

## Stage 1-2 Archaeological Assessment 4409 Erie Road, Ridgeway

Part of Lot 29 and 30, Broken Front on Lake Erie, Bertie  
Township, Historical Welland County, now Regional  
Municipality of Niagara, Ontario

**Submitted to:**

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**Submitted by:**



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**ORIGINAL REPORT**

December 12, 2022

## Executive Summary

Detritus Consulting Ltd. ('Detritus') was retained by Mary Lou Tanner of NPG Planning Solutions Inc. on behalf of the Proponent' to conduct a Stage 1-2 archaeological assessment on Part of Lot 29 and 30, Broken Front on Lake Erie, Bertie Township, Historical Welland County, now Regional Municipality of Niagara, Ontario ('Study Area'; Figure 1). This assessment was undertaken in advance of a proposed property severance and new eight-unit residential development ('Development Map'; Figure 4).

The assessment was triggered by the Provincial Policy Statement ('PPS') that is informed by the *Planning Act* (Government of Ontario 1990a), which states that decisions affecting planning matters must be consistent with the policies outlined in the larger *Ontario Heritage Act* (1990b). According to Section 2.6.2 of the PPS, "development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved." To meet the condition, a Stage 1-2 assessment of the Study Area was conducted during the application phase of the proposed lot severance, under archaeological consulting license P462 issued to Mr. Michael Pitul 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 2011 *Standards and Guidelines for Consultant Archaeologists* ('Standards and Guidelines'); (Government of Ontario 2011).

The Study Area is a roughly wedge shaped property measuring 0.7 hectares (ha). At the time of the assessment, the Study Area comprised a residential lot containing two houses, a large, manicured lawn, and a section of beach along Lake Erie. The Stage 1 background research indicated that the Study Area exhibited moderate to high potential for the identification and recovery of archaeological resources. Therefore, a Stage 2 assessment was recommended for the large, manicured lawn portion of the Study Area. The residential structures, parking garages and driveways were determined to be disturbed and retain low or no archaeological potential based on the Stage 2 identification of extensive a deep land alteration that has severely damaged the integrity of archaeological resources. The previously disturbed areas and permanently wet areas, as confirmed during a Stage 2 property inspection, were mapped and photo documented only.

The Stage 2 assessment of the Study Area was conducted on 13 July and 13 September 2022 and consisted of a test pit survey at 5m intervals of the manicured lawn component of the Study Area. The Stage 2 assessment resulted in the documentation of one pre-contact Aboriginal site (P1) and an isolated findspot (P2) containing a single pre-contact aboriginal artifact.

Site P1 (AfGs-148) yielded 22 pieces of lithic debitage recovered from 12 positive test pits (Test Pits 1-12). The site covers an area measuring approximately 20m (north to south) by 30m (east to west) in the northern portion of the Study Area. Site P1 (AfGs-148) has been interpreted as a small activity area occupied by unspecified Aboriginal people during the pre-contact period.

Given the results of the Stage 2 assessment of Site P1 (AfGs-148), it has been interpreted as a small activity area of unknown function, occupied by unspecified Aboriginal people during the pre-contact period. Despite the non-diagnostic nature of the recovered artifacts, the Stage 2 assessment resulted in the documentation of at least five artifacts within a 10m-by-10m test pit survey. As a result, Site P1 (AfGs-148) fulfills the criteria for a Stage 3 assessment as per Section 2.2 Standard 1.a.ii(2) of the Standards and Guidelines (Government of Ontario 2011) and retains CHVI. To further evaluate the site's CHVI, **a Stage 3 archaeological assessment is recommended for Site P1 (AfGs-148).**

Isolated Findspot P2 yielded a single secondary flake made of Haldimand chert in one positive test pit (Test Pit 13). Isolated Findspot P2 occurs approximately 40m to the south of Site P1.

Given the results of the Stage 2 assessment of Isolated Findspot P2, it has been interpreted as a small activity area of unknown function, occupied by unspecified Aboriginal people during the pre-contact period. Given the fact that the Stage 2 assessment only recovered one non-diagnostic artifact within a 10m-by-10m test pit survey, the site does not meet the criteria for a Stage 3 assessment as per Section 2.2 Standard 1.a.ii(2) of the Standards and Guidelines (Government of

Ontario 2011). Therefore, Isolated Findspot P2 retains no further CHVI and **a Stage 3 archaeological assessment is not recommended for Isolated Findspot P2.**

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

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## Project Personnel

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## Project Acknowledgements

Generous contributions by Mary Lou Tanner and Rhea Davis of NPG Planning Solutions Inc. and owner Bryan Keenan made this report possible.

## 1.0 Project Context

### 1.1 Development Context

Detritus Consulting Ltd. ('Detritus') was retained by Mary Lou Tanner of NPG Planning Solutions Inc. ('the Proponent') to conduct a Stage 1-2 archaeological assessment on Part of Lot 29 and 30, Broken Front on Lake Erie, Bertie Township, Historical Welland County, now Regional Municipality of Niagara, Ontario ('Study Area'; Figure 1). This assessment was undertaken in advance of a proposed property severance and new eight-unit residential development ('Development Map'; Figure 4).

The assessment was triggered by the Provincial Policy Statement ('PPS') that is informed by the *Planning Act* (Government of Ontario 1990a), which states that decisions affecting planning matters must be consistent with the policies outlined in the larger *Ontario Heritage Act* (1990b). According to Section 2.6.2 of the PPS, "development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved." To meet the condition, a Stage 1-2 assessment of the Study Area was conducted during the application phase of the proposed lot severance, under archaeological consulting license P462 issued to Mr. Michael Pitul 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 2011 Standards and Guidelines for Consultant Archaeologists ('Standards and Guidelines')*; (Government of Ontario 2011).

The purpose of a Stage 1 Background Study is to compile all available information about the known and potential archaeological heritage resources within the Study Area and to provide specific direction for the protection, management and/or recovery of these resources. In compliance with the *Standards and Guidelines* (Government of Ontario 2011), the objectives of the following Stage 1 assessment are as follows:

- To provide information about the Study Area's geography, history, previous archaeological fieldwork and current land conditions.
- to evaluate in detail, the Study Area's archaeological potential which will support recommendations for Stage 2 survey for all or parts of the property: and
- to recommend appropriate strategies for Stage 2 survey.

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

- A review of relevant archaeological, historic and environmental literature pertaining to the Study Area;
- a review of the land use history, including pertinent historic maps; and
- an examination of the Ontario Archaeological Sites Database ('ASDB') to determine the presence of known archaeological sites in and around the Study Area.

The purpose of a Stage 2 Property Assessment was to provide an overview of any archaeological resources within the Study Area, and to determine whether any of the resources might be archaeological sites with cultural heritage value or interest ('CHVI'), and to provide specific direction for the protection, management and/or recovery of these resources. In compliance with the *Standards and Guidelines* (Government of Ontario 2011), the objectives of the following Stage 2 assessment are as follows:

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

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

## 1.2 Historical Context

### 1.2.1 Post-Contact Aboriginal Resources

Prior to the arrival of European settlers, much of the central and southern Ontario was occupied by Iroquoian speaking linguistic groups that had united to form confederacies, including the Huron-Wendat, the Neutral (or Attawandaran), and the Petun in Ontario, as well as the Five Nations Iroquois Confederacy in Upper New York State (Birch 2010; Warrick 2013). 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 17<sup>th</sup> 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 17<sup>th</sup> and early 18<sup>th</sup> 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 18<sup>th</sup> 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 17<sup>th</sup> 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 enters the Euro-Canadian historic record on May 9<sup>th</sup> 1781 as part of the Niagara Treaty No. 381 with the Mississauga and Chippewa. This treaty involved the surrender of ...

*...all that certain tract of land situated on the west side of the said strait or river, leading from Lake Erie to Lake Ontario, beginning at a large white oak tree, forked six feet from the ground, on the bank of the said Lake Ontario, at the distance of four English miles measured in a straight line, from the West side of the bank of the said straight, opposite to the Fort Niagara and extending from thence by a southerly course to the Chipeweigh River, at the distance of four miles on a direct line from where the said river falls into the said strait about the great*

*Fall of Niagara or such a line as will pass at four miles west of the said Fall in its course to the said river and running from thence by a southeasterly course to the northern bank of Lake Erie at the distance of four miles on a straight line, westerly from the Post called Fort Erie, thence easterly along the said Lake by the said Post, and northerly up the west side of the said strait to the said lake Ontario, thence westerly to the place of beginning.*

Morris 1943:15-16

The size and nature of the pre-contact settlements and the subsequent spread and distribution of Aboriginal material culture in Southern Ontario began to shift with the establishment of European settlers. Lands in the Lower Grand River area were surrendered by the Six Nations to the British Government in 1832, at which point most Six Nations people moved into Tuscarora Township in Brant County and a narrow portion of Oneida Township (Page & Co. 1879:8; Tanner 1987:127; Weaver 1978:526). Despite the inevitable encroachment of European settlers on previously established Aboriginal territories, “written accounts of material life and livelihood, the correlation of historically recorded villages to their archaeological manifestations, and the similarities of those sites to more ancient sites have revealed an antiquity to documented cultural expressions that confirms a deep historical continuity to Iroquoian systems of ideology and thought” (Ferris 2009:114). As Ferris observes, despite the arrival of a competing culture, First Nations communities throughout Southern Ontario have left behind archaeologically significant resources that demonstrate continuity with their pre-contact predecessors, even if they have not been recorded extensively in historical Euro-Canadian documentation.

### **1.2.2 Euro-Canadian Resources**

The Study Area occupies Part of Lot 29 and 30, Broken Front on Lake Erie, Bertie Township, Historical Welland County, now 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 2012-2015). Further change came in December 1791 when the province was rearranged into Upper Canada and Lower Canada under the Constitutional Act. Colonel John Graves Simcoe was appointed as Lieutenant-Governor of Upper Canada; he initiated 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 Niagara, stretching from Essex in the west to Glengarry in the east. 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 (Archives of Ontario 2012-2015).

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 Lincoln County within the Niagara District (Archives of Ontario 2012-2015).

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



Bertie Township was settled in 1784 by United Empire Loyalist and others from American colonies. The soil of the township was a large attraction to early settlers as it was suitable for growing barley, wheat, oats amongst other things. Ridgeway is located in the southern portion of the township and was described as a thriving village, in 1876. At this time the village had 800 inhabitants as well as three hotels, 20 different stores and the Buffalo and Goderich division of the Grand Trunk Railway (Page & Co. 1876).

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

The Study Area occurs within Lot 29 and 30 (Broken Front on Lake Erie, Bertie Township) and according to the 1876 *Historical Atlas* these lots were owned by Charles Murdock and T.C. Sheets (see Figure 2). Furthermore, the Study Area is located among orchards, agricultural fields and likely within 200 meters of a structure owned by Charles Murdock in Lot 29.

Although significant and detailed landowner information is available on the current *Historical Atlas* map of Bertie Township (Page & Co 1876: Figure 2), it should be recognized that historical county atlases were funded by subscriptions fees and were produced primarily to identify factories, offices, residences and landholdings of subscribers. Landowners who did not subscribe were not always listed on the maps (Caston 1997:100). Moreover, associated structures were not necessarily depicted or placed accurately (Gentilcore and Head 1984).

## 1.3 Archaeological Context

### 1.3.1 Property Description and Physical Setting

The Study Area is a roughly rectangular property measuring 0.7 hectares (ha). At the time of the assessment, the Study Area comprised a residential lot containing two houses, a large, manicured lawn, and a section of beach along Lake Erie. The limits of the Study Area were not staked out by the proponent; therefore shapefiles were created based on the development mapping and uploaded to handheld GPS devices utilized by Detritus.

Most 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 and more recently for recreation and tourism.

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 1997:21). 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 and Manville 1987). In the early 19th, Euro-Canadian settlers began to clear the forests for agricultural purposes.

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

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

Chapman and Putnam 1984:156

Soils within the Study Area consists of Eastport Sand defined as loose greyish sand soils setback from active lake shorelines (Ontario Agricultural College 1935). These soils are well-drained, stone free and contain very little humus. These soils are not well-suited for agriculture (Ontario Agricultural College 1935).

The closest source of potable water is Lake Erie, which occurs on the south end of the Study Area.

### 1.3.2 Pre-Contact Aboriginal Land Use

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

**Table 1: Cultural Chronology for Bertie Township**

Time Periods	Cultural Periods	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 BC - 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 networks
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 - 1650s	Late Iroquoian	regional warfare and political/tribal alliances destruction of Huron and Neutral

### 1.3.3. Previously Identified Archaeological Work

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 13km east to west and approximately 18.5km north to south. Each Borden Block is referenced by a four-letter designator and sites within a block are numbered sequentially as they are found. The Study Area under review is situated within Borden Block AfGs.

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 a licensed archaeologist with relevant cultural resource management interests.

An examination of the ASDB has shown that there are two sites (AfGs-11 and AfGs-139) registered within a 1km radius of the Study Area (Table 2). Both sites are pre-contact Aboriginal campsites. Temporally diagnostic artifacts found at AfGs-11 provide evidence of Late Archaic and Late Woodland Aboriginal site use.

**Table 2: Registered Archaeological Sites within 1km of the Study Area**

Borden Numbers	Site Names	Time Period	Affinity	Site Types
AfGs-11	McGowan 1	Late Archaic / Late Woodland	Aboriginal	campsite
AfGs-139		Pre-Contact	Aboriginal	campsite

To the best of Detritus' knowledge, no other assessments have been conducted within 50m of the Study Area. However, it should be noted that the MCM does not provide notification to consultant archaeologists in the case of nearby previous assessments that did not register archaeological resources.

#### 1.3.4. Archaeological Potential

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Detritus applied archaeological potential criteria commonly used by the MCM to determine areas of archaeological potential within the Study Area. According to Section 1.3.1 of the *Standards and Guidelines* (Government of Ontario 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 of potable water is Lake Erie, which occurs on the south end 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 and soils consist of Eastport Sand. Eastport Sand soils not well-suited for pre-contact and post-contact Aboriginal agriculture (Ontario Agricultural College 1935). Nevertheless, considering the proximity to Lake Erie shoreline and the presence of two previously documented pre-contact aboriginal sites, the Study Area is judged to have a moderate to high pre-contact and post-contact aboriginal archaeological potential.

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 Bertie Township (Figure 2; Page & Co. 1876), demonstrates that Bertie Township was densely occupied by Euro-Canadian farmers by the late 19th century. Much of the established road system and agricultural settlement from that time is still visible today. Also considering the proximity of the Study Area to potential historic structures depicted on the *Historical Atlas*, Lake Erie shoreline, the Euro-Canadian archaeological potential of the Study Area is judged to be moderate to high.

Finally, despite the factors mentioned above, extensive land disturbance can eradicate archaeological potential within a Study Area, as per Section 1.3.2 of the *Standards and Guidelines* (Government of Ontario 2011). Current aerial imagery identified a few potential disturbance areas within the Study Area including the two residential structures and associated garages and driveways (see Section 1.3.1 above). It is recommended that these areas be subject to a Stage 2 property inspection, conducted according to Section 2.1.8, Section 1.2 of the *Standards and Guidelines* (Government of Ontario 2011), to confirm and document the degree and extent of the disturbance.

## 2.0 Field Methods

The Stage 2 assessment of the Study Area was conducted on 13 July and 13 September 2022, under archaeological consulting license P462 issued to Mr. Michael Pitul by the MCM. On 13 July 2022, the weather was overcast with a high of 26° Celsius. On 13 September 2022, the weather was partly cloudy with a high of 19° Celsius. On both days, soils were dry and easy to screen. Assessment conditions were excellent and at no time were the field, weather, or lighting conditions detrimental to the recovery of archaeological material. Photos 1-17 demonstrate the conditions at the time of the survey throughout the Study Area. Figure 3 illustrates the Stage 2 assessment methods, as well as photograph locations and directions. Figure 4 illustrates the Stage 2 methods in relation to the development plan.

Approximately 72% of the Study Area comprised a large, manicured lawn which was inaccessible for ploughing. These areas were subject to a typical test pit survey at 5m intervals following Section 2.1.2 of the *Standards and Guidelines* (Government of Ontario 2011). Test pits were excavated to within 1m of all standing structures, or until test pits demonstrated evidence of recent ground disturbance as per Section 2.1.2, Standard 4 of the *Standards and Guidelines* (Government of Ontario 2011). All test pits were at least 30 centimetres ('cm') in diameter and were excavated 5cm into sterile subsoil. The soils were then examined for stratigraphy, cultural features, or evidence of fill. All soil from the test pits was screened through six-millimetre hardware cloth to facilitate the recovery of small artifacts and then used to backfill the pit. Test pit depth ranged from 35cm to 55cm and resulted in the identification of two stratigraphic layers, a loose medium brown sand over a grey or pale sand subsoil layer (Photos 18-20). Both topsoil and subsoil are sands related to lacustrine transgression/regression phases.

When archaeological resources were encountered, the test pit survey was continued on the 5m survey grid, as per Section 2.1.3, Standard 1 of the *Standards and Guidelines* (Government of Ontario 2011). All the recovered artifacts were recorded with reference to their associated site and test pit designations and were retained for laboratory analysis as per Section 2.1.2, Standard 8 of the *Standards and Guidelines* (Government of Ontario 2011). In accordance with Section 5, Standard 2b of the *Standards and Guidelines* (Government of Ontario 2011) a UTM coordinate was recorded for each positive test pit in addition to a fixed reference landmark. All coordinates were taken using a Garmin eTrex 20 GPS unit with a minimum accuracy of 2.5m (North American Datum 1983 ('NAD83') and Universal Transverse Mercator ('UTM') Zone 17T) and are presented in the Supplementary Documentation to this report.

The Stage 2 assessment resulted in the documentation of one pre-contact Aboriginal site (P1) and an isolated findspot (P2) containing a single pre-contact aboriginal artifact.

Site P1 (AfGs-148) yielded 22 pieces of lithic debitage recovered from 12 positive test pits (Test Pits 1-12). The site covers an area measuring approximately 20m (north to south) by 30m (east to west) in the northern portion of the Study Area. Given that it was evident that site AfGs-148 fulfilled the criteria for a Stage 3 assessment, no additional survey methods were employed.

Isolated Findspot P2 yielded a single piece of lithic debitage in one positive test pit (Test Pit 13). Isolated Findspot P2 occurs approximately 40m to the south of Site P1. Given that insufficient resources were documented to meet the criteria for continuing to Stage 3, the test pit survey coverage was intensified around the isolated positive test pit to determine whether a recommendation for Stage 3 could be supported, as per Section 2.1.3, Standard 2 of the *Standards and Guidelines* (Government of Ontario 2011). As per Option A of this Standard, eight additional test pits were excavated at a 2.5m interval around all sides of the test pit. A single 1m test unit was then excavated directly over top of Test Pit 13 (Photo 24). No additional cultural material was encountered, therefore no further archaeological methods were employed.

Approximately 21% of the Study Area comprised the possible disturbance areas identified during background research. Following a Stage 2 property inspection (see Section 1.3.4 above) the two residential structures, parking garages and driveways were evaluated as having no potential based on the identification of extensive and deep land alteration that has severely damaged the integrity of archaeological resources, as per Section 2.1, Standard 2b of the *Standards and Guidelines*

## Stage 1-2 Archaeological Assessment 4409 Erie Road, Ridgeway

(Government of Ontario 2011). The disturbed areas were mapped, and photo documented in accordance with Section 2.1, Standard 6 and Section 7.8.1, Standard 1b of the *Standards and Guidelines* (Government of Ontario 2011; Photos 4-9 and 16).

Lastly, approximately 7% of the Study Area consists of the Lake Erie beach. Permanently wet areas were evaluated as having no or low potential, as per Section 2.1, Standard 2ai of the *Standards and Guidelines* (Government of Ontario 2011). The portion of the Study Area that overlaps with the Lake Erie beach were mapped and photo documented in accordance with Section 2.1, Standard 6 and Section 7.8.1, Standard 1a of the *Standards and Guidelines* (Government of Ontario 2011; Photos 13 and 17).

### 3.0 Record of Findings

The Stage 2 archaeological assessment was conducted employing the methods described in Section 2.0. The Stage 2 archaeological assessment recovered a total of 23 pre-contact Aboriginal artifacts from 13 test pits (Tile 1 & 2 of the Supplementary Documentation). An inventory of the documentary record generated by fieldwork is provided in Table 2 below.

**Table 3: Inventory of Document Record**

Document Types	Current Location of Document Types	Additional Comments
3 Pages of Field Notes	Detritus offices	Stored digitally in project files
2 Map provided by the Proponent	Detritus offices	Stored digitally in project files
1 Field Map	Detritus offices	Stored digitally in project files
32 Digital Photographs	Detritus offices	Stored digitally in project files

All the material culture collected during the Stage 2 survey 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 2 assessment resulted in the documentation of one pre-contact Aboriginal site (Site P1) and an isolated findspot (Isolated Findspot P2). Site P1 consisted of 21 pieces of debitage made from Onondaga chert and one flake made of Haldimand chert. Isolated Findspot P2 consisted of a single flake made of Haldimand chert. Chert type identifications were accomplished visually using reference materials located online or in personal collections.

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

Haldimand chert, also referred to as Bois Blanc, is a medium quality raw material that outcrops along the Bois Blanc formations between Kohler and Hagersville, and in Cayuga. In addition to formation outcroppings, it can also be found as glacial deposits in Southern Ontario. Dating to the Early Silurian, Haldimand chert derives from chalk-bearing limestones that give the material its characteristically white to light grey, or buff colour and relatively low lustre (Eley and von Bitter 1989).

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

primary or secondary flakes. Fragmentary flakes are flakes that may have some identifiable flake characteristic, but cannot be classified with certainty into a specific category.

### 3.2 Site P1 (AfGs-148)

Site P1 (AfGs-148) yielded 22 pieces of lithic debitage recovered from 12 positive test pits (Test Pits 1-12). The site covers an area measuring approximately 20m (north to south) by 30m (east to west) in the northern portion of the Study Area. Debitage consisted of 20 Onondaga flakes and one flake made of Haldimand chert (Table 4).

**Table 4: Chipped Stone Debitage Analysis**

Chert Type	Primary		Secondary		Thinning		Fragment		Total	
	n	%	n	%	n	%	n	%	n	%
Onondaga	0	0%	13	61.9%	2	9.5%	6	28.6%	21	95.2%
Haldimand	0	0%	1	100.0%	0	0%	0	0%	1	4.8%
<b>Total</b>	<b>0</b>	<b>0%</b>	<b>14</b>	<b>63.6%</b>	<b>2</b>	<b>9.1%</b>	<b>6</b>	<b>27.3%</b>	<b>22</b>	<b>100.0%</b>

According to the morphological analysis presented above, over 60% of the specimens within the Stage 2 assemblage were secondary flakes. The remainder of the assemblage comprised six flake fragments and two thinning flakes. An absence of primary and cortical removal flakes would typically suggest that late-stage lithic reduction activities were conducted at Site P1 (AfGs-148). Given the small sample size, however, in addition to an absence of formal tools or bifaces, no site function could be determined.

#### 3.2.1 Site P1 Artifact Catalogue

The complete Stage 2 artifact catalogue for Site P1 (AfGs-148) is provided in Table 5 below.

**Table 5: Site P1 Artifact Catalogue**

Cat#	Test Pit	Depth (m)	Artifact	Freq.	Morphology	Chert Type	Notes
1	Test Pit 1	0.35	Pre-Contact debitage	1	secondary	Onondaga	
2	Test Pit 2	0.55	Pre-Contact debitage	1	fragment	Onondaga	
3	Test Pit 3	0.48	Pre-Contact debitage	1	fragment	Onondaga	
4	Test Pit 4	0.45	Pre-Contact debitage	1	secondary	Onondaga	
5	Test Pit 5	0.50	Pre-Contact debitage	1	secondary	Onondaga	
6	Test Pit 6	0.44	Pre-Contact debitage	1	tool thinning	Onondaga	
7	Test Pit 6	0.44	Pre-Contact debitage	2	secondary	Onondaga	
8	Test Pit 6	0.44	Pre-Contact debitage	1	fragment	Onondaga	
9	Test Pit 7	0.44	Pre-Contact debitage	1	tool thinning	Onondaga	
10	Test Pit 7	0.44	Pre-Contact debitage	2	fragment	Onondaga	
11	Test Pit 7	0.44	Pre-Contact debitage	2	secondary	Onondaga	
12	Test Pit 7	0.44	Pre-Contact debitage	1	secondary	Haldimand	
13	Test Pit 8	0.45	Pre-Contact debitage	2	secondary	Onondaga	
14	Test Pit 9	0.40	Pre-Contact debitage	1	secondary	Onondaga	
15	Test Pit 10	0.41	Pre-Contact debitage	1	secondary	Onondaga	
16	Test Pit 11	0.38	Pre-Contact debitage	1	secondary	Onondaga	
17	Test Pit 11	0.38	Pre-Contact debitage	1	fragment	Onondaga	
18	Test Pit 12	0.35	Pre-Contact debitage	1	secondary	Onondaga	

### 3.3 Isolated Findspot P2

Isolated Findspot P2 yielded a single secondary flake made from Haldimand chert in one positive test pit (Test Pit 13). Isolated Findspot P2 occurs approximately 40m to the south of Site P1.



Given the paucity of artifacts present at this findspot, site function could not be determined. The complete Stage 2 artifact catalogue for Isolated Findspot P2 is provided in Table 6 below.

**Table 6: Isolated Findspot P2 Artifact Catalogue**

Cat#	Test Pit	Depth (m)	Artifact	Freq.	Morphology	Chert Type	Notes
19	Test Pit 13	0.48	Pre-Contact debitage	1	secondary	Haldimand	

## 4.0 Analysis and Conclusions

Detritus was retained by NPG Planning Solutions Inc. to conduct a Stage 1-2 archaeological assessment on Part of Lot 29 and 30, Broken Front on Lake Erie, Bertie Township, Historical Welland County, now Regional Municipality of Niagara, Ontario. This assessment was undertaken in advance of a proposed property severance and new eight-unit residential development ('Development Map'; Figure 4).

The Stage 1 background research indicated that the Study Area exhibited moderate to high potential for the identification and recovery of archaeological resources. Therefore, a Stage 2 assessment was recommended for the manicured lawn portion of the Study Area. The residential structures, parking garages and driveways were determined to be disturbed and retain low or no archaeological potential based on the Stage 2 identification of extensive a deep land alteration that has severely damaged the integrity of archaeological resources. The previously disturbed areas, as confirmed during a Stage 2 property inspection, were mapped and photo documented only.

The Stage 2 assessment of the Study Area was conducted on 13 July and 13 September 2022 and consisted of a test pit survey at 5m intervals of the manicured lawn component of the Study Area. The Stage 2 assessment resulted in the documentation of one Pre-Contact Aboriginal site (P1) and an isolated findspot (P2).

Site P1 (AfGs-148) yielded 22 pieces of lithic debitage recovered from 12 positive test pits (Test Pits 1-12). The site covers an area measuring approximately 20m (north to south) by 30m (east to west) in the northern portion of the Study Area. Site P1 (AfGs-148) has been interpreted as a small activity area occupied by unspecified Aboriginal people during the pre-contact period.

Isolated Findspot P2 yielded a single secondary flake made of Haldimand chert in one positive test pit (Test Pit 13). Isolated Findspot P2 occurs approximately 40m to the south of Site P1. Isolated Findspot P2 has been interpreted as a small activity area occupied by unspecified Aboriginal people during the pre-contact period.

### 4.1 Preliminary Indication of Sites Possibly Requiring Stage 4 Archaeological Mitigation

Based on the results of the Stage 2 assessment presented above, Site P1 (AfGs-148), was determined to retain CHVI and are recommended for Stage 3 archaeological assessment (see below). A preliminary indication of whether the sites could be eventually recommended for Stage 4 archaeological mitigation is required under Section 7.8.3, Standard 2c of the Standards and Guidelines (Government of Ontario 2011).

As noted above, Site P1 (AfGs-148) is interpreted as a small activity area created during the pre-contact period. Although the site does meet the criteria for a Stage 3 assessment, it is not yet clear whether a Stage 4 mitigation will be recommended. No firm recommendation for, or against, Stage 4 Mitigation of Developmental Impacts will be made at Site P1 (AfGs-148), until the forthcoming Stage 3 archaeological assessment has been completed.

## 5.0 Recommendations

Given the results of the Stage 2 assessment of Site P1 (AfGs-148), it has been interpreted as a small activity area of unknown function, occupied by unspecified Aboriginal people during the pre-contact period. Despite the non-diagnostic nature of the recovered artifacts, the Stage 2 assessment resulted in the documentation of at least five artifacts within a 10m-by-10m test pit survey. As a result, Site P1 (AfGs-148) fulfills the criteria for a Stage 3 assessment as per Section 2.2 Standard 1.a.ii(2) of the Standards and Guidelines (Government of Ontario 2011) and retains CHVI. To further evaluate the site's CHVI, **a Stage 3 archaeological assessment is recommended for Site P1 (AfGs-148)**. The Stage 3 archaeological assessments of Site P1 will be conducted according to Section 3.2.2 of the Standards and Guidelines (Government of Ontario 2011). Site P1 was documented during a test pit assessment, therefore no CSP is required at this site.

Given the results of the Stage 2 assessment of Isolated Findspot P2, it has been interpreted as a small activity area of unknown function, occupied by unspecified Aboriginal people during the pre-contact period. Given the fact that the Stage 2 assessment only recovered one non-diagnostic artifacts within a 10m-by-10m test pit survey, the site does not meet the criteria for a Stage 3 assessment as per Section 2.2 Standard 1.a.ii(2) of the Standards and Guidelines (Government of Ontario 2011). Therefore, Isolated Findspot P2 retains no further CHVI and **a Stage 3 archaeological assessment is not recommended for Isolated Findspot P2**.

## 6.0 Advice on Compliance with Legislation

This report is submitted to the Minister of Heritage, Sport, Tourism and Culture Industries 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 for Consultant Archaeologists* (2011a) that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Citizenship and Multiculturalism, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

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

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.

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

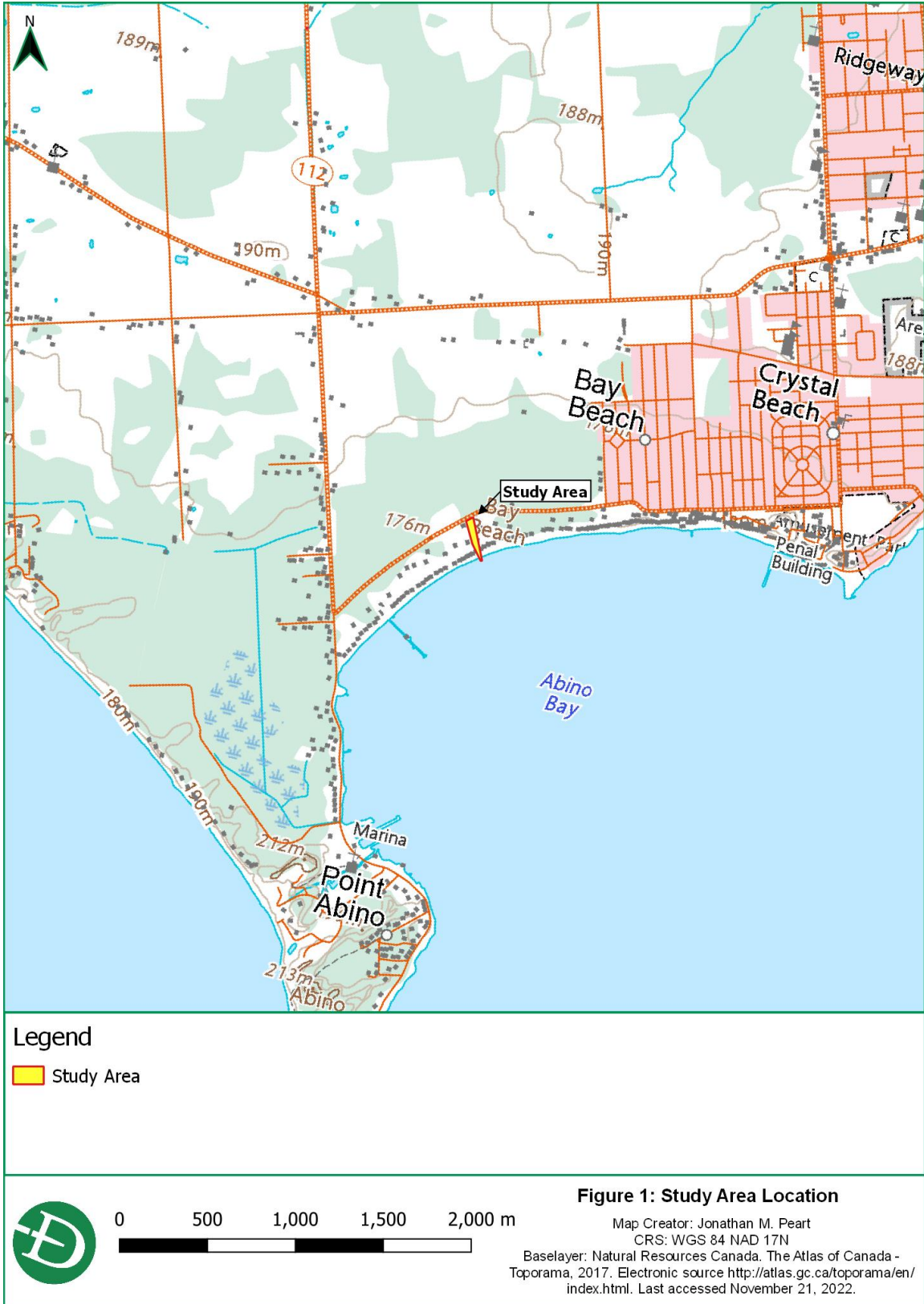
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## **8.0 Images**

### **8.1 Maps**





Legend

 Study Area

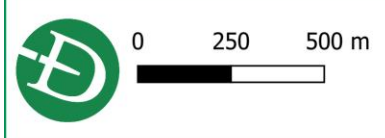
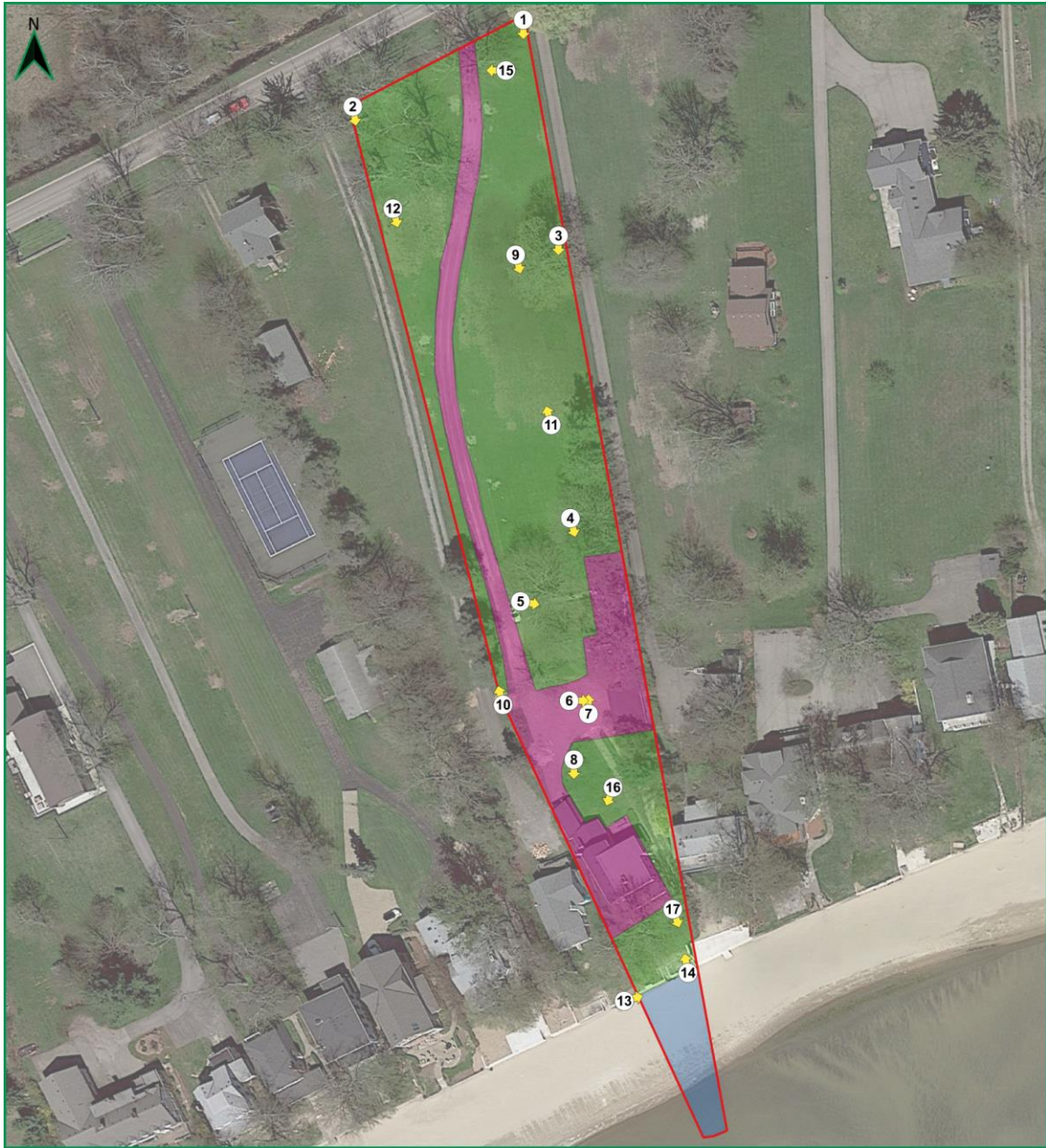


Figure 2: Portion of the 1876 Bernie Township Map

Map Creator: Jonathan M. Peart  
CRS: WGS 84 NAD 17N  
Baselayer: Page, H.R. & Co. 1876. Illustrated Atlas of the Counties of Lincoln and Welland, Ontario. Toronto

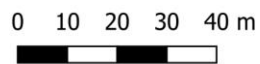


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Legend

-  Photograph Location and Direction
-  Study Area
-  Test Pit Survey at 5m Interval
-  Previously Disturbed
-  Lake Erie



**Figure 3: Stage 2 Field Methods**

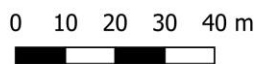
Map Creator: Jonathan M. Peart  
 CRS: WGS 84 NAD 17N  
 Baselayer: Google Satellite Imagery

Stage 1-2 Archaeological Assessment 4409 Erie Road, Ridgeway



Legend

- Study Area
- Previously Disturbed
- Test Pit Survey at 5m Interval
- Lake Erie

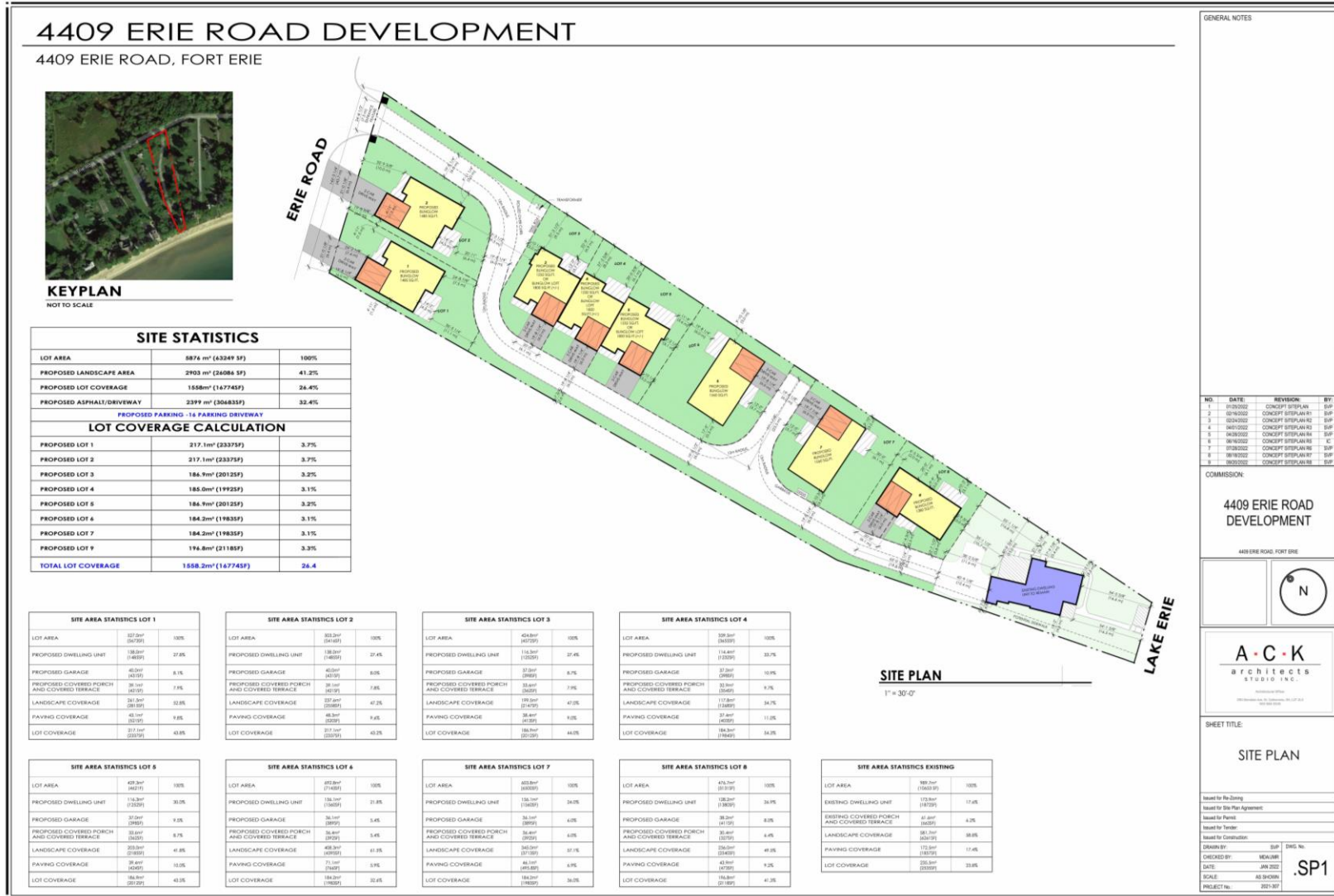


**Figure 4: Stage 2 Field Methods in Relation to Development Plan**

Map Creator: Jonathan M. Peart  
 CRS: WGS 84 NAD 17N  
 Baselayer: Google Satellite Imagery

Stage 1-2 Archaeological Assessment 4409 Erie Road, Ridgeway

Figure 5: Development Map



## 8.2 Photos

Photo 1: Test pit survey of the manicured lawn, facing south



Photo 2: Test pit survey of the manicured lawn, facing south

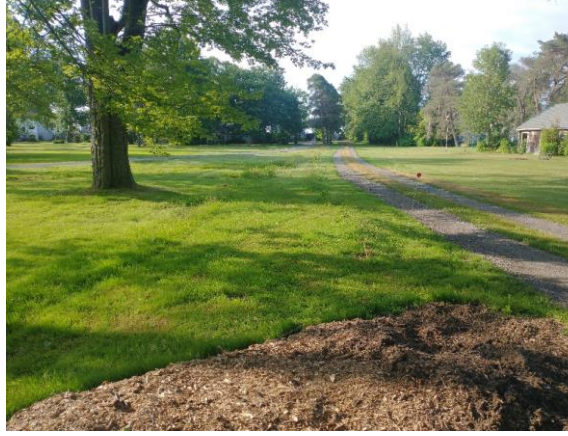


Photo 3: Test pit survey of the manicured lawn, facing south



Photo 4: Test pit survey of the manicured lawn, facing south



Photo 5: Residence assessed as previously disturbed, facing east



Photo 6: Gravel driveway and garage assessed as previously disturbed, facing east



Stage 1-2 Archaeological Assessment 4409 Erie Road, Ridgeway

Photo 7: Residence assessed as previously disturbed, facing north



Photo 8: Test pit survey of the manicured lawn, facing south



Photo 9: Test pit survey of the manicured lawn, facing south



Photo 10: Overview of the gravel driveway assessed as disturbed, view to the north



Photo 11: Test pit survey of the manicured lawn, facing north



Photo 12: Test pit survey of the manicured lawn, facing south



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Photo 13: Overview of the Lake Erie beach, view to the east



Photo 14: Residence assessed as previously disturbed, facing north



Photo 15: Test pit survey of the manicured lawn, facing west



Photo 16: Test pit survey of the manicured lawn, facing west



Photo 17: Test pit survey of the manicured lawn, facing south with Lake Erie in the background



Photo 18: Representative test pit from Site P1 (Test Pit 1)



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Photo 19: Representative test pit from Site P1 (Test Pit 5)



Photo 20: Representative test pit from Site P1 (Test Pit 10)



Photo 21: Onondaga flake recovered Site P1 (Cat#5)



Photo 22: Onondaga flakes recovered from Site P1 (Cat#6-8)



Photo 23: Haldimand flake recovered from Isolated Findspot P2 (Cat#19)



Photo 24: West profile of the test unit at Isolated Findspot P2

