damp, screens well	Unit excavation
October 22, 2024	Partly cloudy; 23°C	damp, screens well	Unit excavation
October 23, 2024	Clear; 19°C	Dry to damp, screens very well	Unit excavation
October 24, 2024	A few clouds; 10°C	Dry to damp, screens very well	Unit excavation
October 25, 2024	A few clouds; 14°C	Dry to damp, screens very well	Complete unit excavation; draw profile; take UTM points; photo documentation of profiles and excavation block

Upon arrival at the site, the original Stage 3 grid was still in place and all excavated units still visible, thus meeting the conditions of Section 4.2.1, Standard 5 of the *Standards and Guidelines* (Government of Ontario, 2011).

The Stage 4 mitigation of P6 (AgGw-214) resulted in the hand excavation of 97 one-metre units surrounding the highest yielding Stage 3 unit at 235E, 510N in the centre of the site. These units formed a single continuous excavation block measuring 13m north to south and 11m east to west. The extent of the excavation block was determined in accordance with Section 4.2.2, Standard 4 and Table 4.1 of the *Standards and Guidelines* (Government of Ontario, 2011). Photographs of the Stage 4 excavation are provided in Section 9.1 below.

The Stage 4 units at P6 (AgGw-214) were excavated by hand in systematic levels into the first five centimetres ('cm') of subsoil, as per Section 4.2.1, Standards 1 and 6 of the *Standards and Guidelines* (Government of Ontario, 2011). All of the units contained a single stratigraphic layer, identified as typical ploughzone topsoil consisting of medium-brown clay above a typical heavy orange-brown clay subsoil. Overall, the Stage 4 units at P6 (AgGw-214) were between 21cm and 26cm deep. Considering that each unit was excavated 5cm into subsoil, Layer 1 ranged in thickness from 16cm to 21cm across the excavation block.

All of the excavated soil was screened through six-millimetre hardware cloth to facilitate the recovery of small artifacts, as per Section 4.2.2, Standard 6 of the *Standards and Guidelines* (Government of Ontario, 2011). All artifacts recovered during the Stage 4 block excavation were recorded with reference to their one-metre grid unit number and retained for laboratory analysis and description, as per Section 4.2.1, Standards 8 of the *Standards and Guidelines* (Government of Ontario, 2011). The subsoil surface of each unit was shovel-shined, trowelled, and examined for any evidence of subsurface cultural features. No subsurface features were observed. No Indigenous ceramics or fire cracked rock were recovered during any stage of investigation.

3.0 Record of Finds

The Stage 4 mitigation of developmental impacts of P6 (AgGw-214) was conducted employing the methods described in Section 2.0. Maps indicating the exact site location of the site, and all UTM coordinates recorded during the assessment, are 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 of Document Type	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
30 Digital Photographs	Detritus' office	Stored digitally in project file

All of the material culture collected during the Stage 4 mitigation of P6 (AgGw-214) is contained in one box and will be temporarily housed in the offices of Detritus 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.

3.1 Cultural material

The Stage 4 mitigation of P6 (AgGw-214) resulted in the documentation of 1,105 pre-contact Indigenous artifacts manufactured from Onondaga or Haldimand chert. Chert type identification was accomplished visually using reference materials located in personal collections.

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 & von Bitter, 1989). Primary outcrops have also been reported along the banks of the Grand River (Ellis & Ferris, 1990). Onondaga chert 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 Indigenous people (Eley & 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 & von Bitter, 1989).

3.2 Artifact Analysis

The vast majority of artifacts recovered during the Stage 4 mitigation of P6 (AgGw-214) were pieces of debitage (n=1,098; 99.37%). The debitage was manufactured from either Onondaga (n=1,085) or Haldimand chert (n= 13). Additionally, three utilized flakes and one each of a projectile point, biface, scraper, and preform were also recovered, all of which were manufactured from Onondaga chert (Table 5).

Table 5: Artifact Assemblage

Artifact	Frequency	Percentage %
debitage	1098	99.37
utilized flake	3	0.27
projectile point	1	0.09
biface	1	0.09
scraper	1	0.09
preform	1	0.09
Total	**1105**	**100.00**

Debitage

Debitage is the waste product from the production of stone tools and is the most frequently recovered artifact on pre-contact Indigenous sites in southern Ontario. Debitage has a low significance and interpretive value when it is not associated with any diagnostic material, therefore they cannot be used to determine the cultural affiliation or time period of the occupation of a site.

All pieces of the debitage recovered during the Stage 4 mitigation of P6 (AgGw-214) were subject to morphological analysis following the classification scheme described by Lennox, Dodd and Murphy for the Wiacek Site (Lennox, Dodd, & Murphy, 1986) and expanded upon by Fisher for the Adder Orchard site (Fisher, 1997).

Primary and secondary flakes, along with cortical removal flakes, are a product of percussion flaking undertaken during the initial reduction phases of raw material into blanks, bifaces and preforms. These early-stage reduction flakes tend to exhibit minimal dorsal flake scarring, and are often characterized by the presence of cortex, or the original unflaked chert exterior, on their dorsal surfaces and proximal ends. For cortical removal flakes, over half of the dorsal surface comprises cortex; for primary flakes, less than half. Secondary flakes, meanwhile, may not contain any cortex. Thinning flakes are produced during the latter stages of lithic reduction, when blanks, bifaces, and preforms are shaped into projectile points and formal tools. They are the result of pressure flaking, where the maker uses a softer material such as antler, wood or bone to apply direct pressure onto a specific part of the tool. 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 have some identifiable flake characteristics but cannot be classified with certainty into a specific category.

The results of the morphological analysis of the debitage from P6 (AgGw-214) are detailed in Table 6 below.

Table 6: Flake Analysis

Chert Type	Secondary		Thinning		Microflake		Fragment		Shatter		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Onondaga	42	3.87	237	21.84	3	0.28	745	68.66	58	5.35	1085	100.00
Haldimand	0	0.00	4	30.77	0	0.00	7	53.85	2	15.38	13	100.00
Total	**42**	**3.83**	**241**	**21.95**	**3**	**0.27**	**752**	**68.49**	**60**	**5.46**	**1098**	**100.00**

According to the results of this analysis, almost 75% of the chert flakes were either flake fragments (n=752; 68.49%) or pieces of block shatter (n=60; 5.46%). Among those that could be classified, which was approximately 25% of the debitage assemblage, the majority were thinning flakes (n=241; 21.95%) along with lesser amounts of secondary flakes (n=42; 3.83%) and microflakes (n=3; <1%). This evidence suggests that middle- to late-stages of lithic reduction related to the production of formal and informal tools occurred at the site, with a propensity for late-stage reduction as evidenced by the number of thinning flakes present.

Expedient Tools

Three utilized flakes (Cat# 39; Plate 4, Cat# 53; Plate 5, and Cat# 68; Plate 6) were recovered from the Stage 4 mitigation of P6 (AgGw-214), all manufactured from Onondaga chert. Utilized flakes are pieces of debitage that show evidence of use. They are considered informal tools that were discarded after use. As a result, they cannot be used to determine the cultural affiliation or time period of the occupation of a site.

Projectile Point and Biface

One biface and one projectile point were recovered from the Stage 4 mitigation of P6 (AgGw-214), both were manufactured from Onondaga chert.

The biface (Cat# 89; Plate 7) has an oval cross section and appears to be the bottom of a projectile point. The biface itself is very refined and features a random flaking pattern. It measures 29.1mm in length, 24.6mm in width, and 4.5mm in thickness. The term biface refers to any unfinished, discarded, or broken bifacially worked form that cannot be identified as a specific tool or

projectile point. Therefore, bifaces could represent a variety of tools with different functions and are not temporally diagnostic.

The projectile point (Cat# 244; Plate 8) comprises the proximal third and preserves the fragmented base and shoulders. It is side-notched with a straight shoulder edge, expanding stem, and straight to convex base. The cross section is elliptical and the flaking pattern random. The projectile point shares characteristics with either Meadowwood (Early Woodland period) or Brewerton (Middle Archaic period) series projectile points but is too fragmented for confident classification (Ellis & Ferris, 1990). It measures 14.2mm in length, 27.1mm in width 4.4mm, in thickness. Additionally, the base measures 22.9mm, the neck 16.1mm and the hafting 6.3mm.

Preform

One preform (Cat# 275; Plate 9) was recovered from the Stage 4 mitigation of P6 (AgGw-214), manufactured from Onondaga chert. Preforms are associated with early stage lithic reduction as chert cores or flint nodules are converted into blanks or preforms. These artifacts are not temporally diagnostic, beyond the fact that they date to the pre-contact period.

Scraper

One scraper (Cat# 193; Plate 10) was recovered from the Stage 4 mitigation of P6 (AgGw-214), manufactured from Onondaga chert. The scraper shows some retouch on the sides and is likely an end scraper. The scraper measures 27mm long by 23mm wide by 4mm thick. Due to their long span of production, scrapers cannot be used to determine the cultural affiliation or time period of the occupation of a site.

3.3 Artifact Distribution and Settlement Pattern

The Stage 4 mitigation of P6 (AgGw-214) resulted in the documentation of 1,105 pre-contact Indigenous artifacts from the hand excavation of 97 one-metre square units. The excavation centred on the three highest yielding Stage 3 units, 235E, 510N; 235E, 515N; and 235E, 505N. The Stage 4 units formed a single, continuous excavation block measuring 13m north to south and 11m east to west that followed a similar trend with the highest counts occurring in the centre of the block mostly along the 235E line running north to south. The highest yielding unit was 235E, 514N, which produced 49 artifacts and the next highest yielding unit was located immediately adjacent to the east at 236E, 509N, which produced 44 artifacts. These were the only two units with more than 40 artifacts, while 16 units produced between 20 and 40 artifacts, 24 units produced between 10 and 20 artifacts, and the remaining 55 units produced less than 10 artifacts. Artifact yields decreased on all sides. The limits of the block were extended until yields dropped to less than ten non-diagnostic pre-contact Indigenous artifacts per unit.

The vast majority of artifacts recovered were pieces of debitage (n=1,098; 99.37%). Additionally, three utilized flakes and one each of a projectile point, biface, scraper, and preform were also recovered. The projectile point shares characteristics with either Meadowwood (Early Woodland period) or Brewerton (Middle Archaic period) series projectile points but is too fragmented for confident classification (Ellis & Ferris, 1990). Based on the quantity and distribution of artifacts, the site likely represents a single activity area centered in the middle of the site. Additionally, the high proportion of debitage coupled with relatively low diversity of tool types suggests a short duration occupation by seasonally mobile Indigenous people prior to contact with European settlers.

3.4 Artifact Catalogue

See Appendix 10.1 for the Stage 4 artifact assemblage catalogue for P6 (AgGw-214). A sample of artifacts are depicted in Section 9.2 of this report.

4.0 Analysis and Conclusions

Detritus was retained by the Proponent to conduct a Stage 4 mitigation of developmental impacts at archaeological site P6 (AgGw-214) in advance of future development on the property at Caistorville Road in Caistorville.

The Stage 4 fieldwork was conducted at P6 (AgGw-214) between August 30th and October 26th, 2024. This investigation resulted in the documentation of 1,105 pre-contact Indigenous artifacts from the hand excavation of 97 one-metre square units. The excavation centred on the three highest yielding Stage 3 units, 235E, 510N; 235E, 515N; and 235E, 505N. The Stage 4 units formed a single, continuous excavation block measuring 13m north to south and 11m east to west that followed a similar trend with the highest counts occurring in the centre of the block mostly along the 235E line running north to south. The highest yielding unit was 235E, 514N, which produced 49 artifacts, and the next highest yielding unit was located immediately adjacent to the east at 236E, 509N, which produced 44 artifacts. These were the only two units with more than 40 artifacts, while 16 units produced between 20 and 40 artifacts, 24 units produced between 10 and 20 artifacts, and the remaining 55 units produced less than 10 artifacts. Artifact yields decreased on all sides. The limits of the block were extended until yields dropped to less than ten non-diagnostic pre-contact Indigenous artifacts per unit.

The vast majority of artifacts recovered during the Stage 4 mitigation of P6 (AgGw-214) were pieces of debitage (n=1,098; 99.37%). Additionally, three utilized flakes and one each of a projectile point, biface, scraper, and preform were also recovered. According to morphological analysis of the debitage, almost 75% of the chert flakes were either flake fragments (n=752; 68.49%) or pieces of block shatter (n=60; 5.46%). Among those that could be classified, which was approximately 25% of the debitage assemblage, the majority were thinning flakes (n=241; 21.95%) along with lesser amounts of secondary flakes (n=42; 3.83%) and microflakes (n=3; <1%). This evidence suggests that middle- to late-stages of lithic reduction for the manufacture of formal and informal tools occurred at the site, with a propensity for late-stage reduction as evidenced by the number of thinning flakes present.

Based on all the available evidence, P6 (AgGw-214) has been identified as a small short-term activity area occupied by Indigenous people during the pre-contact period. The artifact assemblage is characterised by middle to late-stage lithic reduction related to the production and maintenance of formal and informal tools. Given that six additional Indigenous activity areas, P1 (AgGw-209), P2 (AgGw-210), P3 (AgGw-211), P4 (AgGw-212), P5 (AgGw-213), and P7 (AgGw-215), as well as two findspots, were observed within the Study Area; P6 (AgGw-214) provides further evidence of the settlement patterns within a larger area of ongoing, seasonal occupation by Indigenous peoples prior to contact with European settlers.

5.0 Recommendations

The Stage 4 mitigation of P6 (AgGw-214) is now complete. **The CHVI of P6 (AgGw-214) has been fully documented and the information will be preserved for future study. P6 (AgGw-214) has no further CHVI, as per Section 7.11.4 Standard 1 of the *Standards and Guidelines* (Government of Ontario, 2011).**

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 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 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.

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8.0 Maps

Figure 1: Study Area Location Map

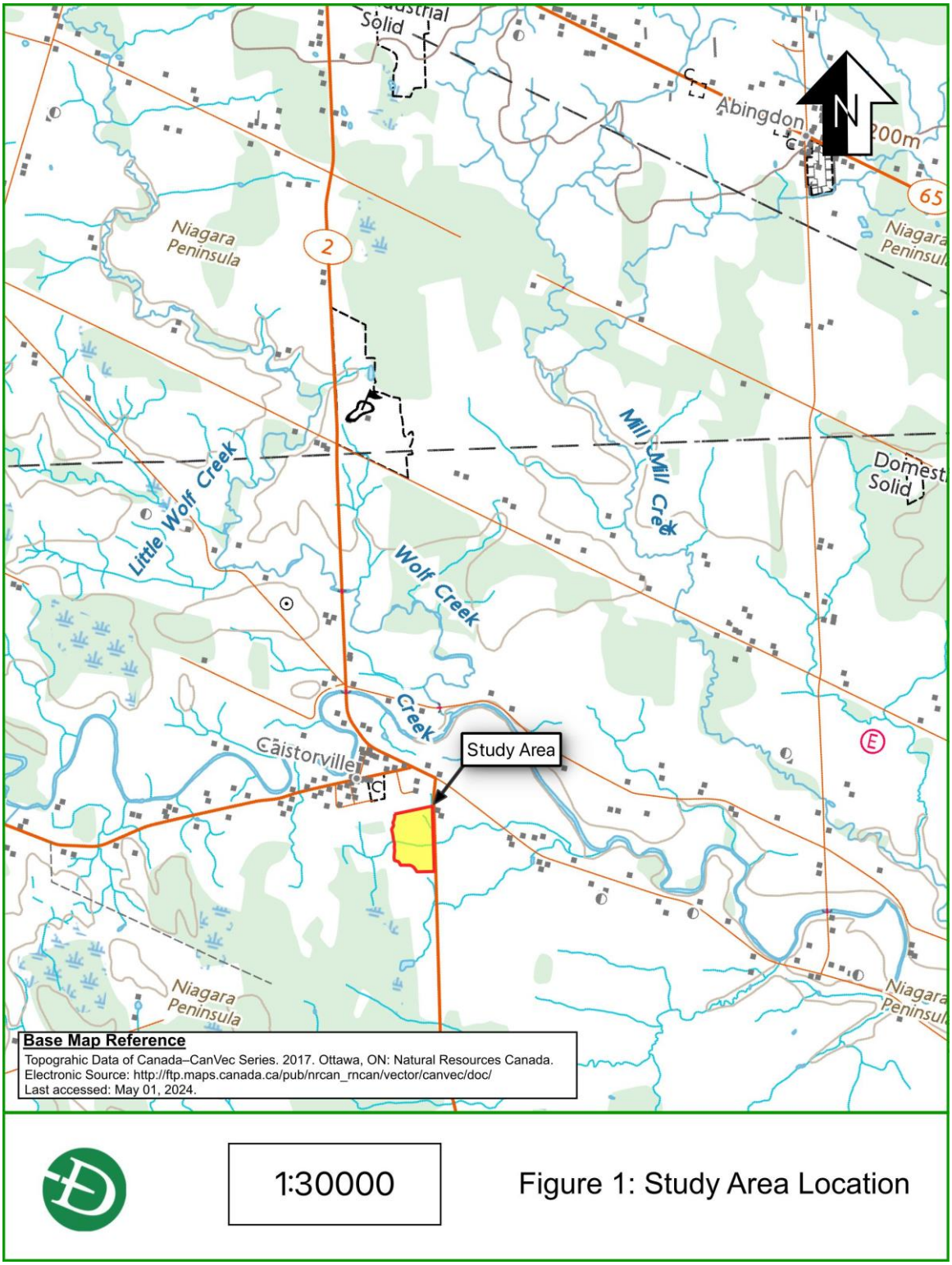


Figure 2: Historic Map Showing Study Area Location

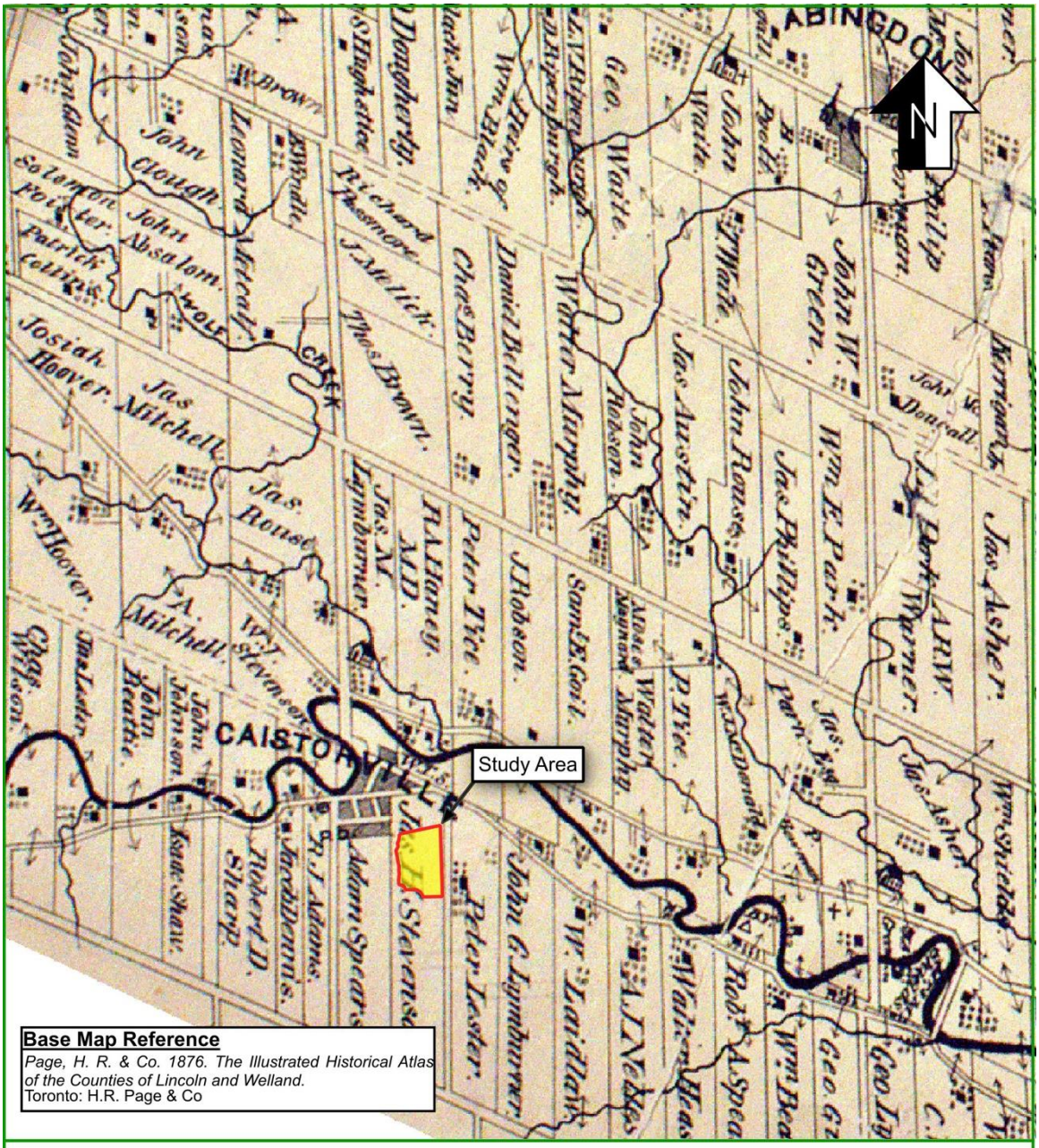


Figure 3: Development property and Study Area

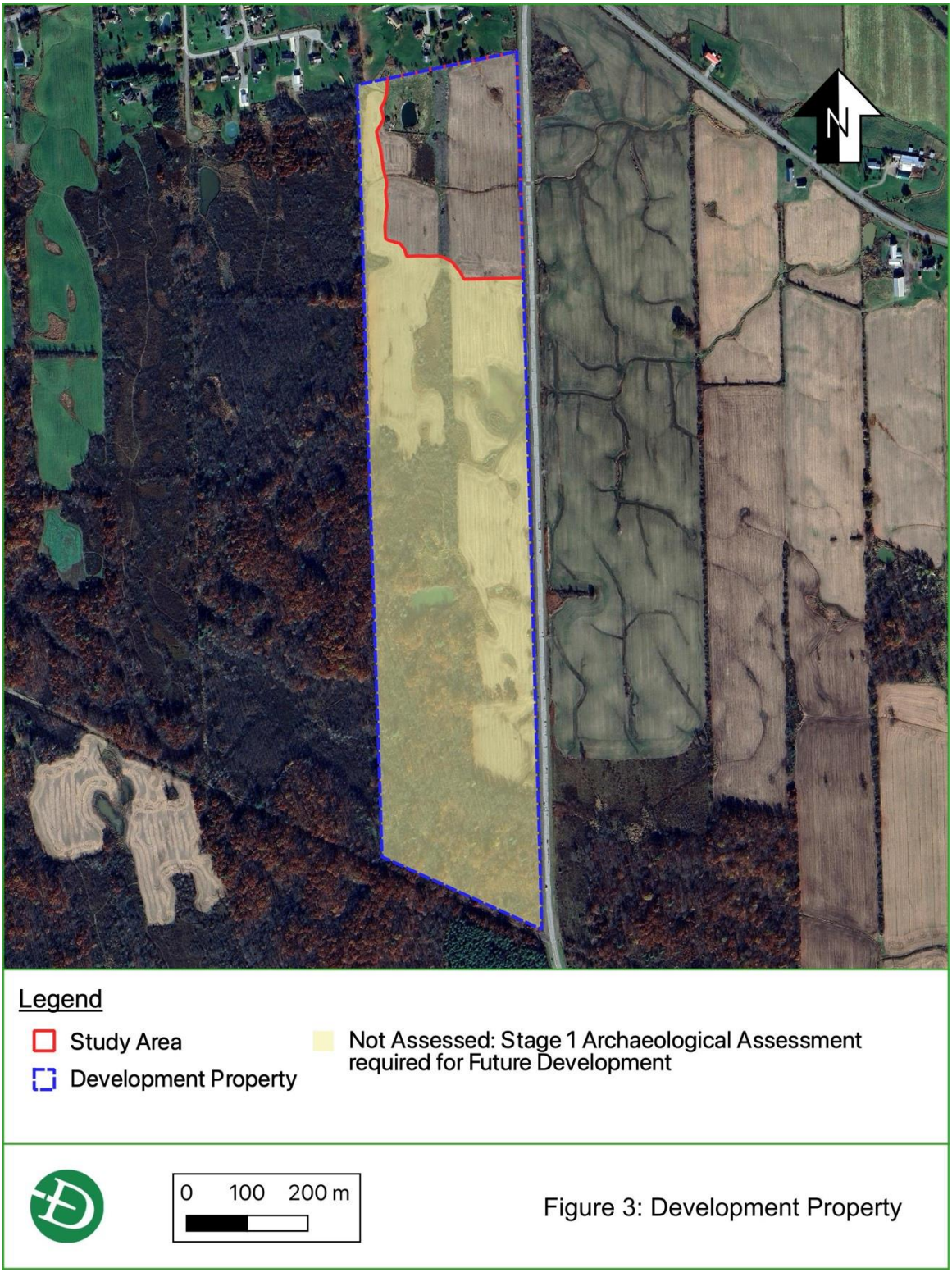


Figure 4: Previous Assessments



Legend

Study Area

Stage 1-2 Assessment
(Detritus Counsulting Ltd,2024a)

0 50 100 m

Figure 4: Previous Archaeological Assessment

Figure 5: Stage 3 and Stage 4 Results

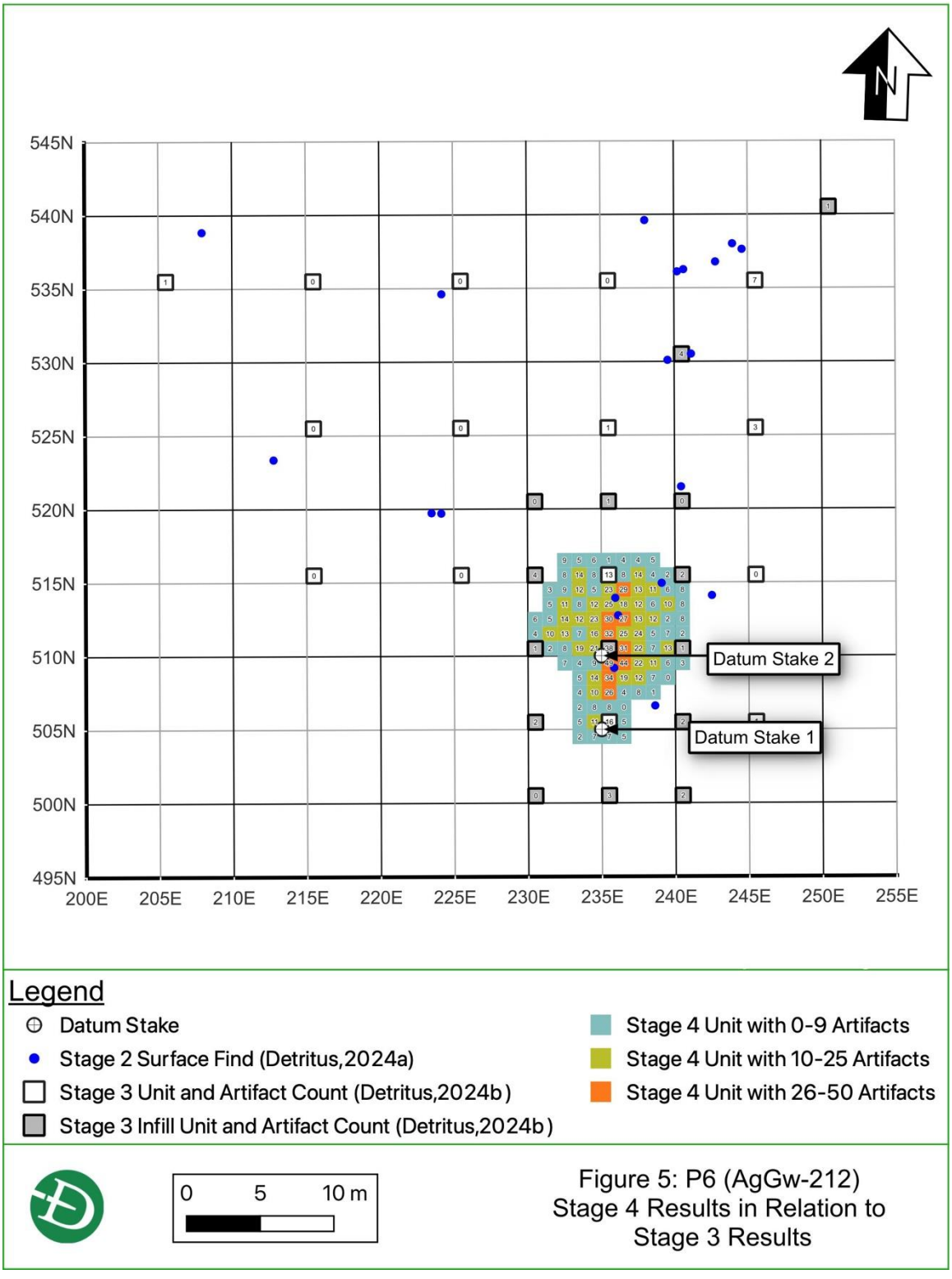


Figure 6: Stage 4 Results

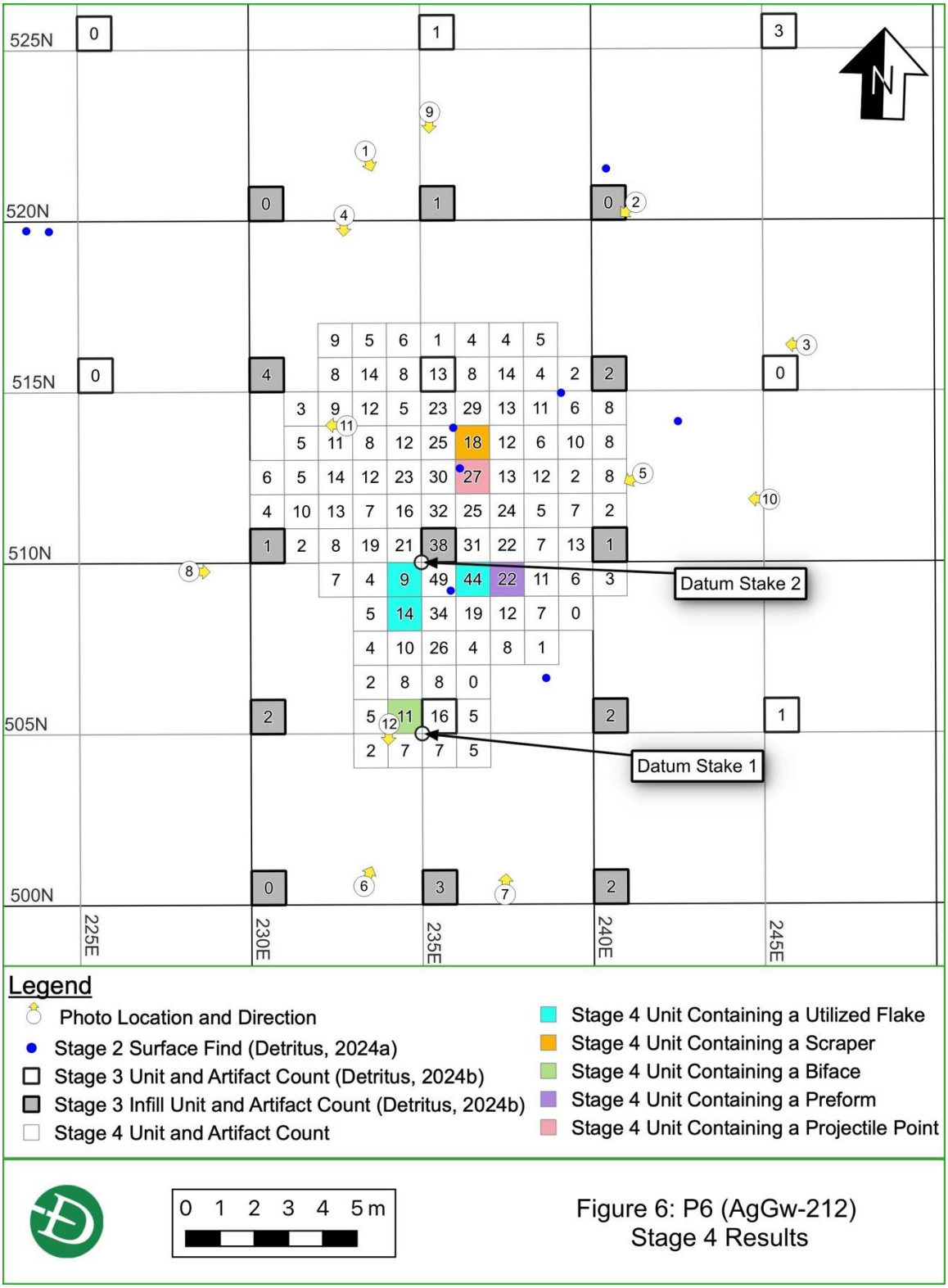
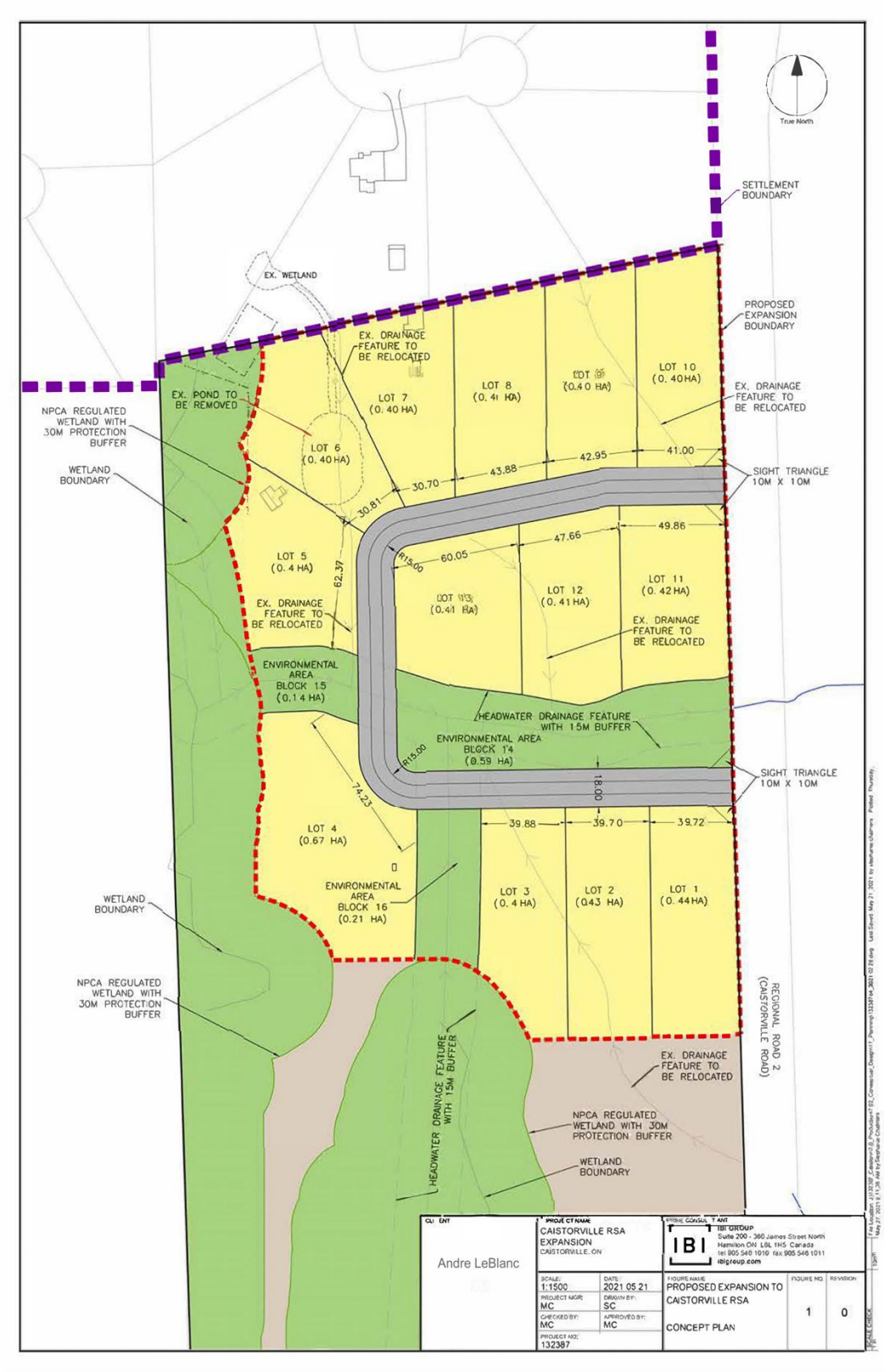


Figure 7: Development Plan



9.0 Images

9.1 Field Photos

Photo 1: Stage 4 excavation at north end of P6 (AgGw-212), looking southeast



Photo 2: Stage 4 excavation of P6 (AgGw-212), looking southwest



Photo 3: Stage 4 excavation at east end of P6 (AgGw-212), looking west



Photo 4: Stage 4 excavation of P6 (AgGw-212), looking south



Photo 5: Stage 4 excavation of P6 (AgGw-212), looking southwest



Photo 6: Stage 4 excavation of P6 (AgGw-212), looking northeast



Photo 7: Completed P6 (AgGw-212) Stage 4 excavation block, looking north



Photo 8: Completed P6 (AgGw-212) Stage 4 excavation block, looking east



Photo 9: Completed P6 (AgGw-212) Stage 4 excavation block, looking south



Photo 10: Completed P6 (AgGw-212) Stage 4 excavation block, looking west



Photo 11: West wall profile



Photo 12: South wall profile



9.2 Artifact Photos

Plate 1: Debitage, Flake Fragment, manufactured from Onondaga chert, Cat# 21



Plate 2: Debitage, Tool Thinning Flake, manufactured from Haldimand chert, Cat# 22



Plate 3: Debitage, Flake Fragment, manufactured from Haldimand chert, Cat# 36



Plate 4: Utilized flake, manufactured from Onondaga chert, Cat# 39



Plate 5: Utilized flake, manufactured from Onondaga chert, Cat# 53



Plate 6: Utilized flake, manufactured from Onondaga chert, Cat# 68



Plate 7: Biface, manufactured from Onondaga chert, Cat# 89



Plate 8: Projectile point proximal fragment, manufactured from Onondaga chert, Cat# 244



Plate 9: Preform, manufactured from Onondaga chert, Cat# 275



Plate 10: Scraper, manufactured from Onondaga chert, Cat# 193



Plate 11: Debitage, Tool Thinning Flakes, manufactured from Onondaga chert, Cat# 246



Plate 12: Debitage, Flake Fragments, manufactured from Onondaga chert, Cat# 247



Plate 13: Debitage, Flake Fragment, manufactured from Onondaga chert, Cat# 248



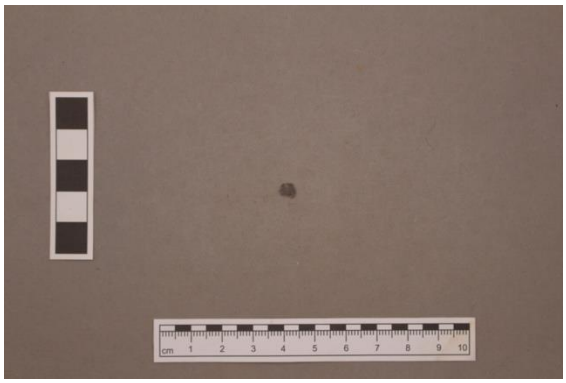
Plate 14: Debitage, Block Shatter, manufactured from Onondaga chert, Cat# 249



Plate 15: Debitage, Secondary Flake, manufactured from Onondaga chert, Cat# 258



Plate 16: Debitage, Microflake, manufactured from Onondaga chert, Cat# 24



10.0 Appendix

10.1 P6 (AgGw-214) Stage 4 Artifact Catalogue

Cat#	Context	Northing	Easting	Depth (m)	Artifact	Frequency	Morphology	Chert Type	Comments
1	Unit Excavation	508	238	0.22	debitage	2	tool thinning	Onondaga	
2	Unit Excavation	508	238	0.22	debitage	1	tool thinning	Haldimand	
3	Unit Excavation	508	238	0.22	debitage	3	fragment	Onondaga	
4	Unit Excavation	508	238	0.22	debitage	1	shatter	Haldimand	
5	Unit Excavation	508	237	0.24	debitage	1	secondary	Onondaga	
6	Unit Excavation	508	237	0.24	debitage	3	tool thinning	Onondaga	
7	Unit Excavation	508	237	0.24	debitage	7	fragment	Onondaga	
8	Unit Excavation	508	237	0.24	debitage	1	fragment	Onondaga	"pot lid"
9	Unit Excavation	510	232	0.25	debitage	1	tool thinning	Onondaga	
10	Unit Excavation	510	232	0.25	debitage	7	fragment	Onondaga	
11	Unit Excavation	508	236	0.25	debitage	1	secondary	Onondaga	
12	Unit Excavation	508	236	0.25	debitage	1	tool thinning	Onondaga	
13	Unit Excavation	508	236	0.25	debitage	16	fragment	Onondaga	
14	Unit Excavation	508	236	0.25	debitage	1	shatter	Onondaga	
15	Unit Excavation	510	239	0.24	debitage	1	tool thinning	Onondaga	
16	Unit Excavation	510	239	0.24	debitage	12	fragment	Onondaga	
17	Unit Excavation	511	240	0.22	debitage	2	fragment	Onondaga	
18	Unit Excavation	512	232	0.23	debitage	2	secondary	Onondaga	One secondary flake broken into three pieces by shovel
19	Unit Excavation	512	232	0.23	debitage	5	tool thinning	Onondaga	
20	Unit Excavation	512	232	0.23	debitage	7	fragment	Onondaga	
21	Unit Excavation	509	239	0.22	debitage	1	tool thinning	Onondaga	Slight retouch on dorsal side at distal end
22	Unit Excavation	509	239	0.22	debitage	1	tool thinning	Haldimand	
23	Unit Excavation	509	239	0.22	debitage	3	fragment	Onondaga	
24	Unit Excavation	509	239	0.22	debitage	1	microflake	Onondaga	
25	Unit Excavation	510	238	0.22	debitage	1	tool thinning	Onondaga	
26	Unit Excavation	510	238	0.22	debitage	5	fragment	Onondaga	
27	Unit Excavation	510	238	0.22	debitage	1	shatter	Onondaga	
28	Unit Excavation	509	240	0.24	debitage	1	secondary	Onondaga	
29	Unit Excavation	509	240	0.24	debitage	1	tool thinning	Onondaga	
30	Unit Excavation	509	240	0.24	debitage	1	fragment	Onondaga	
31	Unit Excavation	510	231	0.23	debitage	2	fragment	Onondaga	
32	Unit Excavation	508	233	0.23	debitage	2	tool thinning	Onondaga	
33	Unit Excavation	508	233	0.23	debitage	3	fragment	Onondaga	
34	Unit Excavation	512	233	0.24	debitage	4	tool thinning	Onondaga	
35	Unit Excavation	512	233	0.24	debitage	7	fragment	Onondaga	
36	Unit Excavation	512	233	0.24	debitage	1	fragment	Haldimand	

Cat#	Context	Northing	Easting	Depth (m)	Artifact	Frequency	Morphology	Chert Type	Comments
37	Unit Excavation	507	233	0.23	debitage	2	tool thinning	Onondaga	
38	Unit Excavation	507	233	0.23	debitage	2	fragment	Onondaga	
39	Unit Excavation	504	236	0.21	utilized flake	1		Onondaga	Secondary flake, fragmented, retouch on left edge and distal end visible on dorsal side
40	Unit Excavation	504	236	0.21	debitage	4	fragment	Onondaga	
41	Unit Excavation	504	233	0.25	debitage	1	secondary	Onondaga	
42	Unit Excavation	504	233	0.25	debitage	1	tool thinning	Onondaga	
43	Unit Excavation	504	235	0.23	debitage	2	tool thinning	Onondaga	
44	Unit Excavation	504	235	0.23	debitage	3	fragment	Onondaga	
45	Unit Excavation	504	235	0.23	debitage	1	microflake	Onondaga	
46	Unit Excavation	504	235	0.23	debitage	1	microflake	Onondaga	"pot lid"
47	Unit Excavation	506	235	0.23	debitage	2	secondary	Onondaga	One secondary fragmented into three pieces during excavation
48	Unit Excavation	506	235	0.23	debitage	1	tool thinning	Onondaga	
49	Unit Excavation	506	235	0.23	debitage	5	fragment	Onondaga	
50	Unit Excavation	510	234	0.23	debitage	8	tool thinning	Onondaga	
51	Unit Excavation	510	234	0.23	debitage	12	fragment	Onondaga	
52	Unit Excavation	510	234	0.23	debitage	1	fragment	Onondaga	"pot lid"
53	Unit Excavation	508	234	0.24	utilized flake	1		Onondaga	Secondary flake; utilized possible end scraper; 21.4mm length by 19.1mm width by 4.5mm thick
54	Unit Excavation	508	234	0.24	debitage	3	secondary	Onondaga	
55	Unit Excavation	508	234	0.24	debitage	1	tool thinning	Onondaga	
56	Unit Excavation	508	234	0.24	debitage	8	fragment	Onondaga	
57	Unit Excavation	508	234	0.24	debitage	1	shatter	Onondaga	
58	Unit Excavation	509	236	0.25	debitage	1	secondary	Onondaga	
59	Unit Excavation	509	236	0.25	debitage	5	tool thinning	Onondaga	
60	Unit Excavation	509	236	0.25	debitage	35	fragment	Onondaga	
61	Unit Excavation	509	236	0.25	debitage	3	fragment	Onondaga	"pot lid"
62	Unit Excavation	507	234	0.23	debitage	2	tool thinning	Onondaga	
63	Unit Excavation	507	234	0.23	debitage	5	fragment	Onondaga	
64	Unit Excavation	507	234	0.23	debitage	1	fragment	Onondaga	"pot lid"
65	Unit Excavation	507	234	0.23	debitage	2	shatter	Onondaga	
66	Unit Excavation	505	233	0.26	debitage	1	tool thinning	Onondaga	
67	Unit Excavation	505	233	0.26	debitage	4	fragment	Onondaga	
68	Unit Excavation	509	234	0.24	utilized flake	1		Onondaga	Secondary flake; retouch on distal end
69	Unit Excavation	509	234	0.24	debitage	8	fragment	Onondaga	
70	Unit Excavation	512	231	0.21	debitage	2	tool thinning	Onondaga	1 of the 2 flakes broke during excavation

Cat#	Context	Northing	Easting	Depth (m)	Artifact	Frequency	Morphology	Chert Type	Comments
71	Unit Excavation	512	231	0.21	debitage	3	fragment	Onondaga	
72	Unit Excavation	507	236	0.23	debitage	2	fragment	Onondaga	
73	Unit Excavation	507	236	0.23	debitage	2	shatter	Onondaga	
74	Unit Excavation	507	238	0.22	debitage	1	fragment	Onondaga	
75	Unit Excavation	512	240	0.22	debitage	4	tool thinning	Onondaga	
76	Unit Excavation	512	240	0.22	debitage	3	fragment	Onondaga	
77	Unit Excavation	512	240	0.22	debitage	1	fragment	Onondaga	"pot lid"
78	Unit Excavation	511	233	0.22	debitage	1	tool thinning	Onondaga	
79	Unit Excavation	511	233	0.22	debitage	6	fragment	Onondaga	
80	Unit Excavation	506	233	0.23	debitage	1	fragment	Onondaga	
81	Unit Excavation	506	233	0.23	debitage	1	shatter	Onondaga	
82	Unit Excavation	505	236	0.22	debitage	1	tool thinning	Onondaga	
83	Unit Excavation	505	236	0.22	debitage	3	fragment	Onondaga	
84	Unit Excavation	505	236	0.22	debitage	1	shatter	Onondaga	
85	Unit Excavation	506	234	0.26	debitage	3	tool thinning	Onondaga	
86	Unit Excavation	506	234	0.26	debitage	2	tool thinning	Haldimand	
87	Unit Excavation	506	234	0.26	debitage	1	fragment	Onondaga	"pot lid"
88	Unit Excavation	506	234	0.26	debitage	2	shatter	Onondaga	
89	Unit Excavation	505	234	0.26	biface	1		Onondaga	Cross section is oval, appears to be the bottom of a point. Biface itself is very refined. Random flaking pattern; fragmented; 29.1mm length by 24.6mm width by 4.5mm thick
90	Unit Excavation	505	234	0.26	debitage	1	secondary	Onondaga	
91	Unit Excavation	505	234	0.26	debitage	2	tool thinning	Onondaga	
92	Unit Excavation	505	234	0.26	debitage	7	fragment	Onondaga	
93	Unit Excavation	511	230	0.23	debitage	1	secondary	Onondaga	
94	Unit Excavation	511	230	0.23	debitage	1	tool thinning	Onondaga	
95	Unit Excavation	511	230	0.23	debitage	2	fragment	Onondaga	
96	Unit Excavation	509	232	0.23	debitage	2	secondary	Onondaga	
97	Unit Excavation	509	232	0.23	debitage	2	tool thinning	Onondaga	
98	Unit Excavation	509	232	0.23	debitage	3	fragment	Onondaga	
99	Unit Excavation	515	233	0.23	debitage	2	tool thinning	Onondaga	
100	Unit Excavation	515	233	0.23	debitage	10	fragment	Onondaga	
101	Unit Excavation	515	233	0.23	debitage	2	fragment	Onondaga	"pot lid"
102	Unit Excavation	513	232	0.23	debitage	2	tool thinning	Onondaga	
103	Unit Excavation	513	232	0.23	debitage	8	fragment	Onondaga	
104	Unit Excavation	513	232	0.23	debitage	1	shatter	Onondaga	
105	Unit Excavation	515	232	0.24	debitage	2	tool thinning	Onondaga	
106	Unit Excavation	515	232	0.24	debitage	2	fragment	Onondaga	
107	Unit Excavation	515	232	0.24	debitage	2	fragment	Onondaga	"pot lid"

Cat#	Context	Northing	Easting	Depth (m)	Artifact	Frequency	Morphology	Chert Type	Comments
108	Unit Excavation	515	232	0.24	debitage	1	fragment	Onondaga	burnt
109	Unit Excavation	515	232	0.24	debitage	1	shatter	Onondaga	
110	Unit Excavation	514	232	0.23	debitage	2	tool thinning	Onondaga	
111	Unit Excavation	514	232	0.23	debitage	7	fragment	Onondaga	
112	Unit Excavation	514	239	0.23	debitage	5	fragment	Onondaga	
113	Unit Excavation	514	239	0.23	debitage	1	shatter	Onondaga	
114	Unit Excavation	516	231	0.23	debitage	2	tool thinning	Onondaga	
115	Unit Excavation	516	231	0.23	debitage	3	fragment	Onondaga	
116	Unit Excavation	513	239	0.24	debitage	2	tool thinning	Onondaga	
117	Unit Excavation	513	239	0.24	debitage	7	fragment	Onondaga	
118	Unit Excavation	513	239	0.24	debitage	1	fragment	Onondaga	"pot lid"
119	Unit Excavation	516	238	0.24	debitage	3	fragment	Onondaga	
120	Unit Excavation	516	238	0.24	debitage	2	fragment	Onondaga	"pot lid"
121	Unit Excavation	513	233	0.23	debitage	4	tool thinning	Onondaga	
122	Unit Excavation	513	233	0.23	debitage	2	fragment	Onondaga	
123	Unit Excavation	513	233	0.23	debitage	2	shatter	Onondaga	
124	Unit Excavation	513	234	0.23	debitage	4	tool thinning	Onondaga	
125	Unit Excavation	513	234	0.23	debitage	5	fragment	Onondaga	
126	Unit Excavation	513	234	0.23	debitage	3	shatter	Onondaga	
127	Unit Excavation	511	234	0.24	debitage	1	secondary	Onondaga	
128	Unit Excavation	511	234	0.24	debitage	7	tool thinning	Onondaga	
129	Unit Excavation	511	234	0.24	debitage	6	fragment	Onondaga	
130	Unit Excavation	511	234	0.24	debitage	2	shatter	Onondaga	
131	Unit Excavation	514	233	0.23	debitage	3	tool thinning	Onondaga	
132	Unit Excavation	514	233	0.23	debitage	8	fragment	Onondaga	
133	Unit Excavation	514	233	0.23	debitage	1	shatter	Onondaga	
134	Unit Excavation	516	232	0.24	debitage	3	tool thinning	Onondaga	
135	Unit Excavation	516	232	0.24	debitage	2	tool thinning	Onondaga	"pot lid"
136	Unit Excavation	516	232	0.24	debitage	4	fragment	Onondaga	
137	Unit Excavation	514	231	0.23	debitage	2	tool thinning	Onondaga	
138	Unit Excavation	514	231	0.23	debitage	1	fragment	Onondaga	
139	Unit Excavation	516	233	0.23	debitage	1	tool thinning	Onondaga	
140	Unit Excavation	516	233	0.23	debitage	3	fragment	Onondaga	
141	Unit Excavation	516	233	0.23	debitage	1	shatter	Onondaga	
142	Unit Excavation	515	239	0.23	debitage	1	fragment	Onondaga	
143	Unit Excavation	515	239	0.23	debitage	1	shatter	Onondaga	
144	Unit Excavation	516	236	0.23	debitage	1	tool thinning	Onondaga	
145	Unit Excavation	516	236	0.23	debitage	3	fragment	Onondaga	
146	Unit Excavation	512	237	0.24	debitage	1	secondary	Onondaga	
147	Unit Excavation	512	237	0.24	debitage	4	tool thinning	Onondaga	
148	Unit Excavation	512	237	0.24	debitage	8	fragment	Onondaga	
149	Unit Excavation	514	238	0.24	debitage	1	tool thinning	Onondaga	

Cat#	Context	Northing	Easting	Depth (m)	Artifact	Frequency	Morphology	Chert Type	Comments
150	Unit Excavation	514	238	0.24	debitage	9	fragment	Onondaga	
151	Unit Excavation	514	238	0.24	debitage	1	shatter	Onondaga	
152	Unit Excavation	515	237	0.24	debitage	1	secondary	Onondaga	
153	Unit Excavation	515	237	0.24	debitage	3	tool thinning	Onondaga	
154	Unit Excavation	515	237	0.24	debitage	10	fragment	Onondaga	
155	Unit Excavation	512	230	0.22	debitage	3	tool thinning	Onondaga	
156	Unit Excavation	512	230	0.22	debitage	3	fragment	Onondaga	
157	Unit Excavation	509	238	0.21	debitage	7	fragment	Onondaga	
158	Unit Excavation	509	238	0.21	debitage	1	fragment	Onondaga	"pot lid"
159	Unit Excavation	509	238	0.21	debitage	1	fragment	Haldimand	
160	Unit Excavation	509	238	0.21	debitage	2	shatter	Onondaga	
161	Unit Excavation	516	234	0.23	debitage	1	tool thinning	Onondaga	
162	Unit Excavation	516	234	0.23	debitage	5	fragment	Onondaga	
163	Unit Excavation	512	238	0.22	debitage	2	tool thinning	Onondaga	
164	Unit Excavation	512	238	0.22	debitage	7	fragment	Onondaga	
165	Unit Excavation	512	238	0.22	debitage	1	fragment	Onondaga	"pot lid"
166	Unit Excavation	512	238	0.22	debitage	2	fragment	Haldimand	
167	Unit Excavation	515	236	0.23	debitage	1	secondary	Onondaga	Small amount cortex visible
168	Unit Excavation	515	236	0.23	debitage	2	tool thinning	Onondaga	
169	Unit Excavation	515	236	0.23	debitage	5	fragment	Onondaga	
170	Unit Excavation	515	234	0.23	debitage	5	tool thinning	Onondaga	
171	Unit Excavation	515	234	0.23	debitage	2	fragment	Onondaga	
172	Unit Excavation	515	234	0.23	debitage	1	fragment	Onondaga	"pot lid"
173	Unit Excavation	511	239	0.26	debitage	1	tool thinning	Onondaga	
174	Unit Excavation	511	239	0.26	debitage	6	fragment	Onondaga	
175	Unit Excavation	516	235	0.24	debitage	1	tool thinning	Onondaga	
176	Unit Excavation	507	237	0.22	debitage	4	tool thinning	Onondaga	One flake broken in half
177	Unit Excavation	507	237	0.22	debitage	3	fragment	Onondaga	
178	Unit Excavation	507	237	0.22	debitage	1	shatter	Onondaga	
179	Unit Excavation	513	237	0.25	debitage	1	secondary	Onondaga	
180	Unit Excavation	513	237	0.25	debitage	1	tool thinning	Onondaga	
181	Unit Excavation	513	237	0.25	debitage	4	fragment	Onondaga	
182	Unit Excavation	513	237	0.25	debitage	1	shatter	Haldimand	
183	Unit Excavation	513	237	0.25	debitage	5	shatter	Onondaga	
184	Unit Excavation	512	239	0.23	debitage	2	fragment	Onondaga	
185	Unit Excavation	514	240	0.22	debitage	5	fragment	Onondaga	
186	Unit Excavation	514	240	0.22	debitage	3	shatter	Onondaga	
187	Unit Excavation	511	232	0.24	debitage	2	tool thinning	Onondaga	
188	Unit Excavation	511	232	0.24	debitage	10	fragment	Onondaga	
189	Unit Excavation	511	232	0.24	debitage	1	shatter	Onondaga	
190	Unit Excavation	512	235	0.22	debitage	2	tool thinning	Onondaga	
191	Unit Excavation	512	235	0.22	debitage	27	fragment	Onondaga	

Cat#	Context	Northing	Easting	Depth (m)	Artifact	Frequency	Morphology	Chert Type	Comments
192	Unit Excavation	512	235	0.22	debitage	1	shatter	Onondaga	
193	Unit Excavation	513	236	0.24	scraper	1		Onondaga	End scraper; some retouch on sides; dorsal side shows use-wear; 27.1mm length by 22.7mm width by 4.3mm thick
194	Unit Excavation	513	236	0.24	debitage	1	secondary	Onondaga	
195	Unit Excavation	513	236	0.24	debitage	3	tool thinning	Onondaga	
196	Unit Excavation	513	236	0.24	debitage	12	fragment	Onondaga	
197	Unit Excavation	513	236	0.24	debitage	1	shatter	Onondaga	
198	Unit Excavation	512	234	0.22	debitage	2	secondary	Onondaga	
199	Unit Excavation	512	234	0.22	debitage	5	tool thinning	Onondaga	
200	Unit Excavation	512	234	0.22	debitage	11	fragment	Onondaga	
201	Unit Excavation	512	234	0.22	debitage	2	fragment	Onondaga	"pot lid"
202	Unit Excavation	512	234	0.22	debitage	3	shatter	Onondaga	
203	Unit Excavation	513	240	0.21	debitage	1	tool thinning	Onondaga	
204	Unit Excavation	513	240	0.21	debitage	5	fragment	Onondaga	
205	Unit Excavation	513	240	0.21	debitage	1	fragment	Haldimand	
206	Unit Excavation	513	240	0.21	debitage	1	shatter	Onondaga	
207	Unit Excavation	511	231	0.22	debitage	1	tool thinning	Onondaga	
208	Unit Excavation	511	231	0.22	debitage	8	fragment	Onondaga	
209	Unit Excavation	511	231	0.22	debitage	1	shatter	Onondaga	
210	Unit Excavation	511	238	0.23	debitage	2	tool thinning	Onondaga	
211	Unit Excavation	511	238	0.23	debitage	1	fragment	Onondaga	
212	Unit Excavation	511	238	0.23	debitage	1	fragment	Onondaga	"pot lid"
213	Unit Excavation	511	238	0.23	debitage	1	shatter	Onondaga	
214	Unit Excavation	504	234	0.25	debitage	4	tool thinning	Onondaga	
215	Unit Excavation	504	234	0.25	debitage	3	fragment	Onondaga	
216	Unit Excavation	515	238	0.23	debitage	1	tool thinning	Onondaga	
217	Unit Excavation	515	238	0.23	debitage	3	fragment	Onondaga	
218	Unit Excavation	509	233	0.24	debitage	1	tool thinning	Onondaga	
219	Unit Excavation	509	233	0.24	debitage	3	fragment	Onondaga	
220	Unit Excavation	514	234	0.24	debitage	4	fragment	Onondaga	
221	Unit Excavation	514	234	0.24	debitage	1	fragment	Haldimand	
222	Unit Excavation	513	238	0.23	debitage	5	fragment	Onondaga	
223	Unit Excavation	513	238	0.23	debitage	1	shatter	Onondaga	
224	Unit Excavation	516	237	0.24	debitage	1	tool thinning	Onondaga	
225	Unit Excavation	516	237	0.24	debitage	3	fragment	Onondaga	
226	Unit Excavation	514	237	0.26	debitage	5	tool thinning	Onondaga	
227	Unit Excavation	514	237	0.26	debitage	8	fragment	Onondaga	
228	Unit Excavation	511	236	0.24	debitage	2	secondary	Onondaga	
229	Unit Excavation	511	236	0.24	debitage	2	tool thinning	Onondaga	
230	Unit Excavation	511	236	0.24	debitage	2	fragment	Onondaga	"pot lid"

Cat#	Context	Northing	Easting	Depth (m)	Artifact	Frequency	Morphology	Chert Type	Comments
231	Unit Excavation	511	236	0.24	debitage	19	fragment	Onondaga	
232	Unit Excavation	511	235	0.21	debitage	8	tool thinning	Onondaga	
233	Unit Excavation	511	235	0.21	debitage	17	fragment	Onondaga	
234	Unit Excavation	511	235	0.21	debitage	3	fragment	Onondaga	"pot lid"
235	Unit Excavation	511	235	0.21	debitage	4	shatter	Onondaga	
236	Unit Excavation	514	235	0.23	debitage	1	secondary	Onondaga	
237	Unit Excavation	514	235	0.23	debitage	1	fragment	Onondaga	"pot lid"
238	Unit Excavation	514	235	0.23	debitage	18	fragment	Onondaga	
239	Unit Excavation	514	235	0.23	debitage	1	fragment	Haldimand	
240	Unit Excavation	514	235	0.23	debitage	2	shatter	Onondaga	
241	Unit Excavation	513	235	0.22	debitage	6	tool thinning	Onondaga	
242	Unit Excavation	513	235	0.22	debitage	17	fragment	Onondaga	
243	Unit Excavation	513	235	0.22	debitage	2	fragment	Onondaga	"pot lid"
244	Unit Excavation	512	236	0.25	projectile point	1		Onondaga	Proximal third (base and shoulders) point fragment; side notched, straight shoulder edge (hard to assess due to small area), expanding stem, straight to convex base; elliptical cross section; random flaking pattern; possibly a Meadowwood point (Early Woodland period) or Brewerton (Middle Archaic period) but too fragmented for confident classification (Ellis & Ferris, 1990); 14.2mm length; 27.1mm width; 4.4mm thickness; 22.9mm base; 16.1mm neck; 6.3mm hafting
245	Unit Excavation	512	236	0.25	debitage	1	secondary	Onondaga	
246	Unit Excavation	512	236	0.25	debitage	3	tool thinning	Onondaga	
247	Unit Excavation	512	236	0.25	debitage	19	fragment	Onondaga	
248	Unit Excavation	512	236	0.25	debitage	1	fragment	Onondaga	"pot lid"
249	Unit Excavation	512	236	0.25	debitage	2	shatter	Onondaga	
250	Unit Excavation	510	236	0.26	debitage	2	tool thinning	Onondaga	
251	Unit Excavation	510	236	0.26	debitage	29	fragment	Onondaga	
252	Unit Excavation	507	235	0.24	debitage	1	tool thinning	Onondaga	
253	Unit Excavation	507	235	0.24	debitage	25	fragment	Onondaga	
254	Unit Excavation	509	235	0.22	debitage	1	secondary	Onondaga	
255	Unit Excavation	509	235	0.22	debitage	15	tool thinning	Onondaga	
256	Unit Excavation	509	235	0.22	debitage	27	fragment	Onondaga	
257	Unit Excavation	509	235	0.22	debitage	6	fragment	Onondaga	"pot lid"
258	Unit Excavation	510	233	0.23	debitage	2	secondary	Onondaga	

Cat#	Context	Northing	Easting	Depth (m)	Artifact	Frequency	Morphology	Chert Type	Comments
259	Unit Excavation	510	233	0.23	debitage	1	tool thinning	Onondaga	"pot lid"
260	Unit Excavation	510	233	0.23	debitage	4	tool thinning	Onondaga	
261	Unit Excavation	510	233	0.23	debitage	10	fragment	Onondaga	
262	Unit Excavation	510	233	0.23	debitage	2	shatter	Onondaga	
263	Unit Excavation	508	235	0.24	debitage	3	secondary	Onondaga	
264	Unit Excavation	508	235	0.24	debitage	13	tool thinning	Onondaga	
265	Unit Excavation	508	235	0.24	debitage	14	fragment	Onondaga	
266	Unit Excavation	508	235	0.24	debitage	3	fragment	Onondaga	"pot lid"
267	Unit Excavation	508	235	0.24	debitage	1	shatter	Onondaga	
268	Unit Excavation	510	237	0.22	debitage	1	secondary	Onondaga	
269	Unit Excavation	510	237	0.22	debitage	6	tool thinning	Onondaga	
270	Unit Excavation	510	237	0.22	debitage	15	fragment	Onondaga	
271	Unit Excavation	511	237	0.24	debitage	1	secondary	Onondaga	
272	Unit Excavation	511	237	0.24	debitage	4	tool thinning	Onondaga	
273	Unit Excavation	511	237	0.24	debitage	15	fragment	Onondaga	
274	Unit Excavation	511	237	0.24	debitage	4	fragment	Onondaga	"pot lid"
275	Unit Excavation	509	237	0.22	preform	1		Onondaga	Medial fragment of a rough preform; 30.5mm length by 40.2mm width by 9.1mm thick
276	Unit Excavation	509	237	0.22	debitage	2	secondary	Onondaga	
277	Unit Excavation	509	237	0.22	debitage	8	tool thinning	Onondaga	
278	Unit Excavation	509	237	0.22	debitage	10	fragment	Onondaga	
279	Unit Excavation	509	237	0.22	debitage	1	shatter	Onondaga	
280	Unit Excavation	514	236	0.23	debitage	4	secondary	Onondaga	
281	Unit Excavation	514	236	0.23	debitage	8	tool thinning	Onondaga	
282	Unit Excavation	514	236	0.23	debitage	16	fragment	Onondaga	
283	Unit Excavation	514	236	0.23	debitage	1	fragment	Onondaga	"pot lid"