

# **Appendix F-13**

**Stage 1 and 2 Archaeological Assessment**



ARCHAEOLOGY | HERITAGE | OUTREACH | CONSERVATION

**DRAFT**

**Stage 1 and 2 Archaeological Assessments, South Landfill Phase 2,  
City of Niagara Falls, Regional Municipality of Niagara, Part of  
Lots 29–32, 48–51 and 65–66, Geographic Township of Stamford,  
Former Welland County, Ontario**

Prepared for

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MCM Licence #P007

PIF #P007-1629-2025 (Stage 1)

PIF #P007-1649-2025 (Stage 1–2)

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**12/02/2026**

**Original Report**

## EXECUTIVE SUMMARY

Under a contract awarded in February 2023, Archaeological Research Associates Ltd. (ARA) carried out Stage 1 and 2 assessments of lands with the potential to be impacted by Phase 2 of the South Landfill in the City of Niagara Falls, Regional Municipality of Niagara, Ontario. Phase 1 is nearing its final capacity, and the proposed landfill expansion will maintain the current annual fill capacity rate of 1.1 million tonnes per year, while increasing the total capacity by approximately 18 million tonnes over the next 20 years. The assessments were carried out as part of an individual environmental assessment in accordance with the Environmental Assessment Act. This report documents the background research and fieldwork involved in the investigation and presents conclusions and recommendations pertaining to archaeological concerns.

A Stage 1 desktop evaluation was carried out for the waste disposal site boundary portion of the project area in February 2025 under Project Information Form (PIF) #P007-1629-2025 (formerly PIF #P1106-0069-2025). The Stage 1 assessment of the balance of the project area and the Stage 2 assessment of the entire project area were conducted in August and September 2025 under PIF #P007-1649-2025. The investigation encompassed the waste disposal site boundary, two berm options, two leachate management options and associated infrastructure. Permission to enter and conduct all necessary fieldwork activities was granted by the proponent. At the time of assessment, the project area consisted of parts of Walker's Resource Management Campus (e.g., the Southeast Quarry, a corridor through the East Landfill, parts of the Aggregate Recycling & Processing Area, extant roadways, etc.), parts of two agricultural fields and various grassed, overgrown and wooded lands.

Background research determined that there were 15 known sites within the project area: H1–H3, H6 (AgGs-77), H7, H9 (AgGs-76), H12–H13, H14 (AgGs-78), P1 (AgGs-66), P6, P7 (AgGs-68), P8 (AgGs-69), P9 (AgGs-74) and P15 (AgGs-73). None of these sites were recommended for further assessment, but the utilized field methods and associated mapping do not appear to meet current provincial standards. Regardless, it seemed likely that these locations would have been severely impacted and/or removed by subsequent extractions activities associated with the Southeast Quarry.

The Stage 1 assessment determined that the project area comprised a mixture of areas of archaeological potential and areas of no archaeological potential. The Stage 2 assessment resulted in the identification of nine new locations of archaeological materials: Sites 1–3, 4 (AgGs-515), 5–6, 7 (AgGs-516), 8 (AgGs-517) and 10 (AgGs-518). These deposits consisted of a variety of Indigenous artifact scatters and findspots. ARA confirmed that the 15 known sites had been completely removed during past land alterations. Sites 1–10 were found to be of no further CHVI. It is recommended that no further assessment be required within the project area. If the project design changes to include new lands beyond the project area, additional assessment will be required.

While the investigation involved fulsome and meaningful engagement with the participating First Nations and Indigenous communities, archaeology is only one of many aspects of interest pertaining to their ongoing stewardship of treaty and traditional

territories. The engaged Indigenous groups will be provided with the report for consideration and comment, and any concerns will be addressed prior to submission.

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## ABBREVIATIONS

ARA – Archaeological Research Associates Ltd.  
CHVI – Cultural Heritage Value or Interest  
CIF – Contract Information Form  
EA – Environmental Assessment  
MCM – Ministry of Citizenship and Multiculturalism

PIF – Project Information Form  
PTP – Positive Test Pit  
S&Gs – Standards and Guidelines for Consultant Archaeologists  
SD – Supplementary Documentation

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## 1.0 PROJECT CONTEXT

### 1.1 Development Context

Under a contract awarded in February 2023, Archaeological Research Associates Ltd. (ARA) carried out Stage 1 and 2 assessments of lands with the potential to be impacted by Phase 2 of the South Landfill in the City of Niagara Falls, Regional Municipality of Niagara, Ontario. Phase 1 is nearing its final capacity, and the proposed landfill expansion will maintain the current annual fill capacity rate of 1.1 million tonnes per year, while increasing the total capacity by approximately 18 million tonnes over the next 20 years. The assessments were carried out as part of an individual environmental assessment (EA) in accordance with the Environmental Assessment Act. This report documents the background research and fieldwork involved in the investigation and presents conclusions and recommendations pertaining to archaeological concerns.

The project area consists of an irregularly shaped parcel of land with an area of 96.66 ha (Map 1). This parcel is generally bounded by Mountain Road and wooded lands to the north, wooded and agricultural lands to the southeast, Beechwood Road and Taylor Road to the southwest and parts of Walker's Resource Management Campus to the northwest. In legal terms, the project area falls on parts of Lots 29–32, 48–51 and 65–66 in the Geographic Township of Stamford, former Welland County.

The Crown obtained these lands from the Mississaugas as part of a much larger purchase in 1784, but there were uncertainties relating to the area involved. The extent of the cession was clarified during the Between the Lakes Purchase (Treaty 3) in 1792. This area also falls within the lands involved in the 1701 Albany Deed (Nanfan Treaty) between the Five Nations of the Haudenosaunee Confederacy and the Crown. Although the Crown's official recognition of the Nanfan Treaty remains inconsistent, the fact that this area comprises part of the traditional territory of the Haudenosaunee cannot be disputed. For the Haudenosaunee, the Covenant Chain and the Treaty of Niagara (1764) represent enduring frameworks for governance and mutual obligation.

In addition to being important historical documents, treaties are binding agreements that continue to inform relationships, stewardship expectations and procedural fairness today. Given the location of the project area, engagement with Haudenosaunee and Mississauga peoples was undertaken to collaboratively mitigate impacts on their rights and foster successful partnerships.

A Stage 1 desktop evaluation was carried out for the waste disposal site boundary portion of the project area in February 2025 under Project Information Form (PIF) #P007-1629-2025 (formerly PIF #P1106-0069-2025). The Stage 1 assessment of the balance of the project area and the Stage 2 assessment of the entire project area were conducted in August and September 2025 under PIF #P007-1649-2025 (Map 2). The investigation encompassed the waste disposal site boundary, two berm options, two leachate management options and associated infrastructure. Permission to enter and conduct all necessary fieldwork activities was granted by the proponent.

As set out in Section 1.0 and Section 2.0 of the 2011 Standards and Guidelines for Consultant Archaeologists (S&Gs), the investigation was carried out to achieve the following objectives:

- Provide information about geography, history and current land conditions;
- Determine whether any previous archaeological fieldwork has been completed;
- Evaluate in detail the project area's archaeological potential;
- Document all archaeological resources within the project area;
- Determine whether there are sites requiring further assessment; and
- Recommend appropriate strategies for Stage 3 assessment, if necessary.

The Ministry of Citizenship and Multiculturalism (MCM) is asked to review the results and recommendations presented herein and enter the report into the Ontario Public Register of Archaeological Reports. A Record of Indigenous Engagement is included in the project report package in accordance with the requirements set out in Section 7.6.2 of the 2011 S&Gs. This document provides details on the overall engagement process, including which Indigenous communities were contacted and how their input was incorporated into the work. The additional directions provided in the 2018 Mississaugas of the Credit First Nation Standards and Guidelines for Archaeology were considered throughout the investigation.

## **1.2 Historical Context**

The vicinity of the project area is characterized by an extensive body of Indigenous history pertaining to the Pre-Contact period and intertwined Indigenous and Euro-Canadian histories from the ensuing Post-Contact period. Section 1.2.1 summarizes the region's settlement history and Section 1.2.2 documents past and present land uses. Multiple previous archaeological reports containing relevant background information were obtained during the research component of the study. These reports are summarized in Section 1.3.3, and the references appear in Section 8.0.

### **1.2.1 Settlement History**

#### **1.2.1.1 Pre-Contact**

The Pre-Contact history of the region is lengthy and rich, and a variety of Indigenous groups inhabited the landscape. Archaeologists generally divide this history into three main periods: Palaeo, Archaic and Woodland. Each period comprises a range of sub-periods characterized by identifiable trends in material culture and settlement patterns, which are used to interpret past lifeways. The principal characteristics of these sub-periods are summarized in Table 1.

**Table 1: Pre-Contact Settlement History**

(Ellis and Ferris 1990; Munson and Jamieson 2013; Warrick 2000; Wright 1972)

Sub-Period	Timeframe	Characteristics
Early Palaeo	9500–8400 BC	Gainey, Barnes and Crowfield traditions; Characterized by small bands; Mobile hunters and gatherers; Seasonal resources and large territories were utilized; Fluted points
Late Palaeo	8400–7500 BC	Holcombe, Hi-Lo and Lanceolate traditions; Continuing mobility; Campsites/waystations were more prevalent; Smaller territories were utilized; Non-fluted points
Early Archaic	7500–6000 BC	Side-Notched, Corner-Notched (Nettling, Thebes) and Bifurcate traditions; Growing diversity of stone tool types; Heavy woodworking tools appeared (e.g., ground stone axes and chisels)
Middle Archaic	6000–2500 BC	Stemmed (Kirk, Stanly/Neville), Brewerton Side- and Corner-Notched traditions; Reliance on local resources; Populations increasing; More ritual activities; Fully ground and polished tools produced; Net-sinkers common; Earliest copper tools
Late Archaic	2500–900 BC	Narrow Point (Lamoka), Broad Point (Genesee) and Small Point (Crawford Knoll) traditions; Less mobility; Use of fish-weirs; True cemeteries appeared; Stone pipes emerged; Characterized by long-distance trade (marine shells and galena)
Early Woodland	900–400 BC	Meadowood tradition; Crude cord-roughened ceramics emerged; Meadowood cache blades and side-notched points; Bands consisted of up to 35 people
Middle Woodland	400 BC–AD 600	Local Saugeen-like tradition; Others have argued for Point Peninsula tradition; Ceramics continued but many were undecorated; Characterized by seasonal settlements and resource utilization; Each watershed may have had a unique tradition; Regional patterns poorly understood at this time
Middle/Late Woodland Transition	AD 600–900	Princess Point tradition; Cord roughening, impressed lines and punctate designs on pottery; Adoption of maize horticulture at the western end of Lake Ontario; Oval houses and ‘incipient’ longhouses; First palisades; Villages with 75 people
Late Woodland	AD 900–1600	Algonquian-speaking Anishinaabeg and Iroquoian-speaking peoples such as the Pre-Contact Neutral occupied the area; Early focus on the latter linguistic group identified Glen Meyer, Uren, Middleport and later traditions and emphasized a linear ‘Iroquoian’ developmental sequence; There was likely a close interaction sphere between the two groups, which may have resulted in shared material culture traditions; Pre-Contact Neutral associated with large villages; Some up to 5 ha with 2,500 people; Extensive croplands; Also hamlets, cabins, camps and cemeteries; Fur trade begins ca. 1580; European trade goods appeared

While it is true that Iroquoian-speaking peoples tended to leave a much more obvious mark on the archaeological record during the Late Woodland period, Algonquian-speaking peoples were also present throughout southern Ontario. Due to the sustainability of their lifeways, Anishinaabeg sites are generally less recognizable than those associated with the more sedentary agriculturalists. Many artifact scatters in southern Ontario represent campsites or processing areas associated with the more mobile Anishinaabeg, utilized during their travels along the local drainage basins while making use of seasonal resources. This part of southern Ontario represents the

ancestral territory of various Indigenous groups, each with their own land use and settlement pattern tendencies.

### 1.2.1.2 Post-Contact

The arrival of European explorers and traders at the beginning of the 17<sup>th</sup> century triggered widespread shifts in Indigenous lifeways and set the stage for the ensuing Euro-Canadian settlement process. Documentation for this period is abundant, ranging from the first sketches of Upper Canada and the written accounts of early explorers to detailed township maps and lengthy histories. In terms of understanding past land uses, Indigenous oral histories and laws must also be recognized as valid and parallel lines of evidence alongside archaeological results and settler narratives. The Post-Contact period can be effectively discussed in terms of major historical events, and the principal characteristics associated with these events are summarized in Table 2.

**Table 2: Post-Contact Settlement History**

(AO 2025; Coyne 1895; Ellis and Ferris 1990; Hammerburg 2008; Lajeunesse 1960; NFI 2026; Smith 1846; Surtees 1994; WTPH 1887)

Historical Event	Timeframe	Characteristics
Early Exploration	Early 17 <sup>th</sup> century	Brûlé explored southern Ontario in 1610/11; Champlain travelled through in 1613 and 1615/1616, making contact with a number of Indigenous groups (including the Algonquin, Wendat and other First Nations); European trade goods became increasingly common and began to put pressure on traditional industries
Increased Contact and Conflict	Mid- to late 17 <sup>th</sup> century	Conflicts between various First Nations during the Beaver Wars resulted in numerous population shifts, including the dispersal of the Wendat; Other First Nations actively occupied the area; European explorers continued to document the area, and many Indigenous groups traded directly with the French and English; 'The Great Peace of Montreal' treaty established between roughly 39 different First Nations and New France in 1701
Fur Trade Development	Early to mid-18 <sup>th</sup> century	Growth and spread of the fur trade with the Haudenosaunee, Mississauga and other Indigenous peoples; Peace between the French and English with the Treaty of Utrecht in 1713; Ethnogenesis of the Métis; Hostilities between French and British lead to the Seven Years' War in 1754; French surrender in 1760
British Control	Mid- to late 18 <sup>th</sup> century	Royal Proclamation of 1763 recognized the title of First Nations to the lands they occupied and set out protocols for Crown land purchases; Numerous treaties were subsequently arranged by the Crown; First land cession under the new protocols was the Treaty of Niagara in 1764, which involved the surrender of a strip of land on the west side of the Niagara River by the Seneca; The Crown later determined that this agreement did not align with the Proclamation's requirements, and the area was included as part of the Niagara Purchase (Treaty 381) in 1781; This surrender was concluded with the Mississaugas as the occupying First Nation

Historical Event	Timeframe	Characteristics
Loyalist Influx	Late 18 <sup>th</sup> century	United Empire Loyalist influx during and after the American Revolutionary War (1775–1783); British developed interior communication routes and acquired additional lands; Between the Lakes Purchase completed with the Mississaugas in 1784 and confirmed in 1792 (Treaty 3); Constitutional Act of 1791 created Upper and Lower Canada
County Development	Early to mid-19 <sup>th</sup> century	Became part of Lincoln County's 'Third Riding' in 1792 and part of the Niagara District in 1798; Welland Canal was a major feature, conceived by W.H. Merritt and opened in 1829; Welland County formed from the southeastern part of Lincoln County in 1845; Independent after the abolition of the district system in 1849
Township Formation	Late 18 <sup>th</sup> to early 19 <sup>th</sup> century	Stamford was first allotted to roughly 12 families, and the earliest settlers included the Cooks and the Durhams from New Jersey in 1776; P.G. Bender and his family became the first settlers near Niagara Falls in 1782; Other members of Col. John Butler's Rangers and United Empire Loyalists arrived in 1784; The township was initially called Mount Dorchester or Township No. 2, as it was the second township laid out after Niagara; P. Frey conducted the survey in 1787, and Simcoe renamed it 'Stamford'
Township Development	Mid-19 <sup>th</sup> to early 20 <sup>th</sup> century	Population of Stamford was 2,636 in 1841 (a mixture of Canadians, English, Irish, Scottish and Americans); 8,923 ha taken up by 1846, with 4,574 ha under cultivation; Three grist mills in operation at that time; Traversed by the Erie & Ontario Railway (ca. 1839/1854), Great Western Railway (1853), Great Western Railway's Canada Air Line (1873); Canada Southern Railway's Montrose Branch (1883) and St. Catharines & Niagara Central Railway (1887); Principal communities at Clifton, Drummondville and Stamford

Although this summary emphasizes major events associated with the Euro-Canadian occupation of this part of southern Ontario, it is critical to note that Haudenosaunee and Mississauga peoples have enduring relationships with the lands, waters and resources within their treaty and traditional territories. These peoples have exercised stewardship in the region for centuries, and they continue to do so in contemporary times. For the Haudenosaunee, the ongoing continuity of their governance and procedural relationships is reflected in the Covenant Chain, the Treaty of Niagara (1764) and the Haldimand Proclamation (1784). The Treaty of Niagara extended the Covenant Chain to include First Nations beyond the Haudenosaunee, including Algonquin, Chippewa, Mississauga, Odawa and Wendat peoples. Indigenous presence in the area did not conclude with Euro-Canadian settlement, and strong governance has resulted in the perpetual care and maintenance of the land, peoples and communities therein.

## 1.2.2 Past and Present Land Use

### 1.2.2.1 Overview

During Pre-Contact and Early Contact times, the vicinity of the project area would have comprised a mixture of coniferous trees, deciduous trees and open areas. Indigenous communities actively utilized the land and its resources well into Post-Contact times, and they would have managed the landscape to varying degrees (e.g., establishing

clearings for campsites, plant cultivation, etc.). During the late 18<sup>th</sup> and early 19<sup>th</sup> centuries, Euro-Canadian settlers arrived in the area and began to clear the forests for agricultural and settlement purposes. The project area was located east of the historical limits of Thorold. The land use at the time of assessment can be classified as a mixture of agricultural, commercial and infrastructural.

### 1.2.2.2 Mapping and Imagery Analysis

In order to gain a general understanding of the project area’s past land uses, two historical settlement maps, two topographic maps and six aerial images were examined during the research component of the study. Specifically, the following resources were consulted:

- Tremaines’ Map of the Counties of Lincoln and Welland, Canada West (1862) (OHCMP 2025);
- Illustrated Historical Atlas of the Counties of Lincoln and Welland, Ont. (1876) (MU 2001);
- Topographic maps from 1906 and 1938 (OCUL 2026); and
- Aerial images from 1954, 1965, 1995, 2006, 2010 and 2018 (BU 2026; U of T 2026).

The limits of the project area are shown on georeferenced versions of the consulted historical resources in Map 3–Map 11. The project area traversed parts of multiple properties as well as several roads and one watercourse. A summary of the identified historical occupants appears in Table 3, organized from north to south.

**Table 3: Occupation History**

Lot	1864	1877
29	Richard Woodruff Senior, Richard Woodruff	John Brown
30	Richard Woodruff Senior	John Brown
31	Jacob Seburn	John Seaburn
32	William B. Hendershot	W. Richardson
48	David Ord	D. Munroe
49	Albert A. Metler, Jacob Seburn	Matilda Melter; John Seaburn
50	Albert A. Metler, Jacob Seburn	Mrs. Seaburn
51	Thomas Grinville	T. Grenville
65	Jacob Seburn	J. Garner, M. Brady
66	George Hoover	George Hoover

Tremaines’ Map of the Counties of Lincoln and Welland, Canada West (1862) doesn’t show any structures within the project area (Map 3). Given that this map only depicts a few residential structures, the absence of buildings should not be taken as evidence that the parcels were unimproved. Ten Mile Creek traversed the southern part of the project area, and the early alignments of Beechwood Road and Mountain Road are also visible. The Illustrated Historical Atlas of the Counties of Lincoln and Welland, Ont. (1876) indicates that the Richardson, Munroe and Grenville farmsteads were located within the project area on Lots 32, 48 and 51, respectively (Map 4).

The topographic map from 1906 suggests that the project area largely comprised cleared lands along the historical thoroughfares, and four wooden houses and one brick or stone house are shown within the waste disposal site boundary (Map 5). It seems likely that the centremost of these houses represents the Munroe farmhouse. Quarries are also shown in the vicinity of the northwestern part of the project area. The topographic map from 1938 shows a farmstead along Mountain Road in the northwest, a farmstead along a tributary of Ten Mile Creek in the east and a farmstead along Beechwood Road in the south, and additional wooded lands are illustrated (Map 5). The extents of the quarries in the northwest are also more accurately depicted.

The aerial image from 1954 largely confirms this land use pattern, although the centremost farmstead is not discernible and the western quarry had expanded to include the northwestern part of the project area (Map 6). The continued growth of the quarry can be seen in the aerial image from 1965, and new buildings are visible within the project area to the northwest of Mountain Road and to the east of Beechwood Road (Map 7). According to the aerial image from 1995, the limits of the quarry were located just west of Beechwood Road (Map 8). By 2006, the quarry had expanded into the northern part of the waste disposal site boundary, Ten Mile Creek had been realigned to the southeast of the future quarry site and Taylor Road had been established (Map 9). The aerial images from 2010 and 2018 show the continued expansion of the quarry, berm creation and extensive soil alterations in the surrounding lands (Map 10–Map 11).

### **1.3 Archaeological Context**

A Stage 1 desktop evaluation was carried out for the waste disposal site boundary in February 2025 under PIF #P007-1629-2025. The Stage 1 assessment of the remaining lands and the Stage 2 assessment of the project area were conducted concurrently between August 19 and September 8, 2025, under PIF #P007-1649-2025. ARA utilized an Emlid Reach RX GNSS receiver with RTK correction providing a precision of 1 cm during the investigation (UTM17/NAD83). The limits of the project area were confirmed using GIS data translated into GPS points for reference in the field, in combination with aerial imagery showing physical features in relation to the subject lands.

The archaeological context of any given project area must be informed by 1) the condition of the property as found (Section 1.3.1), 2) a summary of registered or known archaeological sites located within a minimum 1 km radius (Section 1.3.2) and 3) descriptions of previous archaeological fieldwork carried out within or immediately adjacent to the property (Section 1.3.3).

#### **1.3.1 Condition of the Property**

The project area lies within the deciduous forest, which is the southernmost forest region in Ontario and is dominated by agricultural and urban areas. This region is characterized by scattered woodlots in areas unsuitable for agriculture, and the forest generally has the greatest diversity of tree species while at the same time having the lowest proportion of cover. It has most of the trees and shrubs found in the Great

Lakes–St. Lawrence forest and also contains black walnut, butternut, tulip, magnolia, black gum, many types of oaks, hickories, sassafras and red bud (MNR 2026).

In terms of local physiography, the subject lands traverse the Iroquois Plain in the northwest, the Niagara Escarpment in the centre and the Haldimand Clay Plain in the southeast. Summaries of these physiographic regions are provided in Table 4 (Chapman and Putnam 1984: 114–122; 156–159; 190–192).

**Table 4: Physiographic Regions**

Physiographic Region	Description
Iroquois Plain	The Iroquois Plain extends around the western and northern parts of Lake Ontario and consists of the shoreline and lake bed of Lake Iroquois. The old shorelines, including cliffs, bars, beaches and boulder pavements are clearly visible in this area, and the undulating till plains above stand in marked contrast to the smoothed lake bottom.
Niagara Escarpment	The Niagara Escarpment extends from the Niagara River to the northern tip of the Bruce Peninsula and continues through the Manitoulin Islands. This area is characterized by vertical cliffs along the brow, carved slopes below and flanking landscapes of glacial origin. Although highly visible within the Niagara Peninsula and along Georgian Bay, the slopes are mantled by morainic deposits in the intervening area and long stretches of the escarpment are hidden. Between Queenston and Ancaster, the escarpment is a simple topographic break separating the two levels of the Niagara Peninsula.
Haldimand Clay Plain	The Haldimand Clay Plain occupies all of the Niagara Peninsula above the escarpment and covers an area of roughly 3,500 km <sup>2</sup> . The plain itself consists of a series of parallel clay belts deposited during the time of proglacial Lake Warren. Although this area was once completely submerged, the till is not completely buried by stratified clay and it comes to the surface on low morainic ridges in the north.

According to the Ontario Soil Survey, the project area traverses numerous map units that contain Alluvium, Beverly soils, Malton soils, Peel soils, Toledo soils, escarpment lands and/or areas that were not mapped (Map 12). The characteristics of these map units are summarized in Table 5 (Kingston and Presant 1989:Sheet 5).

**Table 5: Soil Types**

Map Unit	Soil Type 1	Soil Type 2	Parent Material Type 1	Parent Material Type 2	Drainage Type 1	Drainage Type 2
ALU 29	Alluvium	Peel	Variable flood-plain deposits	40–100 cm reddish-hued lacustrine silty clay over clay loam till	Variable	Imperfect
BVY 1	Beverly	-	Mainly lacustrine silty clay	-	Imperfect	-
BVY 40	Beverly	Toledo	15–40 cm loamy textures over lacustrine silty clay	Mainly lacustrine silty clay	Imperfect	Poor

Map Unit	Soil Type 1	Soil Type 2	Parent Material Type 1	Parent Material Type 2	Drainage Type 1	Drainage Type 2
BVY 8	Beverly	Toledo	Mainly lacustrine silty clay	Mainly lacustrine silty clay	Imperfect	Poor
ESC	Escarpment	-	Niagara Escarpment	-	Rapid	-
NM	Not Mapped	-	Includes residential, industrial and recreational land uses			
PEL 12	Peel	-	40–100 cm reddish-hued lacustrine silty clay over clay loam till	-	Imperfect	-
PEL 13	Peel	Malton	40–100 cm reddish-hued lacustrine silty clay over clay loam till	40–100 cm reddish-hued lacustrine silty clay over clay loam till	Imperfect	Poor

The subject lands fall within the Ten Mile Creek drainage basin, which is under the jurisdiction of the Niagara Peninsula Conservation Authority (NPCA 2026). Specifically, the project area is traversed by Ten Mile Creek and the Ten Mile Creek Wetland Complex, and it is located 200 m south of a tributary of Six Mile Creek and 300 m west of the Shriners Creek Wetland Complex. It should be noted that Indigenous peoples continue to exercise stewardship over this region today, especially in terms of the potential cumulative effects that development projects could have on its waterways.

At the time of assessment, the project area consisted of parts of Walker’s Resource Management Campus (e.g., the Southeast Quarry, a corridor through the East Landfill, parts of the Aggregate Recycling & Processing Area, extant roadways, etc.), parts of two agricultural fields and various grassed, overgrown and wooded lands. Soil conditions were ideal for the activities conducted. No unusual physical features were encountered that affected fieldwork strategy decisions or the identification of artifacts or cultural features (e.g., dense root mats, boulders, rubble, etc.).

### 1.3.2 Registered or Known Archaeological Sites

The Ontario Archaeological Sites Database and the Ontario Public Register of Archaeological Reports were consulted to determine whether any registered or known archaeological resources occur within a 1 km radius of the project area. The available search facility returned 70 registered sites located within at least a 1 km radius (the facility returns sites in a rectangular area, rather than a radius, potentially resulting in results beyond the specified distance). One other registered site should have also been returned (AgGs-323), but the location information in the database is incorrect. This known archaeological site has been added to the dataset. Thirteen unregistered sites were also identified within a 1 km radius. The sites are summarized in Appendix A.

Fifteen of these previously identified sites are located within the project area, and two of them fall within 50 m. As relevant archaeological resources that could impact fieldwork strategy decisions and recommendations, these sites are fully discussed in

Section 1.3.3. Thirteen other sites are located within 300 m of the project area and must also be considered as relevant features of archaeological potential. The remaining sites represent more distant archaeological resources.

### 1.3.3 Previous Archaeological Work

A review of available archaeological management plans and/or other archaeological potential mapping was undertaken to inform the assessment process. Specifically, the Regional Municipality of Niagara’s Archaeological Management Plan was examined for information that could influence the choice of fieldwork techniques or recommendations. The associated mapping indicates that only a few areas in the northwestern, eastern and southern parts of the project area have archaeological potential (Map 13).

Reports documenting assessments conducted within the subject lands and assessments that resulted in the discovery of sites within adjacent lands were sought during the research component of the study. In order to ensure that all relevant past work was identified, an investigation was launched to identify reports involving assessments within 50 m of the project area. The investigation determined that there are multiple available reports documenting previous archaeological fieldwork within the specified distance. One other relevant report was unavailable at the time of writing, but some of the results were accessible through site record forms. The relevant results and recommendations are summarized below as required by Section 7.5.8 Standards 4–5 of the 2011 S&Gs (Map 14).

#### 1.3.3.1 Walker Brothers Quarry (Stage 1–4)

Between September and December 1988, the equivalent of Stage 1 and 2 assessments were conducted for the Walker Brothers Quarry under Licence #88-17 (ASI 1988). The assessed area traverses the majority of the project area. The investigation resulted in the identification of 30 locations of archaeological materials, 15 of which are within the project area and 2 of which are within 50 m of the project area (SD Map 1). The relevant sites are summarized Table 6.

**Table 6: Walker Brothers Quarry Site Summary (Stage 1–2)**

Site Identifier	Description	Retained Assemblage
H1	Small scatter (Euro-Canadian artifacts)	Finds from the mid- to late 19 <sup>th</sup> century and 20 <sup>th</sup> century (n=unspecified)
H2	2,000 m <sup>2</sup> scatter (Euro-Canadian artifacts)	Finds from the 20 <sup>th</sup> century (n=unspecified)
H3	Small scatter around structural remains (Euro-Canadian artifacts)	Finds from the late 19 <sup>th</sup> century and 20 <sup>th</sup> century (n=45)
H6 (AgGs-77)	Two scatters around three related foundations (Euro-Canadian artifacts and faunal specimens)	Finds from the mid- to late 19 <sup>th</sup> century and 20 <sup>th</sup> century (n=142); Faunal specimens (n=8)
H7	Small scatter (Euro-Canadian artifacts)	Finds from the 20 <sup>th</sup> century (n=12)
H9 (AgGs-76)	100 m <sup>2</sup> scatter (Euro-Canadian artifacts and faunal specimens)	Finds from the early 19 <sup>th</sup> century (n=27); Faunal specimens (n=2)
H12	Small scatter (Euro-Canadian artifacts)	Finds from the late 19 <sup>th</sup> century (n=8)
H13	Small scatter (Euro-Canadian artifacts)	Finds from the late 19 <sup>th</sup> and 20 <sup>th</sup> centuries (n=25)

Site Identifier	Description	Retained Assemblage
H14 (AgGs-78)	1,500 m <sup>2</sup> scatter (Euro-Canadian artifacts)	Finds from the early to late 19 <sup>th</sup> century (n=36)
P1 (AgGs-66)	Isolated Indigenous artifact	1 retouched side scraper
P5 (AgGs-67)	Isolated Indigenous artifact	1 broken non-diagnostic point
P6	Isolated Indigenous artifact	Lithic debitage (n=1)
P7 (AgGs-68)	Isolated Indigenous artifact	1 biface
P8 (AgGs-69)	Isolated Indigenous artifact	1 broken Adena-like point
P9 (AgGs-74)	Isolated Indigenous artifact	1 biface fragment
P13 (AgGs-71)	100 m <sup>2</sup> scatter (Indigenous artifacts)	Lithic debitage (n=10) and 1 retouched flake
P15 (AgGs-73)	Small scatter (Indigenous artifacts)	1 biface fragment, 1 scraper and 1 retouched flake

H9 (AgGs-76), P5 (AgGs-67) and P13 (AgGs-71) were found to be of further cultural heritage value or interest (CHVI) and required additional assessment (ASI 1988:25). Although the investigation involved pedestrian survey at an interval of 5 m (with intensified pedestrian survey at an interval of 1 m or less) and test pit survey at an interval of 5 m, the survey methods and intervals were not mapped in detail, intensified test pit survey did not occur and some soils were only trowel sorted. Given that the utilized field methods do not appear to meet current provincial standards, the overlapping area of previous assessment is of further archaeological concern.

The equivalent of an additional Stage 2 assessment of P5 (AgGs-67), a Stage 3 assessment of P13 (AgGs-71) and the Stage 4 excavation of H9 (AgGs-76) were carried out between April and July 1989 under Licence #89-130B (ASI 1989). The investigations at P5 and P13 did not result in the identification of any additional materials. The Stage 4 excavation of H9 involved surface collections and mechanical topsoil removal, and the assemblage (n=346) consisted of Euro-Canadian artifacts and faunal specimens. Five cultural features were documented, several of which were interpreted as early-to-mid-19<sup>th</sup>-century refuse pits (SD Map 2). It was recommended that no further assessment be required within the property (ASI 1989:7). As with the preceding assessments, the utilized field methods do not appear to meet current provincial standards. Specifically, the Stage 2 survey methods and intervals were not mapped in detail, the locations of the test units at P13 and descriptions of the methods were not provided and mechanical topsoil removal at H9 did not continue 10 m beyond the cultural features in the western part of the site (ASI 1989:Figure 3).

### 1.3.3.2 Mountain Road Realignment (Stage 1–4)

In October 2001, Stage 1, 2 and 3 assessments were undertaken for the realignment of Mountain Road from Beechwood Road to Townline Road under Contract Information Form (CIF) #2001-025-016 (ASI 2002). The assessed area traverses the southern part of the project area. The investigation resulted in the identification of two locations of archaeological materials situated over 50 m southwest of the project area: P1 and P2 / the Huson site (AgGt-111). The Huson site was found to be of further CHVI, and the Stage 3 assessment determined that it was a probable Early Archaic campsite that

required Stage 4 mitigation of development impacts (ASI 2002:11). The excavation was completed between October and December 2001 under CIF #2001-025-020 (ASI 2004).

#### 1.3.3.3 South Landfill Phase 1 (Stage 1)

In February 2005, a Stage 1 assessment was conducted for Phase 1 of the South Landfill under PIF #P057-138-2005 (ASI 2005a). The assessed area largely abuts the western part of the project area, but no attempt has been made to reproduce the limits of the preferred haul route component. Background research determined that there were four known sites within the property, none of which required any additional assessment. The investigation did not identify any areas of archaeological potential, and no further assessment was recommended (ASI 2005a:13–14).

#### 1.3.3.4 Regional Road 70 Realignment (Stage 1–2)

In November 2005, a Stage 1 assessment was conducted for the realignment of Regional Road 70 (Beechwood Road / Taylor Road) between Regional Road 101 (Mountain Road) and the Canadian National Railway tracks under PIF #P057-205-2005 (ASI 2005b). The assessed area overlaps the northwestern part of the project area. The investigation identified multiple areas of archaeological potential, and it was recommended that a Stage 2 assessment be carried out (ASI 2005b:5–8).

The Stage 2 assessment was conducted in May and September 2006 under PIF #P057-252-2006 (ASI 2006a). The assessed area traverses the northwestern part of the project area. The investigation resulted in the identification of three locations of archaeological materials situated over 50 m north of the project area: P1, P2 / the Yerba site (AgGs-276) and P3. The Yerba site was found to be of further CHVI, and it was recommended that it be subject to a Stage 3 assessment (ASI 2006a:7–8).

#### 1.3.3.5 Mountain Road Reconstruction (Stage 1–2)

In August 2006, a Stage 1 assessment was undertaken for the reconstruction of Regional Road 101 (Mountain Road / Portage Road) between Regional Road 70 (Taylor Road) and Regional Road 102 (Stanley Avenue) under PIF #P057-266-2006 (ASI 2006b). The assessed area overlaps the northwestern part of the project area. Background research determined that P1 (AgGs-66) fell within the study corridor, and it was reiterated that this site did not require any further work. The investigation identified a mixture of areas of archaeological potential and areas of no archaeological potential. It was recommended that the areas of archaeological potential be subject to a Stage 2 assessment (ASI 2006b:11). The overlapping area of previous assessment consisted of lands requiring further assessment and disturbed lands (ASI 2006b:Figure 3).

The Stage 2 assessment of the refined Mountain Road study corridor was carried out in October 2008 under PIF #P223-002-2008 (ASI 2008). The assessed area overlaps the northwestern part of the project area. The investigation resulted in the identification of one location of archaeological materials situated over 50 m north of the project area: P1 (AgGs-323). The site was found to be of no further CHVI, and it was recommended that the refined study corridor did not require any additional assessment (ASI 2008:5–6).

#### 1.3.3.6 8656 Mountain Road (Stage 1–2)

Between May and September 2024, Stage 1 and 2 assessments were carried out for 8656 Mountain Road under PIF #P462-0267-2023 (Detritus 2025). The associated report was unavailable at the time of writing, but ARA was able to reconstruct the general findings from site record forms. The assessed area falls within 50 m of the eastern part of the project area. The investigation resulted in the identification of 22 locations of archaeological materials, all of which are situated more than 50 m beyond the project area. The report recommendations remain unknown.

## **2.0 STAGE 1 BACKGROUND STUDY**

### **2.1 Background**

The Stage 1 assessment involved background research to document the geography, history, previous archaeological fieldwork and current land condition of the project area. This desktop examination included research from archival sources, archaeological publications and online databases. It also included the analysis of a variety of historical maps and aerial imagery. The results of the research conducted for the background study are summarized below.

The vicinity of the project area is characterized by complex Pre-Contact and Post-Contact histories (Section 1.2.1). Artifacts associated with Palaeo, Archaic, Woodland and Early Contact traditions are well attested in the Regional Municipality of Niagara, and early Euro-Canadian archaeological sites are likewise common. The presence of 84 previously identified sites in the surrounding area demonstrates the desirability of this locality for early settlement (Section 1.3.2). The investigation confirmed that 15 of these sites fall within the subject lands. Background research identified multiple areas of previous assessment within the project area (Section 1.3.3).

The natural environment of the project area would have been attractive to both Indigenous and Euro-Canadian populations as a result of proximity to Ten Mile Creek and other nearby waterways. The areas of relatively well-drained soils would have been ideal for agriculture, and the diverse local vegetation would also have encouraged settlement throughout Ontario's lengthy history. Euro-Canadian populations would have been particularly drawn to the adjacent historical roadways.

In summary, the background study included an up-to-date listing of sites from the Ontario Archaeological Sites Database (within at least a 1 km radius), the consideration of previous local archaeological fieldwork (within at least a 50 m radius), the analysis of historical maps (at the most detailed scale available) and the study of aerial imagery. A review of an archaeological management plan was also carried out. ARA therefore confirms that the standards for background research set out in Section 1.1 of the 2011 S&Gs were met.

### **2.2 Field Methods (Property Inspection)**

A Stage 1 desktop evaluation was carried out for the waste disposal site boundary portion of the project area in February 2025, and preliminary recommendations were provided to support the individual EA. Following the addition of berm options, leachate management options and associated infrastructure to the project area, an additional Stage 1 assessment was required. The additional Stage 1 assessment was carried out concurrently with the Stage 2 assessment, and a separate property inspection did not occur. Instead, the visual inspection of the project area was conducted over the course of the property survey in keeping with Section 2.1 Standards 2a–b of the 2011 S&Gs. The potential modelling results from the desktop evaluation were refined and improved

based on the results of the on-site documentation. The specific field methods and environmental conditions at the time of assessment are summarized in Section 3.1.

### **2.3 Analysis and Conclusions**

In addition to relevant historical sources and the results of past archaeological assessments, the archaeological potential of a property can be assessed using its soils, hydrology and landforms as considerations. Section 1.3.1 of the 2011 S&Gs recognizes the following features or characteristics as indicators of archaeological potential: previously identified sites, water sources (past and present), elevated topography, pockets of well-drained sandy soil, distinctive land formations, resource areas, areas of Euro-Canadian settlement, early transportation routes, listed or designated properties, historic landmarks or sites, and areas that local histories or informants have identified with possible sites, events, activities or occupations.

The Stage 1 assessment resulted in the identification of several features of archaeological potential in the vicinity of the project area (Map 15; SD Map 3). The closest and most relevant indicators of archaeological potential (i.e., those that would affect survey interval requirements) include multiple known sites (e.g., AgGs-67, AgGs-71 and AgGs-76), two primary water sources (Ten Mile Creek and a tributary of the Welland Canal), multiple secondary water sources (e.g., parts of the Ten Mile Creek Wetland Complex and Shriners Creek Wetland Complex), three historical roadways (e.g., Mountain Road) and multiple historical structure localities (houses from the mid- to late 19<sup>th</sup> century). Background research did not identify any features indicating that the project area had potential for deeply buried archaeological resources.

Although proximity to a feature of archaeological potential is a significant factor in the potential modelling process, current land conditions must also be considered. Section 1.3.2 of the 2011 S&Gs emphasizes that 1) quarrying, 2) major landscaping involving grading below topsoil, 3) building footprints and 4) sewage/infrastructure development can result in the removal of archaeological potential, and Section 2.1 states that 1) permanently wet areas, 2) exposed bedrock and 3) steep slopes (> 20°) in areas unlikely to contain pictographs or petroglyphs can also be evaluated as having no or low archaeological potential. Areas previously assessed and not recommended for further work also require no further assessment.

The Regional Municipality of Niagara's Archaeological Management Plan indicates that only a few areas in the northwestern, eastern and southern parts of the project area have archaeological potential (Map 13). However, this modelling was not the result of a property-specific assessment and therefore does not fully account for land-use history and current conditions. Fifteen known sites were identified within the project area: H1–H3, H6 (AgGs-77), H7, H9 (AgGs-76), H12–H13, H14 (AgGs-78), P1 (AgGs-66), P6, P7 (AgGs-68), P8 (AgGs-69), P9 (AgGs-74) and P15 (AgGs-73). None of these sites were recommended for further assessment, but the utilized field methods and associated mapping do not appear to meet current provincial standards. Regardless, it seemed likely that these locations would have been severely impacted and/or removed by subsequent extractions activities associated with the Southeast Quarry.

Multiple previously assessed areas were identified within the project area, all of which were re-evaluated during the subject investigation to confirm that no areas of archaeological potential and/or known archaeological resources remained intact. ARA's visual inspection, coupled with the analysis of historical sources and digital environmental data, resulted in the identification of multiple areas of no archaeological potential. Since these areas of no archaeological potential were inspected over the course of the property survey, they are fully discussed in Section 3.1. The remainder of the project area had archaeological potential and required further assessment.

### 3.0 STAGE 2 PROPERTY ASSESSMENT

#### 3.1 Field Methods

The Stage 2 assessment involved visual inspection, pedestrian survey and test pit survey. Weather and lighting conditions were ideal during the investigation, permitting good visibility of land features. A breakdown of the specific fieldwork activities and environmental conditions appears in Table 7. ARA therefore confirms that fieldwork was carried out under weather and lighting conditions that met the requirements set out in Section 1.2 Standard 2 and Section 2.1 Standard 3 of the 2011 S&Gs.

**Table 7: Fieldwork Activities and Environmental Conditions**

Date	Activity	Field Director (s)	Lighting	Cloud Cover	Precipitation	Temperature (°C)
19/08/2025	Test pit survey	CP	Bright	Partial	None	25
25/08/2025	Test pit survey	CP	Bright	None	None	20
26/08/2025	Test pit survey	CP	Bright	Partial	None	20
27/08/2025	Test pit survey	CP	Bright	Partial	None	21
29/08/2025	Test pit survey	CP	Bright	Partial	None	18
02/09/2025	Pedestrian survey; Test pit survey; Intensification	CP	Bright	None	None	25
03/09/2025	Test pit survey; Intensification	CP, VM	Bright	None	None	22
05/09/2025	Test pit survey	CP	Bright	None	None	20
08/09/2025	Test pit survey; Intensification	CP	Bright	None	None	19

The project area and its periphery were subjected to a systematic visual inspection within the surveyed lands and random spot-checking beyond the surveyed lands in accordance with the requirements set out in Section 1.2 of the 2011 S&Gs. The inspection confirmed that all surficial features of archaeological potential were present where they were previously identified and did not result in the identification of any additional features of archaeological potential not visible on mapping (e.g., relic water channels, patches of well-drained soils, etc.).

The visual inspection resulted in the identification of multiple areas of disturbance, comprising aggregate extraction areas, landfill areas, access roads, expansive berms, stripped areas, a gravel and concrete slab associated with a former residence along Beechwood Road and a variety of other heavily modified lands (Image 1–Image 4). These areas had clearly been impacted by past earth-moving/construction activities, resulting in the disturbance of the original soils to a significant depth and severe damage to the integrity of any archaeological resources.

Permanently wet lands were documented in the east along the edge of the Shriners Creek Wetland Complex and in the southwest near the former crossing of Ten Mile Creek and Beechwood (now Taylor) Road (Image 5–Image 6). No other natural features (e.g., sloped lands, overgrown vegetation, heavier soils than expected, etc.) or

significant built features (e.g., heritage structures, landscapes, plaques, monuments, cemeteries, etc.) that would affect assessment strategies were identified.

The pedestrian survey method was utilized to complete the assessment within the agricultural fields. These lands had been recently ploughed, the soils were weathered and at least 80% of the ploughed ground surface was visible. In accordance with the requirements set out in Section 2.1.1 of the 2011 S&Gs, ARA crewmembers traversed the fields along survey transects established at an interval of 5 m (Image 7–Image 8).

The pedestrian survey resulted in the identification of seven locations of archaeological materials: Sites 2–8 (Site 9 was provisionally assigned in the field, but the finds were amalgamated with Site 8 as they were within 20 m). An intensified pedestrian survey was conducted at each location in accordance with Section 2.1.1 of the 2011 S&Gs. Survey transects were decreased to an interval of 1 m over a minimum of a 20 m radius around the finds, and this interval was continued until the full extent of each site had been defined (Image 9–Image 10). The artifact stations were recorded with a GPS receiver, and all of the artifacts were retained in order to fully document the deposits. Site relocation can be achieved using the associated GIS and mapping data.

The test pit survey method was utilized to complete the assessment the grassed, overgrown and wooded lands because ploughing was not possible or viable. Using this method, ARA crewmembers hand excavated small test pits with a minimum diameter of 30 cm at regularly spaced intervals in accordance with Section 2.1.2 of the 2011 S&Gs. Since the areas to be tested were located less than 300 m from any feature of archaeological potential, a survey interval of 5 m was warranted (Image 11–Image 13).

Disturbed soils resulting from past grading, gravel stockpiling and berm construction activities were encountered along the eastern and western edges of the quarry, and impacted areas were also documented to the south of the former farmhouse along Beechwood Road. The latter area once contained a series of outbuildings and laneways associated with the farmhouse, which were demolished between 1995 and 2006. A combination of visual inspection and test pit survey was utilized to confirm the extent of disturbance in accordance with Section 2.1.8 of the 2011 S&Gs. Test pits were excavated according to professional judgement to verify that these areas had been completely disturbed by previous land alterations (Image 14–Image 16).

Each test pit was excavated into at least the first 5 cm of subsoil (or to a sufficient depth to confirm deep disturbance if the natural horizon was not preserved), and the resultant pits were examined for stratigraphy, potential features and/or evidence of fill. The natural test pits were typically characterized by medium brown clay loam topsoil over light orange clay subsoil. All soils were screened through mesh with an aperture of no greater than 6 mm and examined for archaeological resources.

The test pit survey resulted in the identification of two locations of archaeological materials: Sites 1 and 10. Based on the initial results, it was unclear whether the sites were of further CHVI. Intensified survey coverage was therefore warranted as per Section 2.1.3 of the 2011 S&Gs. Option A was utilized at both of the sites, which

involves the excavation of eight additional test pits at an interval of 2.5 m around the initial positive test pit (PTP) as well as the excavation of a one-metre test unit over the PTP (Image 17–Image 20).

The test units were excavated in accordance with the requirements set out in Section 3.2.2 of the 2011 S&Gs. Test unit excavation did not result in the identification of any potential features, and all units were excavated into at least the first 5 cm of subsoil. Topsoil depths within the test units ranged from 20–25 cm. The soils were screened as outlined above. All artifacts and other remains were retained for review in the lab. The test pits and test units were backfilled upon completion.

The utilized field methods are presented in Map 16–Map 20. The project area is depicted as a layer in these maps. A breakdown of field methods appears in Table 8.

**Table 8: Field Methods**

Category	Breakdown
Pedestrian survey at 5 m interval	3.97% (3.83 ha)
Test pit survey at 5 m interval	5.32% (5.15 ha)
Test pit survey at 10 m interval	0.00% (0.00 ha)
Test pit survey to confirm disturbance at judgemental interval	2.74% (2.65 ha)
Not surveyed due to physical constraint	0.00% (0.00 ha)
Not surveyed due to permanently wet areas	0.22% (0.21 ha)
Not surveyed due to exposed bedrock	0.00% (0.00 ha)
Not surveyed due to sloped areas	0.00% (0.00 ha)
Not surveyed due to disturbed areas	87.76% (84.83 ha)
Total	100.00% (96.66 ha)

The identified archaeological resources were recorded on field maps, described in field notes and documented with a GPS receiver in accordance with Section 5.0 Standard 2 of the 2011 S&Gs. All maps, image locations and data revealing site location information appear in the Supplementary Documentation (SD) accompanying the report (SD Map 4–SD Map 12; SD Table 1). As required by Table 7.1, Section 7.8.2 and Section 7.8.3 of the 2011 S&Gs, the Record of Finds and Analysis and Conclusions for each site appear in Section 3.2–Section 3.8. It must be recognized that archaeological sites carry living cultural value for Indigenous peoples beyond the associated material evidence, and these intangible values require consideration along with the artifacts.

During laboratory processing of the retained finds, detailed analyses were carried out to provide 1) a record of the materials, 2) a basis for all recommendations and 3) enough information to help future researchers determine relevance to their studies. The finds were classified using ARA’s devised typological system, which follows Nomenclature for Museum Cataloging (2026). In this system, chert types are determined as per Cherts of Southern Ontario (Eley and von Bitter 1989) and Ontario Cherts Revisited (Fox 2009), and lithics are classified using the definitions set out in Lithic Analysis (Odell 2004) and Lithics: Macroscopic Approaches to Analysis (Andrefsky 2005). Euro-Canadian artifacts are divided into classes, materials, object groups and object names using a variety of reference aids (e.g., Chenoweth 2016; Lindsey 2026; MACL 2012). The reference used

for artifact dating is itemized in the catalogue, and the source cited is listed in Section 8.0. A representative sample of artifacts appears in Image 21–Image 23.

The archaeological materials are stored in polyethylene bags within Archive Box A472. This is a 30.5 x 25.4 x 38.1 cm light duty, double-bottom corrugated cardboard container labelled with its Archive Box designation. Box numbers are assigned in numerical order, and all associated information is entered in a secure digital catalogue for accurate tracking. Archive Boxes are stored on steel storage shelves at 465 Maple Avenue in Kitchener, Ontario.

## **3.2 Site 2**

### **3.2.1 Record of Finds**

Site 2 was identified during the pedestrian survey of the northern agricultural field. The site consisted of a 4 x 1 m (NW-SE) scatter of Indigenous archaeological materials in a relatively flat area.

A total of two artifacts were observed on the field surface, both of which were collected. The assemblage consisted of a piece of shatter and a biface fragment of Onondaga chert. The associated catalogue entries appear in Appendix B, Records 2–3, and a supplementary analysis of the formal lithic artifact is provided in Appendix C. The biface fragment exhibited evidence of heat alteration, and it was not diagnostic.

No cultural features or structural elements of potential CHVI were identified. The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D.

### **3.2.2 Analysis and Conclusions**

The results indicate that Site 2 comprises a small deposit of Indigenous archaeological materials. The site appears to have a relatively moderate level of integrity, as there was no observable evidence of disturbance since the deposition of the materials, save for ploughing.

The assemblage consisted of a piece of shatter and a biface fragment of Onondaga chert. Neither of the artifacts were diagnostic, but such finds are usually dated to the Pre-Contact period (ca. 9500 BC–AD 1650). The function of the site is unclear.

When evaluated against the criteria set out in Section 2.2 of the 2011 S&Gs, the available evidence indicates that Site 2 is of no further CHVI. Specifically, less than 10 non-diagnostic artifacts were found within a 10 x 10 m pedestrian survey area. The site does not warrant further assessment.

### **3.3 Site 3**

#### **3.3.1 Record of Finds**

Site 3 was identified during the pedestrian survey of the northern agricultural field. The site consisted of a 2 x 1 m (NW-SE) scatter of Indigenous archaeological materials in a relatively flat area.

A total of two artifacts were observed on the field surface, both of which were collected. The assemblage consisted of a rough ovate biface and an ovate biface of Onondaga chert. The associated catalogue entries appear in Appendix B, Records 4–5, and a supplementary analysis of the formal lithic artifact is provided in Appendix C. Neither of the artifacts exhibited evidence of heat alteration, and they were not diagnostic. The ovate biface had characteristics similar to Meadowood preforms.

No cultural features or structural elements of potential CHVI were identified. The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D.

#### **3.3.2 Analysis and Conclusions**

The results indicate that Site 3 comprises a small deposit of Indigenous archaeological materials. The site appears to have a relatively moderate level of integrity, as there was no observable evidence of disturbance since the deposition of the materials, save for ploughing.

The assemblage consisted of a rough ovate biface and an ovate biface of Onondaga chert. Neither of the artifacts were diagnostic, but such finds are usually dated to the Pre-Contact period (ca. 9500 BC–AD 1650). The deposit appears to be associated with resource processing.

When evaluated against the criteria set out in Section 2.2 of the 2011 S&Gs, the available evidence indicates that Site 3 is of no further CHVI. Specifically, less than 10 non-diagnostic artifacts were found within a 10 x 10 m pedestrian survey area. The site does not warrant further assessment.

### **3.4 Site 4 (AgGs-515)**

#### **3.4.1 Record of Finds**

Site 4 was identified during the pedestrian survey of the northern agricultural field. The site consisted of a 20 x 11 m (NE-SW) scatter of Indigenous archaeological materials in a relatively flat area.

A total of three artifacts were observed on the field surface, all of which were collected. The assemblage consisted of a biface thinning flake of Onondaga chert, a rotated core fragment of Haldimand chert and a biface fragment of Selkirk chert. The associated catalogue entries appear in Appendix B, Records 6–8, and a supplementary analysis of

the formal lithic artifact is provided in Appendix C. None of the artifacts exhibited evidence of heat alteration, and the biface fragment was not diagnostic.

No cultural features or structural elements of potential CHVI were identified. No artifact concentrations were discernable. The inventory of the documentary record for this site is included in the overall inventory presented in in Appendix D.

### **3.4.2 Analysis and Conclusions**

The results indicate that Site 4 comprises a small deposit of Indigenous archaeological materials. The site appears to have a relatively moderate level of integrity, as there was no observable evidence of disturbance since the deposition of the materials, save for ploughing.

The assemblage consisted of a biface thinning flake of Onondaga chert, a rotated core fragment of Haldimand chert and a biface fragment of Selkirk chert. None of the artifacts were diagnostic, but such finds are usually dated to the Pre-Contact period (ca. 9500 BC–AD 1650). The deposit appears to be associated with tool production and maintenance.

When evaluated against the criteria set out in Section 2.2 of the 2011 S&Gs, the available evidence indicates that Site 4 is of no further CHVI. Specifically, less than 10 non-diagnostic artifacts were found within a 10 x 10 m pedestrian survey area. The site does not warrant further assessment.

## **3.5 Site 7 (AgGs-516)**

### **3.5.1 Record of Finds**

Site 7 was identified during the pedestrian survey of the northern agricultural field. The site consisted of an isolated Indigenous artifact in a relatively flat area.

The artifact was observed on the field surface and collected. It consisted of a side-notched point of Onondaga chert. The associated catalogue entry appears in Appendix B, Record 11, and a supplementary analysis is provided in Appendix C. The point did not exhibit evidence of heat alteration, and it was identified as a Meadowood type from ca. 900–400 BC in the Early Woodland period (Spence et al. 1990:125).

No cultural features or structural elements of potential CHVI were identified. The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D.

### **3.5.2 Analysis and Conclusions**

The results indicate that Site 7 comprises an isolated Indigenous artifact. The site appears to have a relatively moderate level of integrity, as there was no observable evidence of disturbance since the deposition of the materials, save for ploughing.

The find consisted of a Meadowood point of Onondaga chert from the Early Woodland period (ca. 900–400 BC). The deposit may represent a loss/discard locality associated with resource procurement.

When evaluated against the criteria set out in Section 2.2 of the 2011 S&Gs, the available evidence indicates that Site 7 is of no further CHVI. Specifically, less than one diagnostic artifact and two non-diagnostic artifacts were found within a 10 x 10 m pedestrian survey area. The site does not warrant further assessment.

### **3.6 Site 8 (AgGs-517)**

#### **3.6.1 Record of Finds**

Site 8 was identified during the pedestrian survey of the northern agricultural field. The site consisted of a 37 x 16 m (NW-SE) scatter of Indigenous archaeological materials in a relatively flat area.

A total of seven artifacts were observed on the field surface, all of which were collected. The assemblage consisted of a biface thinning flake, an edge trimming flake, a flake fragment, a piece of shatter, a primary flake, a rotated core fragment and a rotated core of Onondaga chert. The associated catalogue entries appear in Appendix B, Records 12–18. None of the artifacts exhibited evidence of heat alteration.

No cultural features or structural elements of potential CHVI were identified. Most of the artifacts were found in the central part of the scatter (n=4), with outliers to the north (n=2) and south (n=1). The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D.

#### **3.6.2 Analysis and Conclusions**

The results indicate that Site 8 comprises a small deposit of Indigenous archaeological materials. The site appears to have a relatively moderate level of integrity, as there was no observable evidence of disturbance since the deposition of the materials, save for ploughing.

The assemblage consisted of a biface thinning flake, an edge trimming flake, a flake fragment, a piece of shatter, a primary flake, a rotated core fragment and a rotated core of Onondaga chert. None of the artifacts were diagnostic, but such finds are usually dated to the Pre-Contact period (ca. 9500 BC–AD 1650). The finds are suggestive of tool maintenance and production.

When evaluated against the criteria set out in Section 2.2 of the 2011 S&Gs, the available evidence indicates that Site 8 is of no further CHVI. Specifically, less than 10 non-diagnostic artifacts were found within a 10 x 10 m pedestrian survey area. The site does not warrant further assessment.

### **3.7 Site 10 (AgGs-518)**

#### **3.7.1 Record of Finds**

Site 10 was identified during the test pit survey of overgrown lands along the southern side of Mountain Road. The site consisted of 1 x 1 m (NW-SE) scatter of Indigenous archaeological materials in a relatively flat area. The stratigraphic sequence comprised medium brown clay loam topsoil (Lot 1) over light orange clay subsoil (Lot 2). The finds were from Lot 1 (n=3).

A total of three artifacts were observed within one test pit and one test unit (PTP 2 and Test Unit 2), all of which were collected. The assemblage consisted of an edge trimming flake, a piece of shatter and a utilized primary flake of Onondaga chert. The associated catalogue entries appear in Appendix B, Records 19–21. None of the artifacts exhibited evidence of heat alteration.

No cultural features or structural elements of potential CHVI were identified. The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D.

#### **3.7.2 Analysis and Conclusions**

The results indicate that Site 10 comprises a small deposit of Indigenous archaeological materials. The site appears to have a relatively moderate level of integrity, as there was no observable evidence of disturbance since the deposition of the materials, save for past ploughing.

The assemblage consisted of an edge trimming flake, a piece of shatter and a utilized primary flake of Onondaga chert. None of the artifacts were diagnostic, but such finds are usually dated to the Pre-Contact period (ca. 9500 BC–AD 1650). The deposit was likely associated with tool maintenance and resource processing.

When evaluated against the criteria set out in Section 2.2 of the 2011 S&Gs, the available evidence indicates that Site 10 is of no further CHVI. Specifically, less than five non-diagnostic artifacts were found within a 10 x 10 m test pit survey area. The site does not warrant further assessment.

### **3.8 Isolated Non-Diagnostic Finds**

#### **3.8.1 Record of Finds**

Site 1 was identified during the test pit survey of overgrown lands in the northeast, whereas Sites 5 and 6 were documented during the pedestrian survey of the northern agricultural field. The sites consisted of isolated non-diagnostic Indigenous artifacts in relatively flat areas. The stratigraphic sequence at Site 1 comprised medium brown clay loam topsoil (Lot 1) over light orange clay subsoil (Lot 2). The find was from Lot 1.

A total of three isolated artifacts were observed on the field surface and within one test pit (PTP 1), all of which were collected. The finds consisted of lithic artifacts of Onondaga chert. The associated catalogue entries appear in Appendix B, Records 1 and 9–10. A quantitative summary of the isolated finds is provided in Table 9. None of the artifacts exhibited evidence of heat alteration.

**Table 9: Summary of Isolated Finds**

Site Identifier	Material	Object Group	Object Name	Heat Altered
1	Onondaga Chert	Lithic Debitage	Flake (Primary)	No
5	Onondaga Chert	Informal Lithic	Core (Rotated)	No
6	Onondaga Chert	Informal Lithic	Utilized Flake (Primary)	No

No cultural features or structural elements of potential CHVI were identified. The inventory of the documentary record for each site is included in the overall inventory presented in Appendix D.

### **3.8.2 Analysis and Conclusions**

The results indicate that Sites 1 and 5–6 each comprise an isolated Indigenous artifact. The sites appear to have a relatively moderate level of integrity, as there was no observable evidence of disturbance since the deposition of the materials, save for past and/or more recent ploughing.

The finds consisted of lithic artifacts of Onondaga chert. None of the artifacts were diagnostic, but such finds are usually dated to the Pre-Contact period (ca. 9500 BC–AD 1650). The function of each site is unclear.

When evaluated against the criteria set out in Section 2.2 of the 2011 S&Gs, the available evidence indicates that Sites 1 and 5–6 are of no further CHVI. Specifically, less than 10 non-diagnostic artifacts were found within a 10 x 10 m pedestrian survey area or less than 5 non-diagnostic artifacts were found within a 10 x 10 m test pit survey area at each site. The sites do not warrant further assessment.

## 4.0 RECOMMENDATIONS

Background research determined that there were 15 known sites within the project area: H1–H3, H6 (AgGs-77), H7, H9 (AgGs-76), H12–H13, H14 (AgGs-78), P1 (AgGs-66), P6, P7 (AgGs-68), P8 (AgGs-69), P9 (AgGs-74) and P15 (AgGs-73). None of these sites were recommended for further assessment, but the utilized field methods and associated mapping do not appear to meet current provincial standards. Regardless, it seemed likely that these locations would have been severely impacted and/or removed by subsequent extractions activities associated with the Southeast Quarry.

The Stage 1 assessment determined that the project area comprised a mixture of areas of archaeological potential and areas of no archaeological potential. The Stage 2 assessment resulted in the identification of nine new locations of archaeological materials: Sites 1–3, 4 (AgGs-515), 5–6, 7 (AgGs-516), 8 (AgGs-517) and 10 (AgGs-518). ARA confirmed that the 15 known sites had been completely removed during past land alterations. Sites 1–10 were found to be of no further CHVI. It is recommended that no further assessment be required within the project area. If the project design changes to include new lands beyond the project area, additional assessment will be required.

While the investigation involved fulsome and meaningful engagement with the participating First Nations and Indigenous communities, archaeology is only one of many aspects of interest pertaining to their ongoing stewardship of treaty and traditional territories. The engaged Indigenous groups will be provided with the report for consideration and comment, and any concerns will be addressed prior to submission.

## 5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

Section 7.5.9 of the 2011 S&Gs requires that the following information be provided for the benefit of the proponent and approval authority in the land use planning and development process:

- 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 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 Archaeological 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 Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the police or coroner and the Registrar at the Ministry of Public and Business Service Delivery and Procurement.

## 6.0 IMAGES



**Image 1: Disturbed Lands**  
(August 19, 2025; Facing South)



**Image 2: Disturbed Lands**  
(August 26, 2025; Facing Northwest)



**Image 3: Disturbed Lands**  
(August 26, 2025; Facing Southwest)



**Image 4: Disturbed Lands**  
(September 5, 2025; Facing East)



**Image 5: Permanently Wet Lands**  
(September 5, 2025; Facing Northwest)



**Image 6: Permanently Wet Lands**  
(September 3, 2025; Facing East)



**Image 7: Pedestrian Survey**  
(September 2, 2025; Facing Northeast)



**Image 8: Pedestrian Survey**  
(September 2, 2025; Facing West)



**Image 9: Intensified Survey (Site 2)**  
(September 2, 2025; Facing Northeast)



**Image 10: Intensified Survey (Site 3)**  
(September 2, 2025; Facing East)



**Image 11: Test Pit Survey**  
(August 19, 2025; Facing Northeast)



**Image 12: Test Pit Survey**  
(August 27, 2025; Facing Northwest)



**Image 13: Test Pit Survey**  
(September 3, 2025; Facing North)



**Image 14: Test Pit Survey to Confirm Disturbance**  
(September 5, 2025; Facing Southwest)



**Image 15: Test Pit Survey to Confirm Disturbance**  
(September 8, 2025; Facing West)



**Image 16: Test Pit Survey to Confirm Disturbance**  
(August 29, 2025; Facing East)



**Image 17: Intensified Survey (Site 1)**  
(September 3, 2025; Facing East)



**Image 18: Intensified Survey (Site 1)**  
(September 3, 2025; Facing Northeast)



**Image 19: Intensified Survey (Site 10)**  
(September 8, 2025; Facing Southeast)

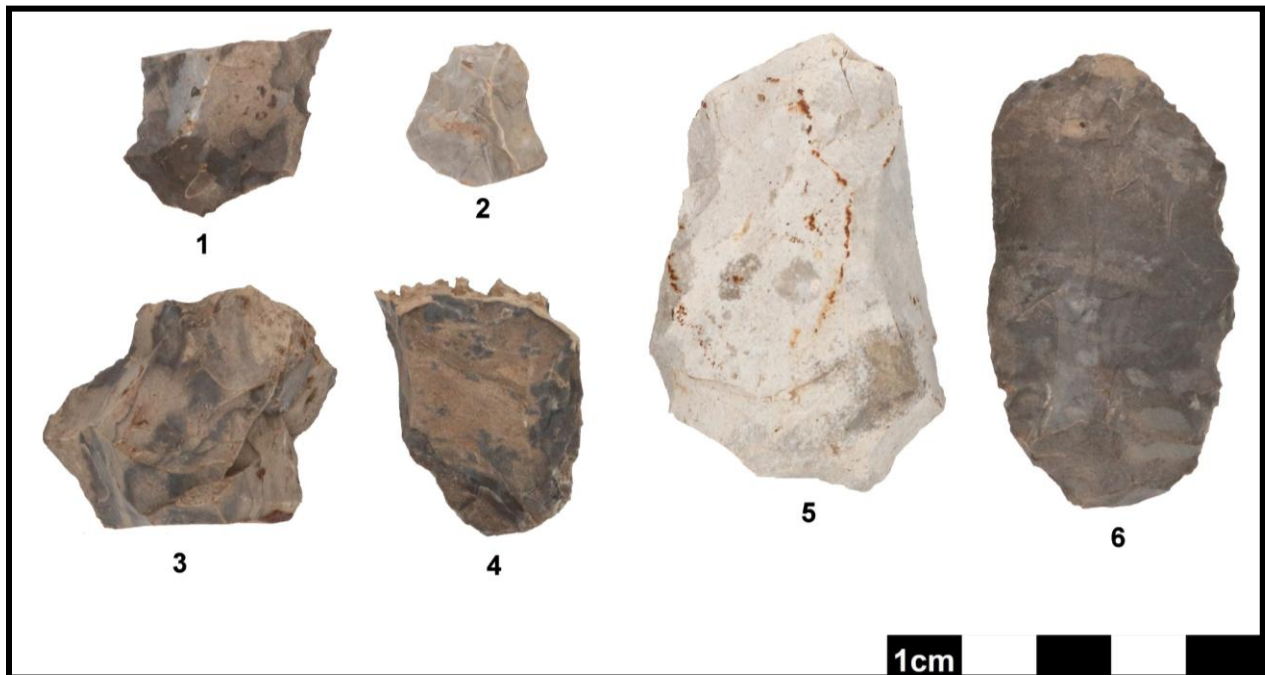


**Image 20: Intensified Survey (Site 10)**  
(September 8, 2025; Facing Northwest)



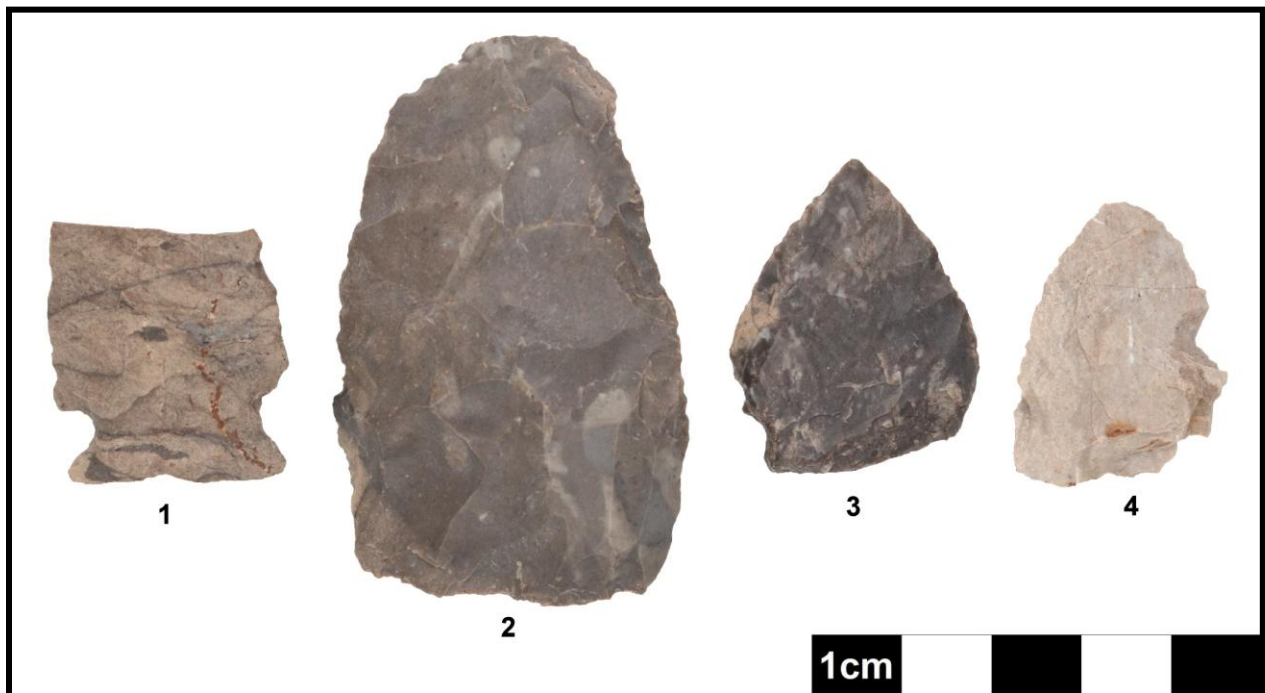
**Image 21: Lithic Debitage**

(1: Onondaga Chert Flake Fragment, Site 8, Record 18; 2: Onondaga Chert Edge Trimming Flake, Site 10, Record 19; 3: Onondaga Chert Biface Thinning Flake, Site 4, Record 6; 4: Onondaga Chert Primary Flake, Site 1, Record 1; 5: Onondaga Chert Shatter, Site 2, Record 3)



**Image 22: Informal Lithic Artifacts**

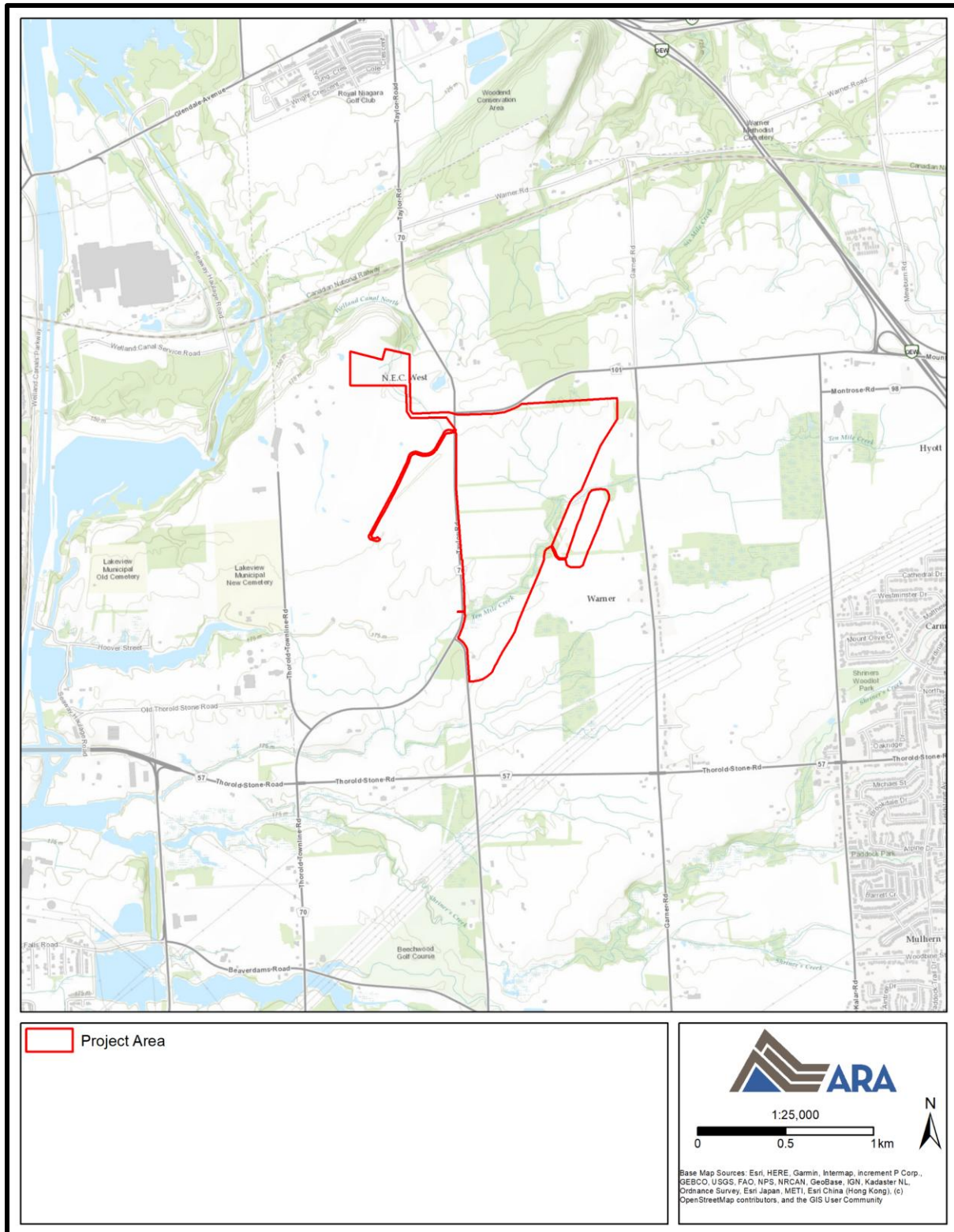
(1–2: Onondaga Chert Utilized Primary Flake, Sites 6 and 10, Records 10 and 21; 3–4: Onondaga Chert Rotated Cores, Sites 5 and 8, Records 9 and 16; 5: Haldimand Chert Rotated Core Fragment, Site 4, record 8; 6: Onondaga Chert Rough Biface, Site 3, Record 4)



**Image 23: Formal Lithic Artifacts**

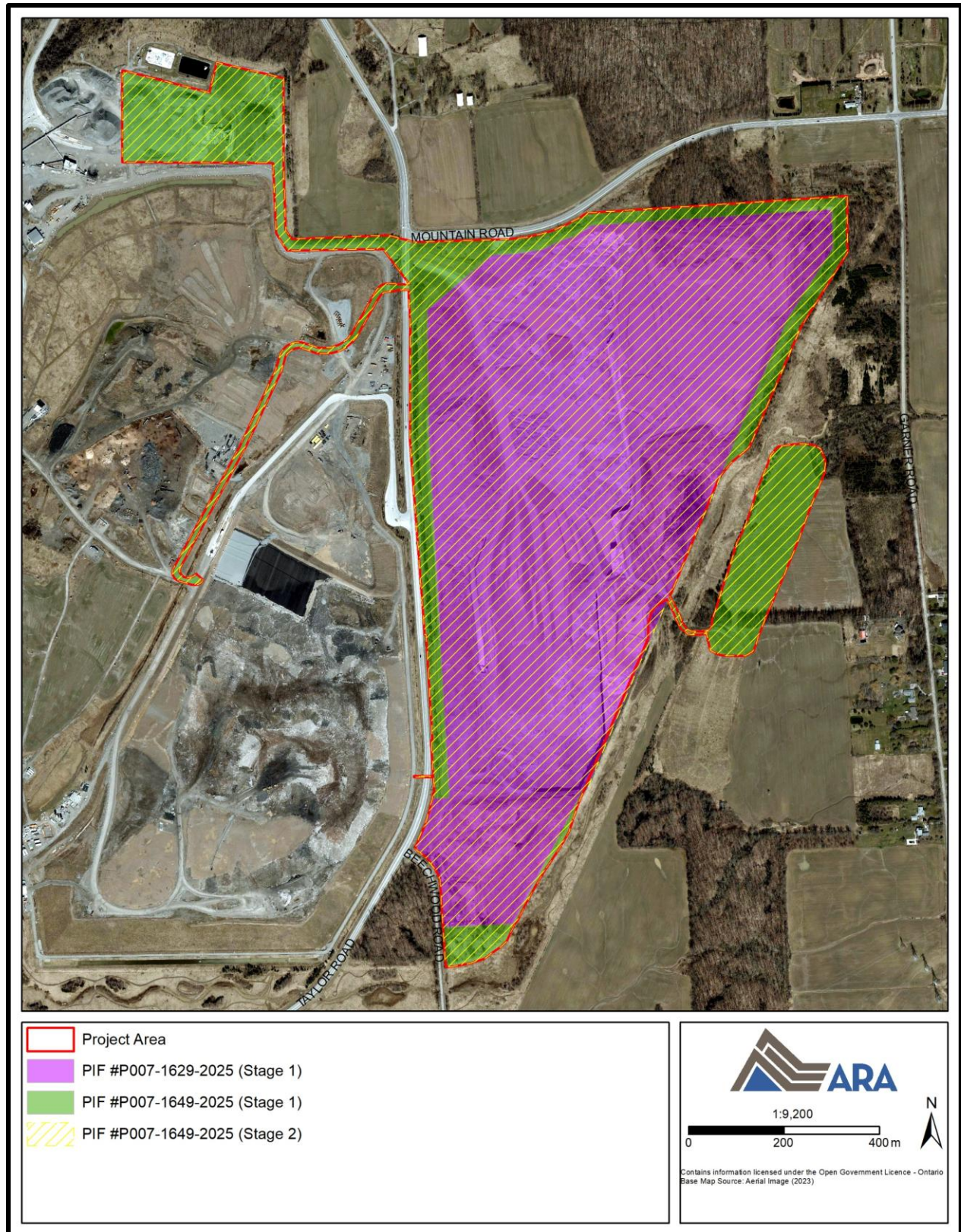
(1: Onondaga Chert Meadowood Point, Site 7, Record 11; 2: Onondaga Chert Biface, Site 3, Record 5; 3: Burnt Onondaga Chert Biface Fragment, Site 2, Record 2; 4: Selkirk Chert Biface Fragment, Site 4, Record 7)

## 7.0 MAPS



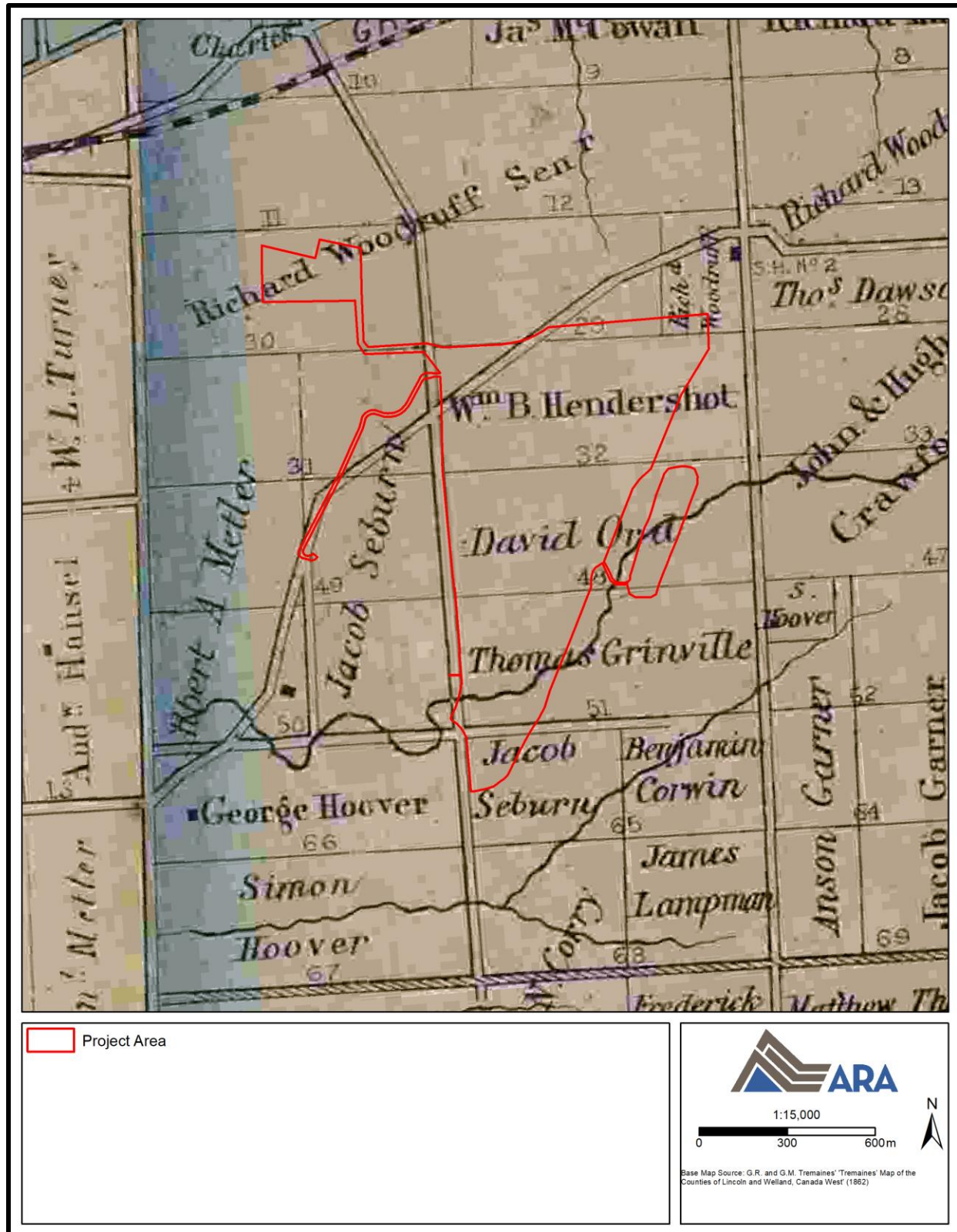
**Map 1: Location of the Project Area**

(Produced under licence using ArcGIS® software by Esri, © Esri)



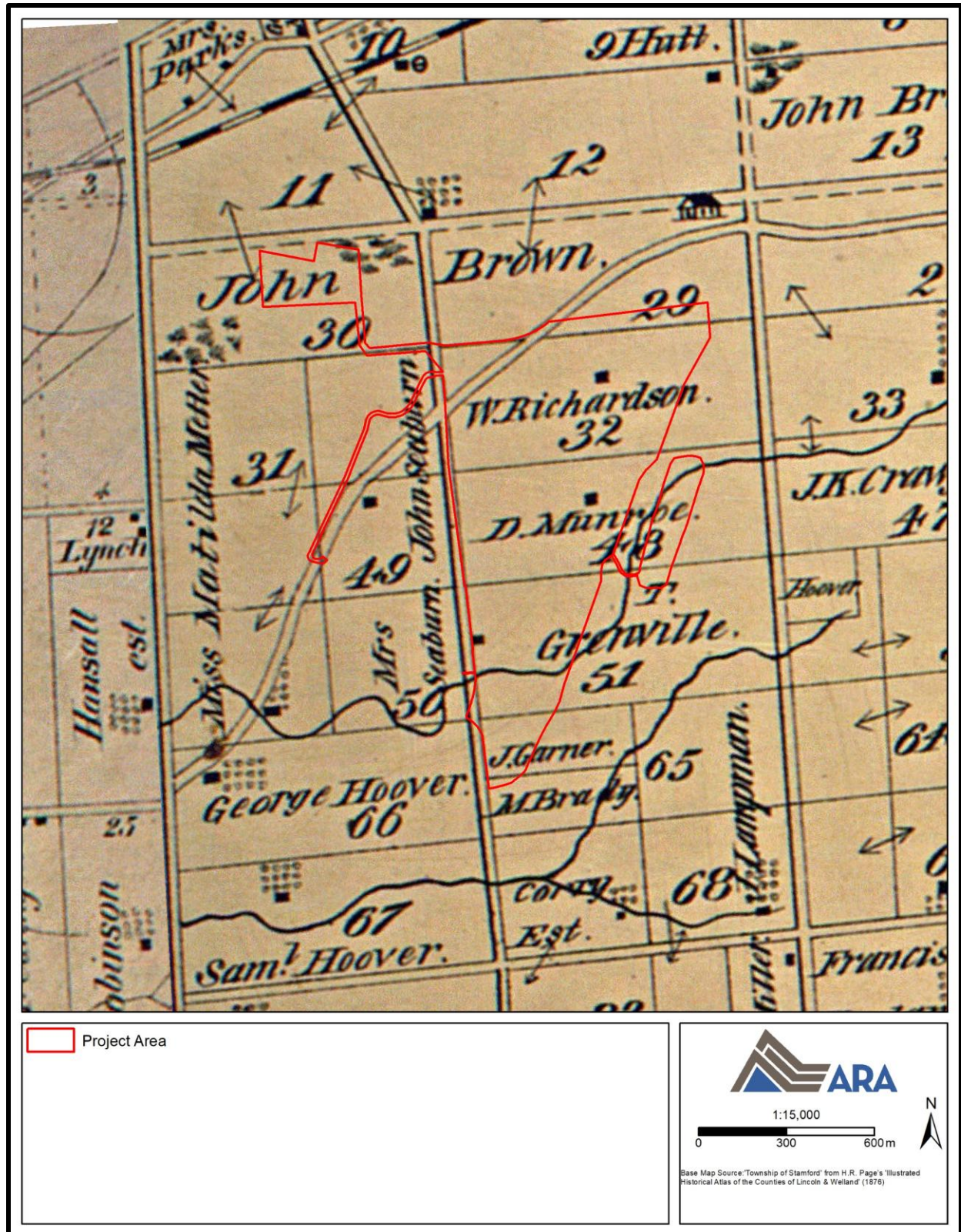
**Map 2: PIF Breakdown**

(Produced under licence using ArcGIS® software by Esri, © Esri)



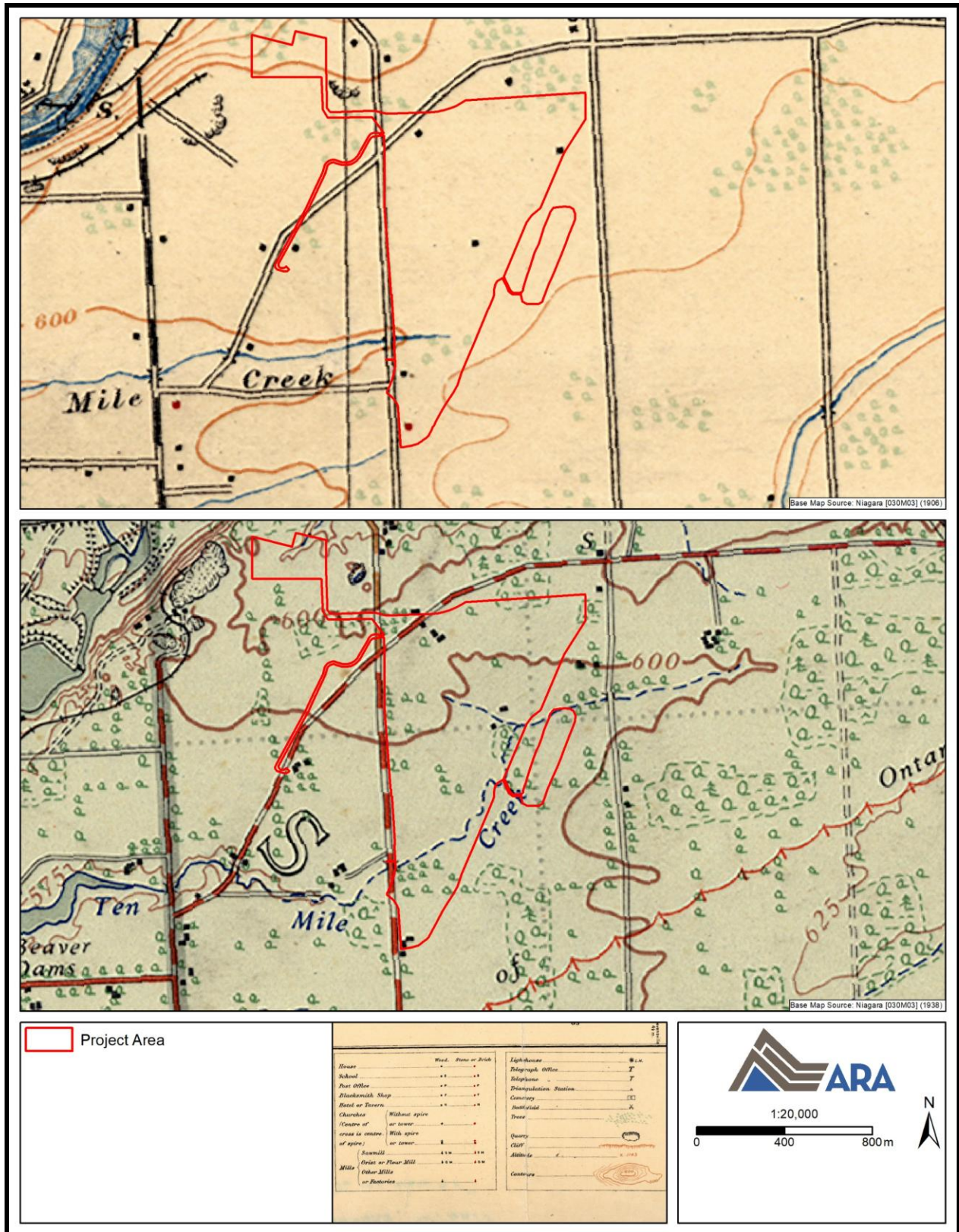
**Map 3: Tremaines' Map of the Counties of Lincoln and Welland, Canada West (1862)**

(Produced under licence using ArcGIS® software by Esri, © Esri; OHCMP 2025)



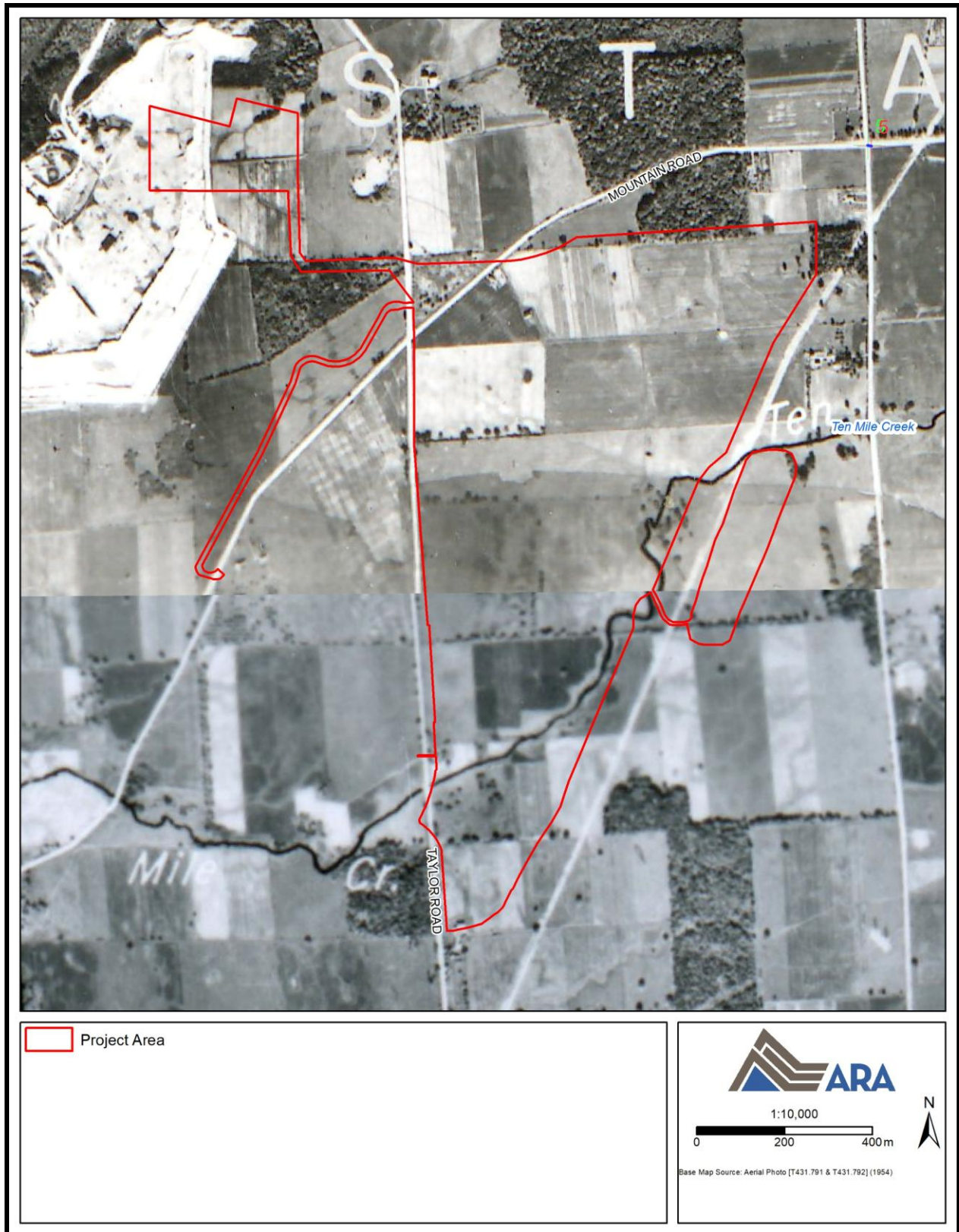
**Map 4: Illustrated Historical Atlas of the Counties of Lincoln and Welland, Ont. (1876)**

(Produced under licence using ArcGIS® software by Esri, © Esri; MU 2001)



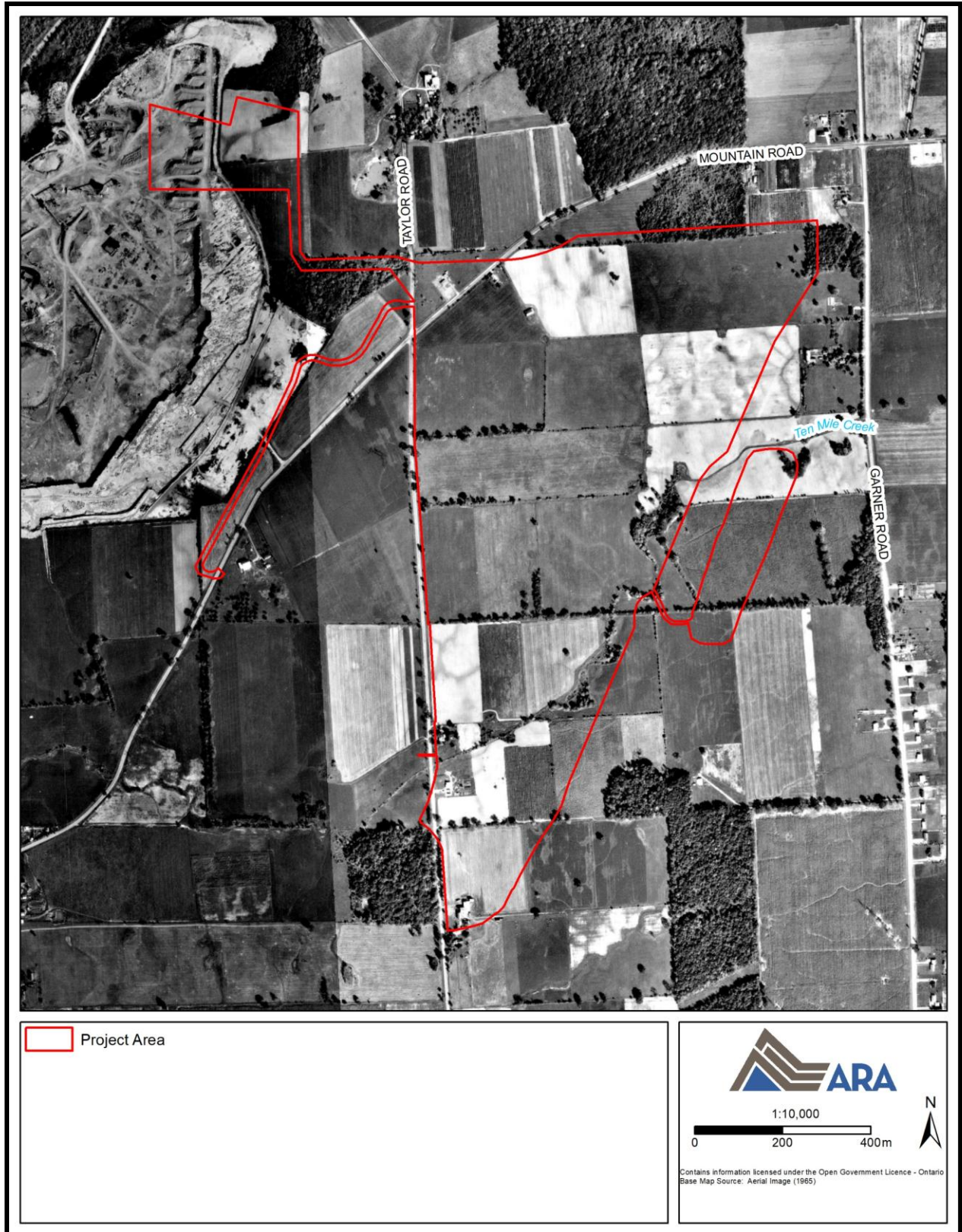
**Map 5: Topographic Maps (1906 and 1938)**

(Produced under licence using ArcGIS® software by Esri, © Esri; OCUL 2026)



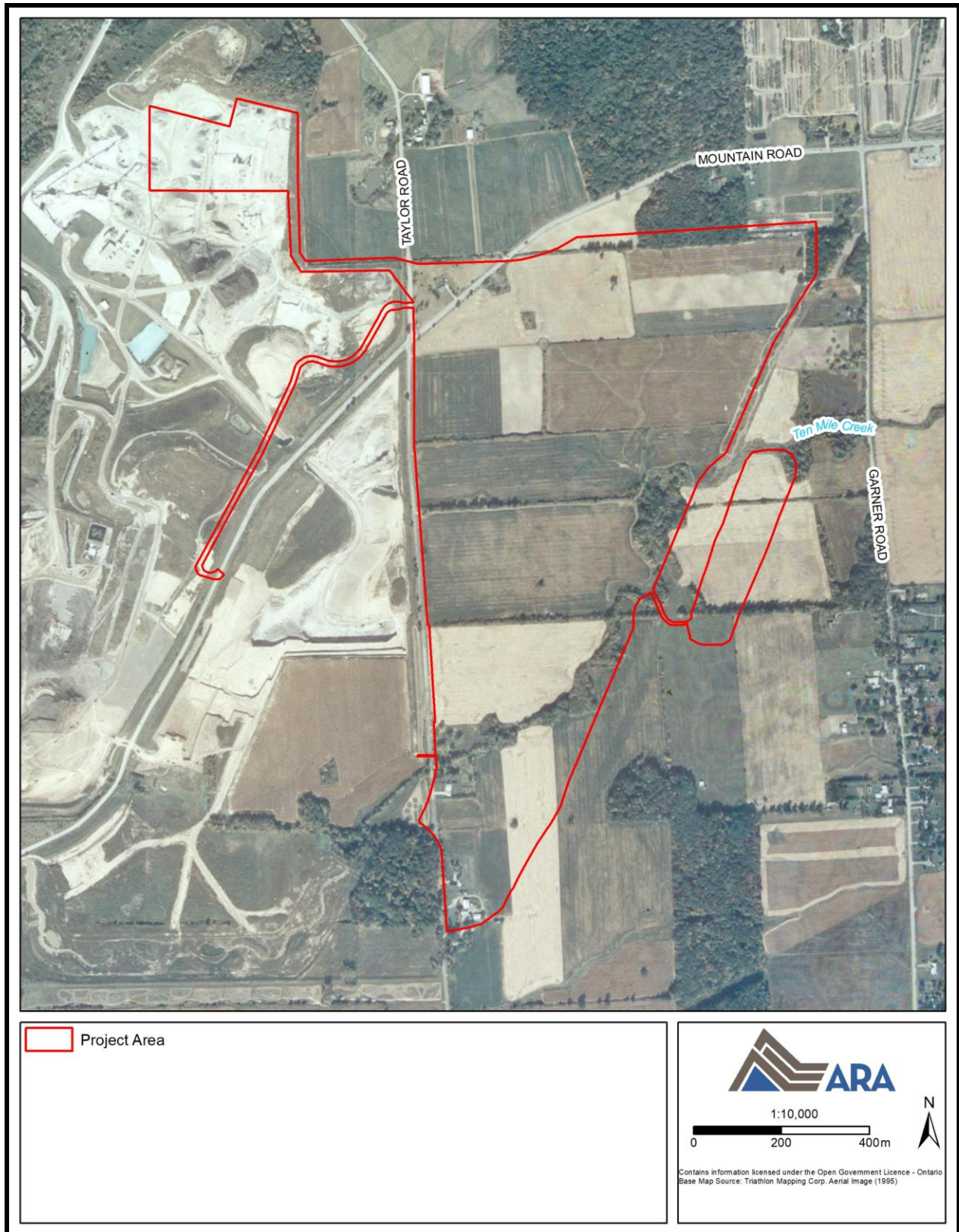
**Map 6: Aerial Image (1954)**

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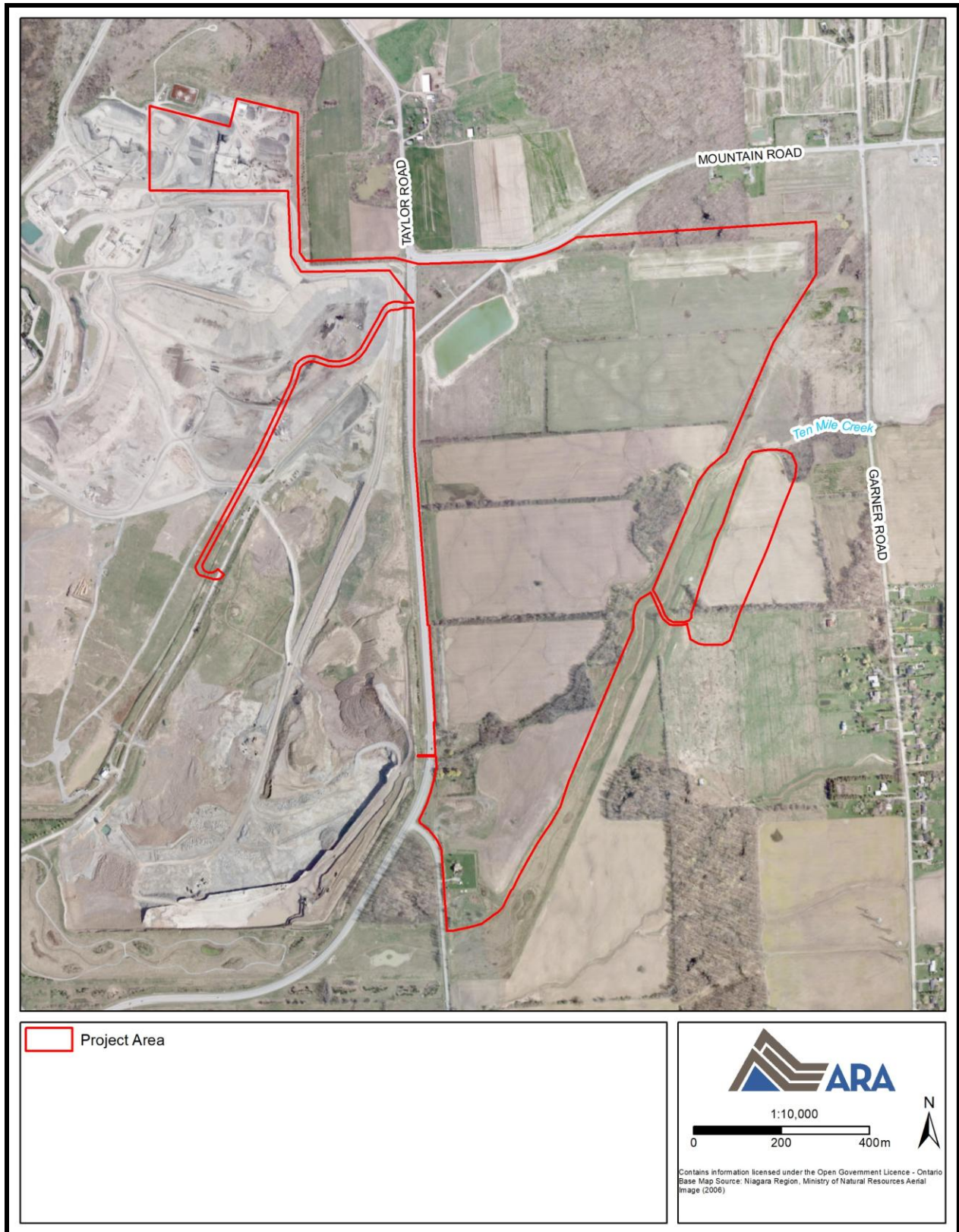
**Map 7: Aerial Image (1965)**

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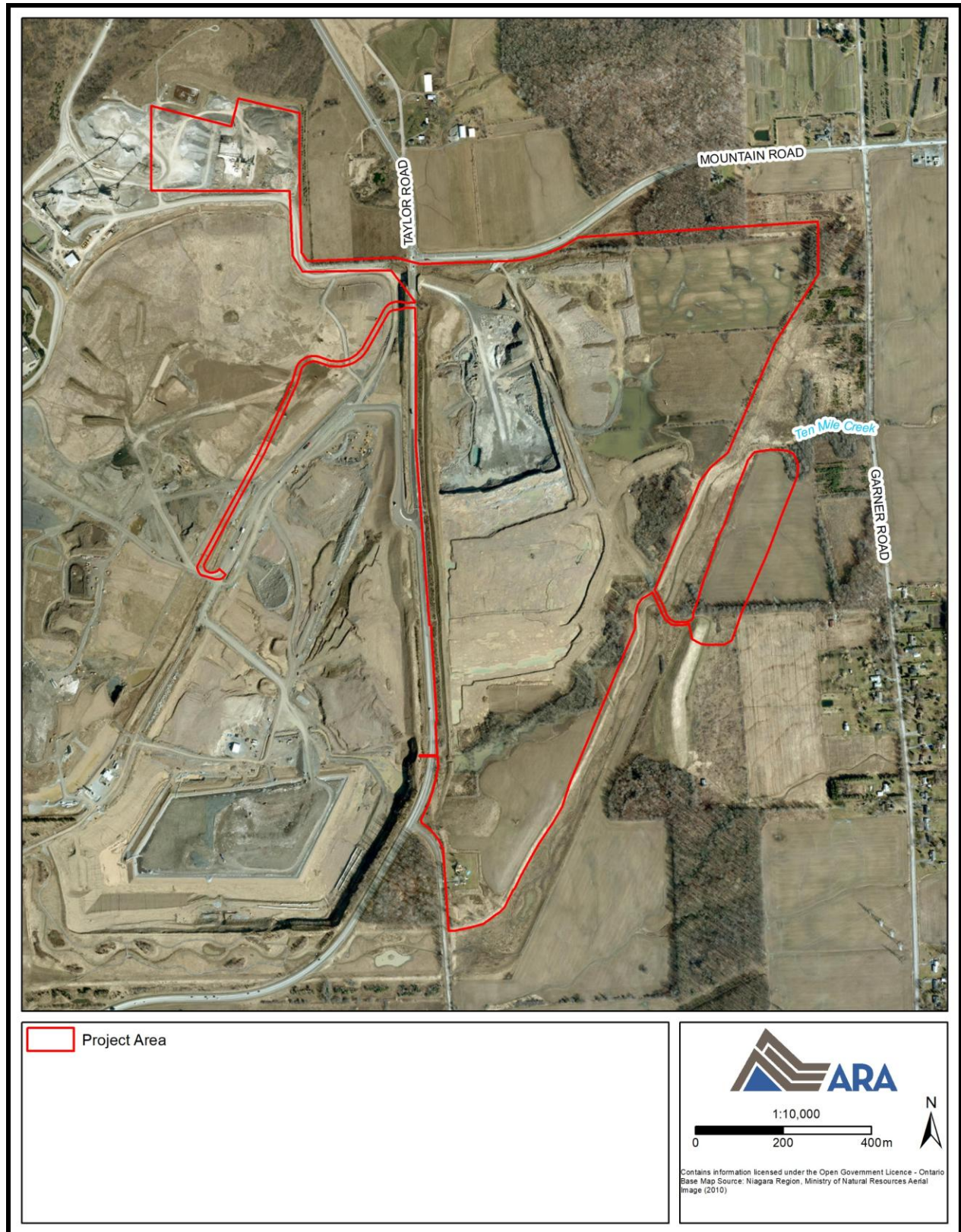
**Map 8: Aerial Image (1995)**

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**Map 9: Aerial Image (2006)**

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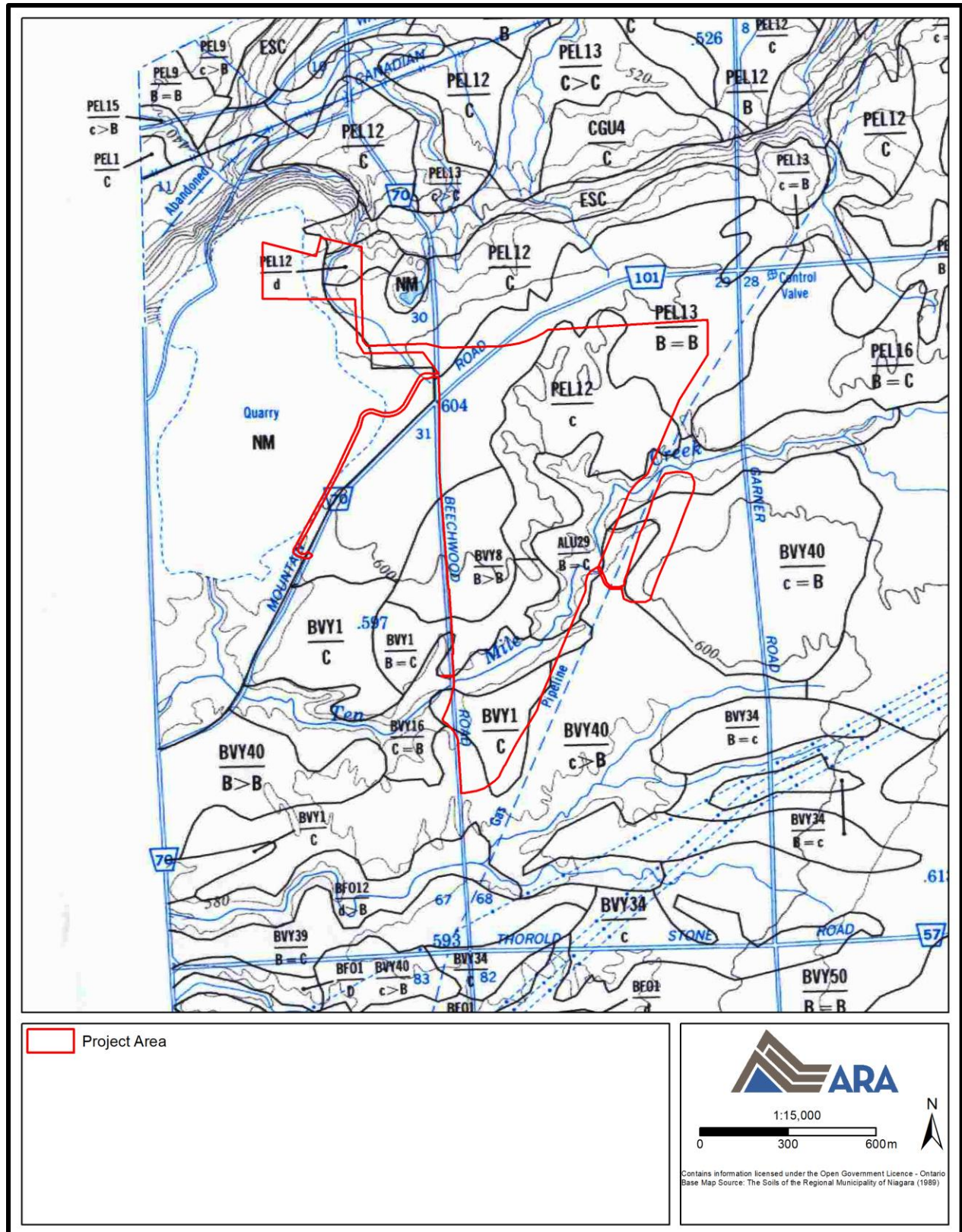
**Map 10: Aerial Image (2010)**

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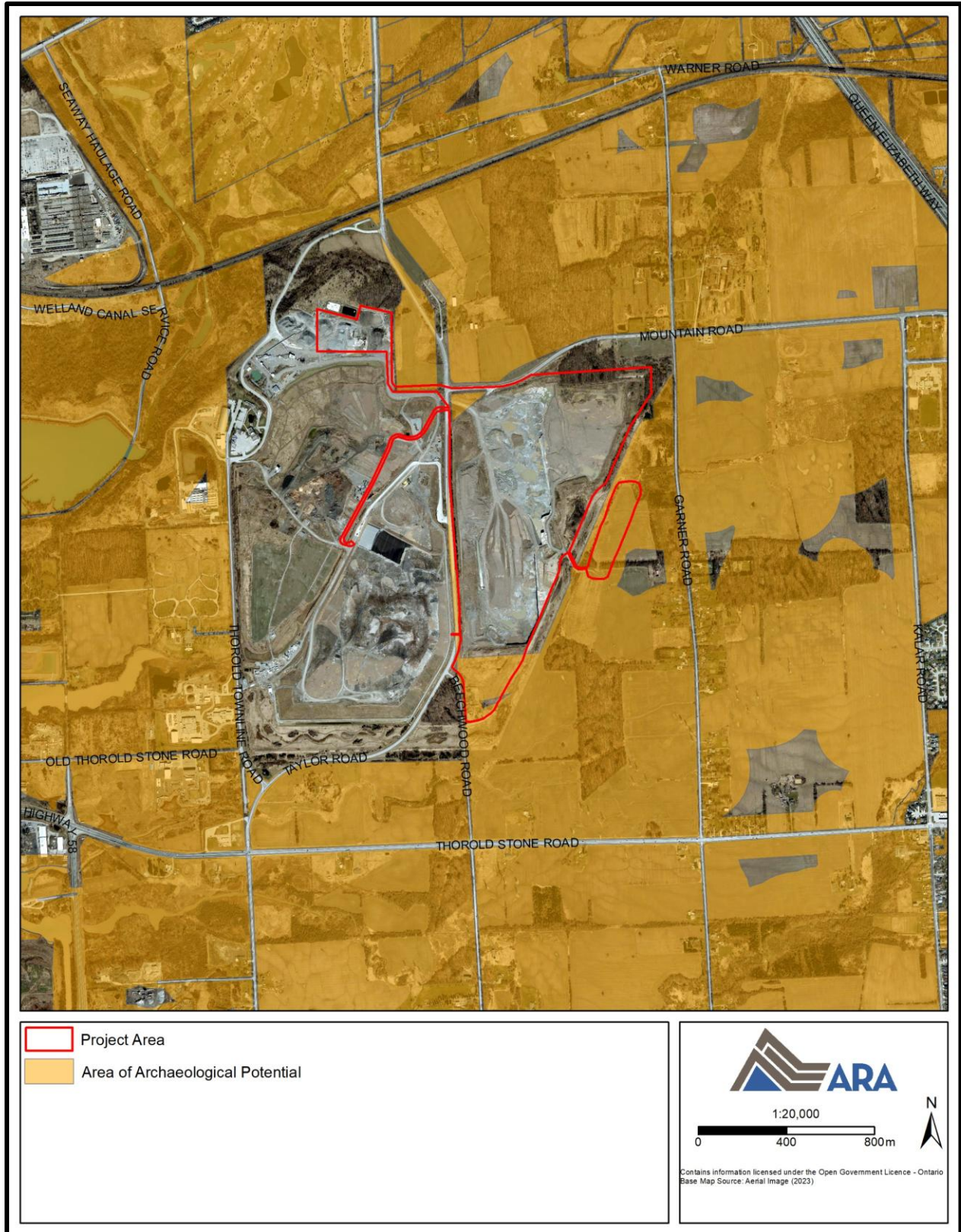
**Map 11: Aerial Image (2018)**

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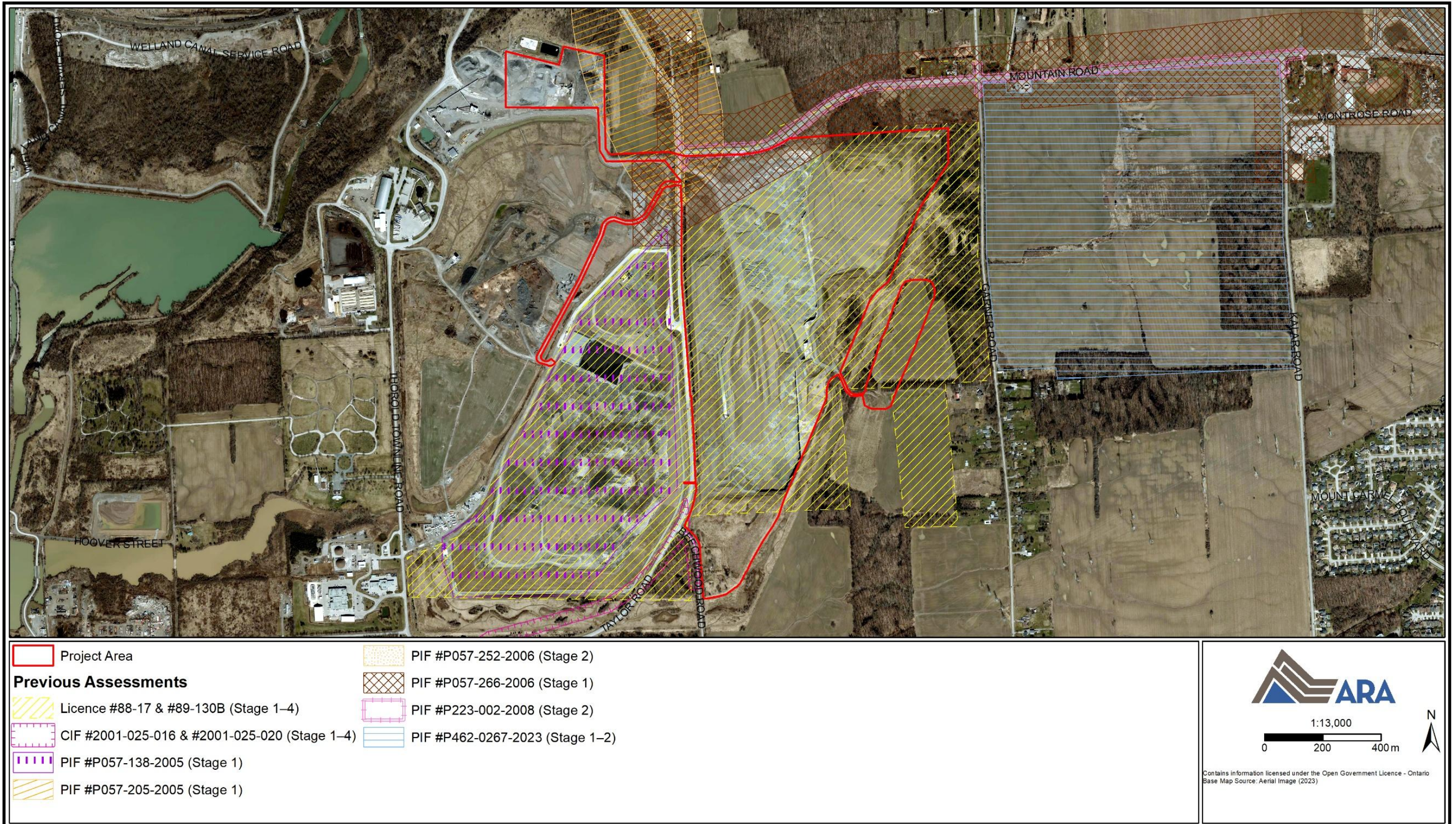


**Map 12: Soil Map**

(Produced under licence using ArcGIS® software by Esri, © Esri; Kingston and Presant 1989)

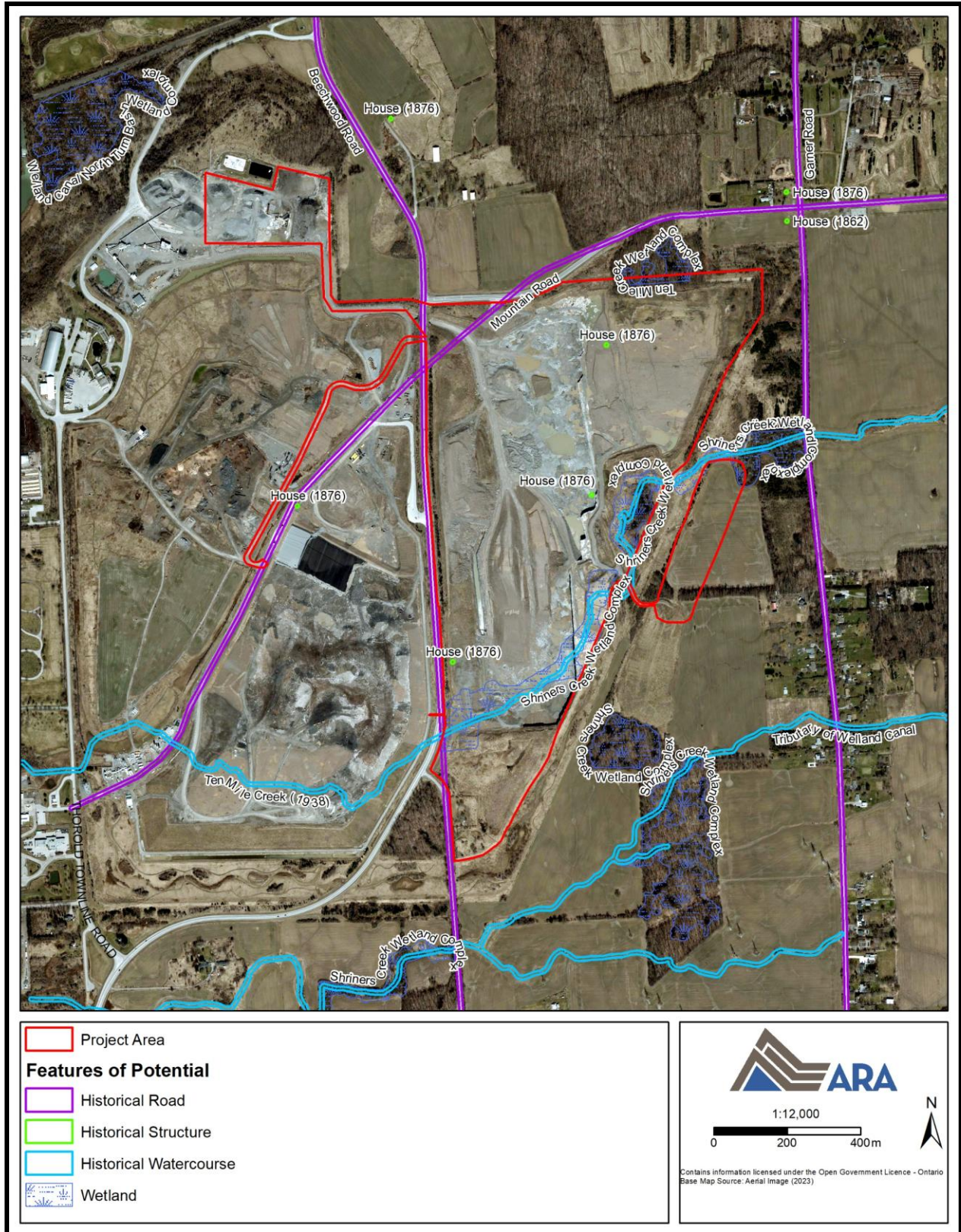


**Map 13: Regional Municipality of Niagara’s Archaeological Management Plan**  
(Produced under licence using ArcGIS® software by Esri, © Esri; NRN 2026)



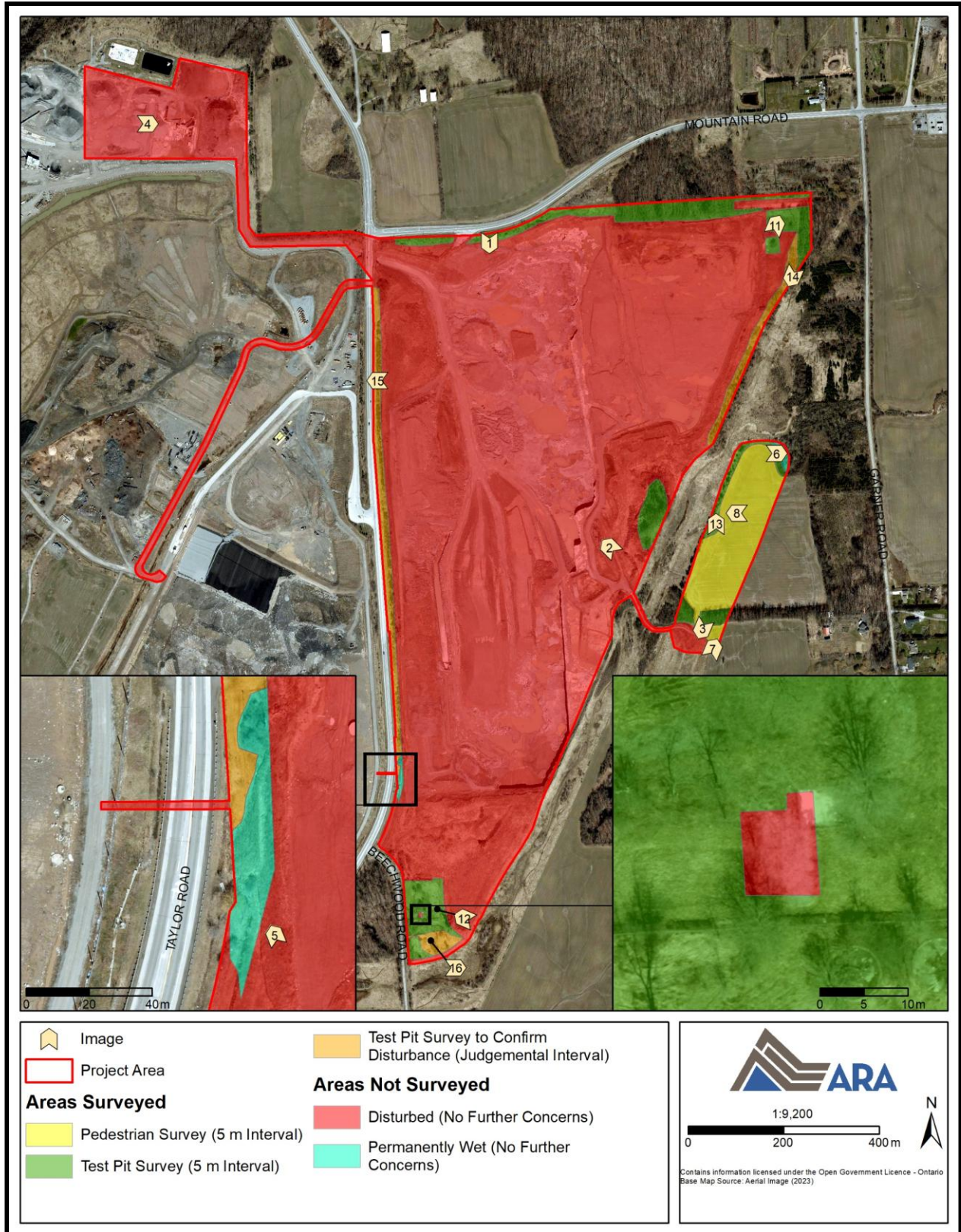
**Map 14: Previous Assessments**

(Produced under licence using ArcGIS® software by Esri, © Esri)



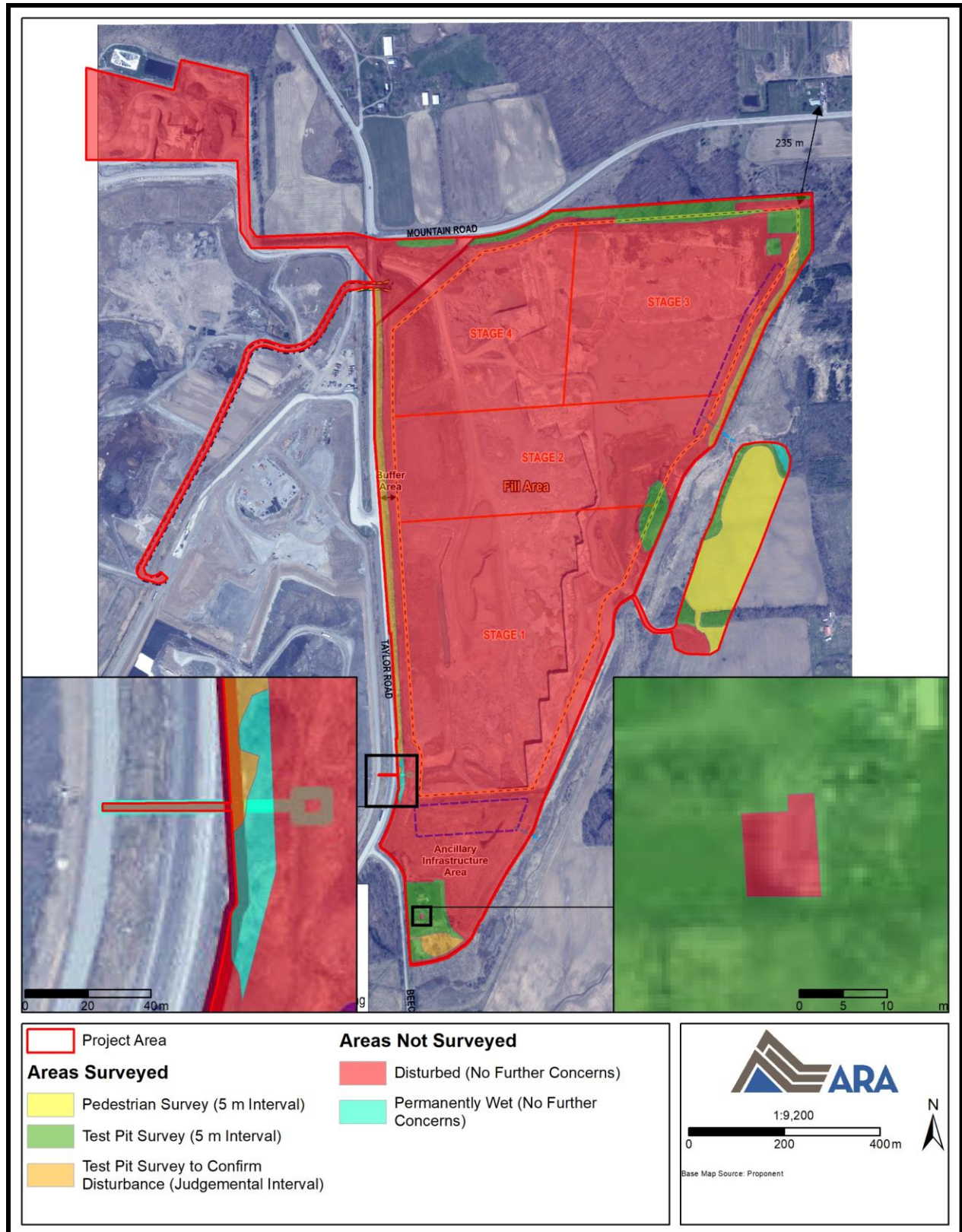
**Map 15: Features of Potential**

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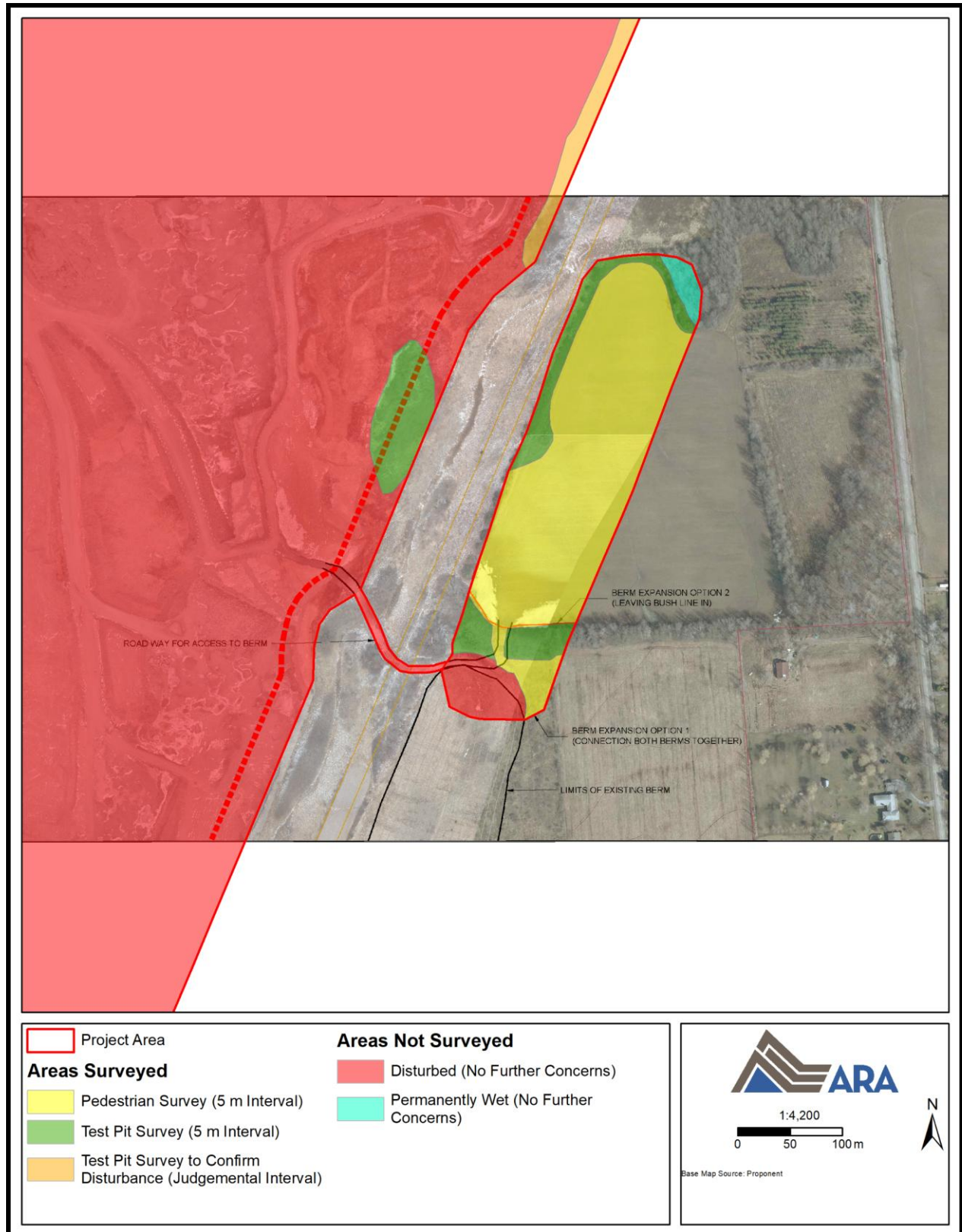


**Map 16: Field Methods (Aerial Image)**

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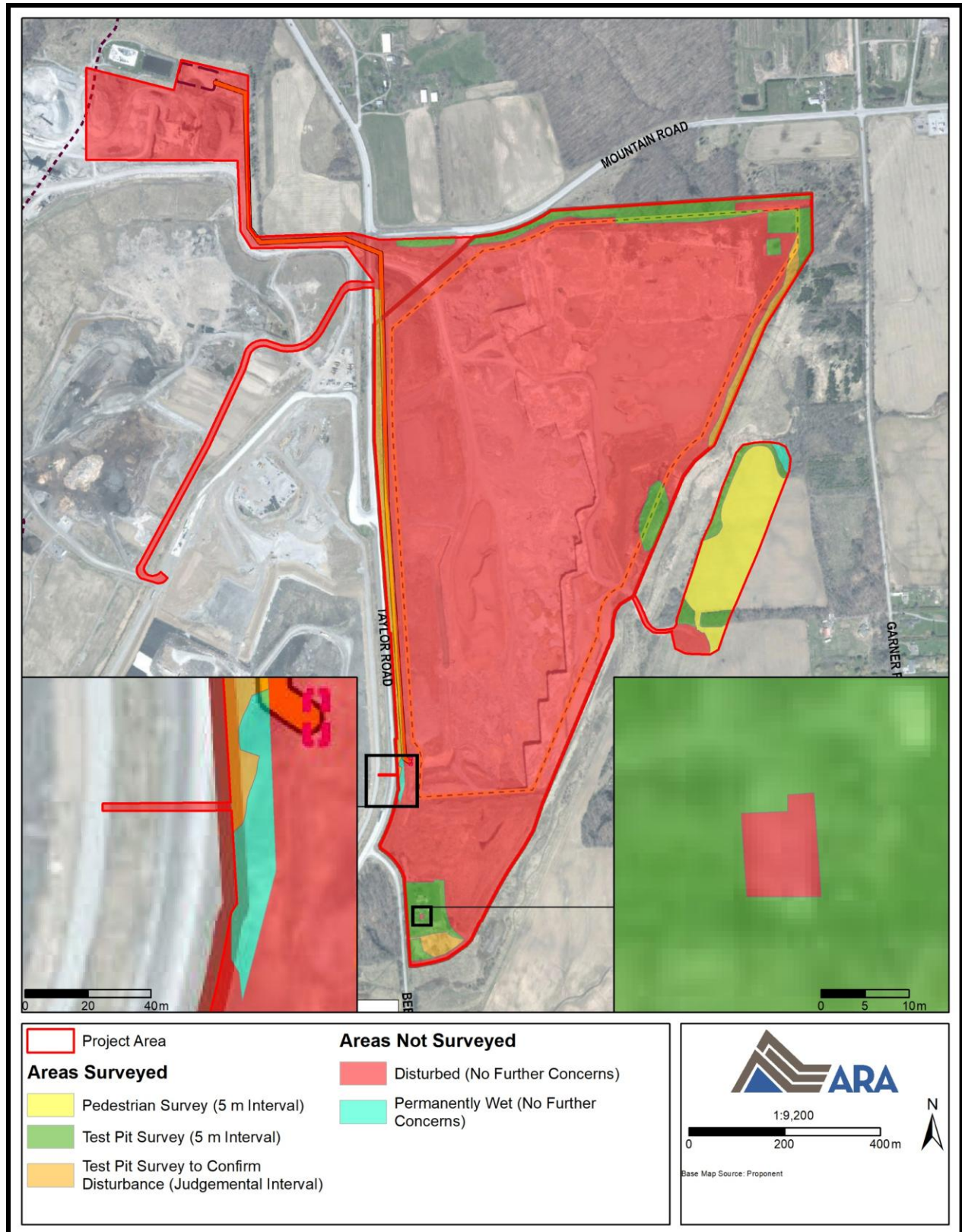


**Map 17: Field Methods (Site Boundary Plan)**  
 (Produced under licence using ArcGIS® software by Esri, © Esri)



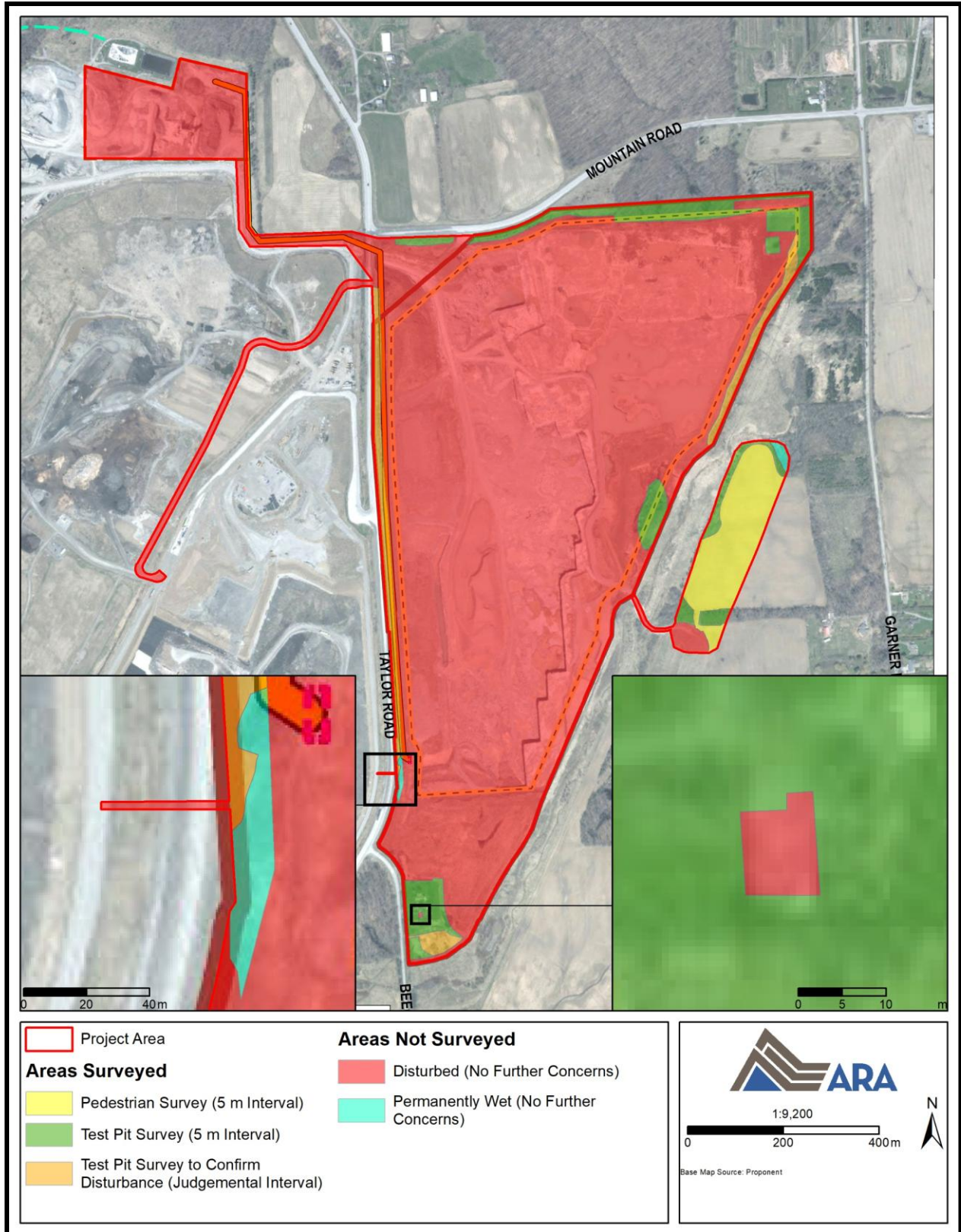
**Map 18: Field Methods (Berm Options Plan)**

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**Map 19: Field Methods (Leachate Management Option A)**

(Produced under licence using ArcGIS® software by Esri, © Esri)



**Map 20: Field Methods (Leachate Management Option B)**

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## **APPENDICES**

## Appendix A: Registered or Known Archaeological Sites

Borden No. / ID No.	Site Name / Identifier	Time Period	Affinity	Site Type	Distance from Project Area
AgGs-57	John Johnson Homestead	Post-Contact	Euro-Canadian	Homestead	> 1 km
AgGs-58	Mount Carmel 2	Pre-Contact	Indigenous	Findspot	> 1 km
AgGs-59	Mount Carmel 3	Pre-Contact	Indigenous	Findspot	> 1 km
AgGs-60	Mount Carmel 4	Pre-Contact	Indigenous	Findspot	> 1 km
AgGs-61	Mount Carmel 5	Pre-Contact	Indigenous	Findspot	> 1 km
AgGs-62	Mount Carmel 6	Archaic, Middle	Indigenous	Findspot	> 1 km
AgGs-63	-	Pre-Contact	Indigenous	Unknown	> 1 km
AgGs-64	-	Pre-Contact	Indigenous	Scatter	> 1 km
AgGs-65	-	Pre-Contact	Indigenous	Findspot	> 1 km
AgGs-66	P1 / Walker Brothers 1	Pre-Contact	Indigenous	Findspot	Within
AgGs-67	P5 / Walker Brothers 2	Pre-Contact	Indigenous	Findspot	< 50 m
AgGs-68	P7 / Walker Brothers 3	Pre-Contact	Indigenous	Findspot	Within
AgGs-69	P8 / Walker Brothers 4	Woodland, Early	Indigenous	Findspot	Within
AgGs-70	P10 / Walker Brothers 5	Woodland, Late	Indigenous	Findspot	50 m–300 m
AgGs-71	P13 / Walker Brothers 6	Pre-Contact	Indigenous	Camp / campsite	< 50 m
AgGs-72	P14 / Walker Brothers 7	Archaic, Middle	Indigenous	Findspot	50 m–300 m
AgGs-73	P15 / Walker Brothers 8	Pre-Contact	Indigenous	Findspot	Within
AgGs-74	P9 / Walker Brothers 9	Pre-Contact	Indigenous	Findspot	Within
AgGs-76	H9 / Walker Brothers 10	Post-Contact	Euro-Canadian	Findspot, Homestead	Within
AgGs-77	H6 / Walker Brothers 11	Post-Contact	Euro-Canadian	Homestead	Within
AgGs-78	H14 / Walker Brothers 12	Post-Contact	Euro-Canadian	Unknown	Within
AgGs-115	Warner Road	Post-Contact	Euro-Canadian	Cemetery, homestead	> 1 km
AgGs-249	Find 1	Woodland, Early	Indigenous	Unknown	> 1 km
AgGs-250	Find 3	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-276	Yerba	Palaeo, Late	Indigenous	Scatter	50 m–300 m
AgGs-323	P1	Pre-Contact	Indigenous	Findspot	50 m–300 m
AgGs-485	P1	Pre-Contact	Indigenous	Unknown	50 m–300 m
AgGs-487	P3	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-488	P4	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-489	P5	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-490	P6	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-491	Findspot 1	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-492	Findspot 2	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-493	Findspot 3	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-494	Findspot 4	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-495	Findspot 5	Pre-Contact	Indigenous	Unknown	50 m–300 m
AgGs-496	Findspot 6	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-497	Findspot 7	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-498	Findspot 8	Pre-Contact	Indigenous	Unknown	50 m–300 m
AgGs-499	Findspot 9	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-500	Findspot 10	Pre-Contact	Indigenous	Unknown	50 m–300 m
AgGs-501	Findspot 11	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-502	Findspot 12	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-503	Findspot 13	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-504	Findspot 14	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-505	Findspot 15	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-506	Findspot 16	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-507	Findspot 17	Pre-Contact	Indigenous	Unknown	> 1 km
AgGs-508	Findspot 18	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-509	Findspot 19	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-510	Findspot 20	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGt-46	-	Unspecified	Unspecified	Unspecified	> 1 km
AgGt-47	-	Unspecified	Unspecified	Unspecified	> 1 km
AgGt-48	-	Unspecified	Unspecified	Unspecified	> 1 km
AgGt-65	Walker Brothers 13	Pre-Contact	Indigenous	Findspot	300 m–1 km
AgGt-66	Walker Brothers 14	Post-Contact	Euro-Canadian	Unknown	300 m–1 km
AgGt-67	Walker Brothers 15	Pre-Contact	Indigenous	Findspot	300 m–1 km
AgGt-73	-	Pre-Contact	Indigenous	Findspot	> 1 km
AgGt-74	-	Archaic, Middle	Indigenous	Findspot	> 1 km
AgGt-75	-	Pre-Contact	Indigenous	Findspot	> 1 km
AgGt-76	-	Woodland, Late	Indigenous, Iroquoian	Findspot	> 1 km
AgGt-77	-	Pre-Contact	Indigenous	Findspot	> 1 km
AgGt-111	Huson	Palaeo, Late	Indigenous	Camp / campsite	50 m–300 m
AgGt-112	-	Archaic	Indigenous	Camp / campsite, scatter	300 m–1 km

Borden No. / ID No.	Site Name / Identifier	Time Period	Affinity	Site Type	Distance from Project Area
AgGt-243	Henry 1	Pre-Contact	Indigenous	Scatter	> 1 km
AgGt-244	Henry 2	Archaic, Middle	Indigenous	Findspot	> 1 km
AgGt-245	Fuller	Post-Contact	Euro-Canadian	Homestead	> 1 km
AgGt-246	Bouk	Post-Contact	Euro-Canadian	Unknown, farmstead	> 1 km
AgGt-247	Patterson	Post-Contact	Euro-Canadian	Farmstead	> 1 km
AgGt-248	Kenny O'Leary	Post-Contact	Euro-Canadian	Unknown	> 1 km
AgGt-332		Pre-Contact	Indigenous	Camp / campsite	> 1 km
Unregistered	H1 (ASI 1989)	Post-Contact	Euro-Canadian	Findspot	Within
Unregistered	H2 (ASI 1989)	Post-Contact	Euro-Canadian	Scatter	Within
Unregistered	H3 (ASI 1989)	Post-Contact	Euro-Canadian	Scatter	Within
Unregistered	H7 (ASI 1989)	Post-Contact	Euro-Canadian	Scatter	Within
Unregistered	H12 (ASI 1989)	Post-Contact	Euro-Canadian	Findspot	Within
Unregistered	H13 (ASI 1989)	Post-Contact	Euro-Canadian	Findspot	Within
Unregistered	H15 (ASI 1989)	Post-Contact	Euro-Canadian	Findspot	50 m–300 m
Unregistered	P4 (ASI 1989)	Pre-Contact	Indigenous	Findspot	50 m–300 m
Unregistered	P6 (ASI 1989)	Pre-Contact	Indigenous	Findspot	Within
Unregistered	P11 (ASI 1989)	Pre-Contact	Indigenous	Findspot	50 m–300 m
Unregistered	P1 (ASI 2002)	Pre-Contact	Indigenous	Findspot	300 m–1 km
Unregistered	P1 (ASI 2006)	Pre-Contact	Indigenous	Findspot	300 m–1 km
Unregistered	P3 (ASI 2006)	Pre-Contact	Indigenous	Findspot	50 m–300 m

**Appendix B: Archaeological Materials Catalogue**

Record	Site	Provenience	Lot	Depth (cm)	Location	Date	Count	Class	Material	Object Group	Object Name	Dateable Attribute	Date Range	Reference	Comments	Heat Altered	Box
1	1	PTP 1	1	0-20		19/08/2025	1	Indigenous	Onondaga Chert	Lithic Debitage	Flake (Primary)					No	A472
2	2	Surface	Surface	N/A	1	02/09/2025	1	Indigenous	Onondaga Chert	Formal Lithic	Biface (Fragment)				Fine bifacial thinning with continuous lateral retouch / Thermal fracture and scaling	Yes	A472
3	2	Surface	Surface	N/A	2	02/09/2025	1	Indigenous	Onondaga Chert	Lithic Debitage	Shatter					No	A472
4	3	Surface	Surface	N/A	3	02/09/2025	1	Indigenous	Onondaga Chert	Informal Lithic	Rough Biface (Ovate)				Large primary flake with coarse bifacial shaping / Unmodified proximal end	No	A472
5	3	Surface	Surface	N/A	4	02/09/2025	1	Indigenous	Onondaga Chert	Formal Lithic	Biface (Ovate)				Manufactured from large primary flake / Thinning and shaping of dorsal side / Flake scars limited to lateral margins on ventral / Characteristics similar to Meadowood preform	No	A472
6	4	Surface	Surface	N/A	5	02/09/2025	1	Indigenous	Onondaga Chert	Lithic Debitage	Flake (Biface Thinning)					No	A472
7	4	Surface	Surface	N/A	6	02/09/2025	1	Indigenous	Selkirk Chert	Formal Lithic	Biface (Fragment)				Complete bifacial thinning with continuous lateral retouch	No	A472
8	4	Surface	Surface	N/A	7	02/09/2025	1	Indigenous	Haldimand Chert	Informal Lithic	Core (Rotated Fragment)					No	A472
9	5	Surface	Surface	N/A	8	02/09/2025	1	Indigenous	Onondaga Chert	Informal Lithic	Core (Rotated)					No	A472
10	6	Surface	Surface	N/A	9	02/09/2025	1	Indigenous	Onondaga Chert	Informal Lithic	Utilized Flake (Primary)				Wear along distal margin to accent spurred lower lateral-distal junction	No	A472
11	7	Surface	Surface	N/A	10	02/09/2025	1	Indigenous	Onondaga Chert	Formal Lithic	Point (Side Notched)	Meadowood	ca. 900–400 BC	Spence et al. 1990:125	Thin with fine bifacial thinning / Asymmetrical side notches producing one horizontal and one upward sloping shoulder / Basal thinning	No	A472
12	8	Surface	Surface	N/A	11	02/09/2025	1	Indigenous	Onondaga Chert	Lithic Debitage	Flake (Edge Trimming)					No	A472
13	8	Surface	Surface	N/A	12	02/09/2025	1	Indigenous	Onondaga Chert	Lithic Debitage	Flake (Primary)					No	A472
14	8	Surface	Surface	N/A	13	02/09/2025	1	Indigenous	Onondaga Chert	Informal Lithic	Core (Rotated Fragment)					No	A472
15	8	Surface	Surface	N/A	14	02/09/2025	1	Indigenous	Onondaga Chert	Lithic Debitage	Flake (Biface Thinning)					No	A472
16	8	Surface	Surface	N/A	15	02/09/2025	1	Indigenous	Onondaga Chert	Informal Lithic	Core (Rotated)					No	A472
17	8	Surface	Surface	N/A	16	02/09/2025	1	Indigenous	Onondaga Chert	Lithic Debitage	Shatter					No	A472
18	8	Surface	Surface	N/A	17	02/09/2025	1	Indigenous	Onondaga Chert	Lithic Debitage	Flake (Fragment)					No	A472
19	10	PTP 2	1	0-25		05/09/2025	1	Indigenous	Onondaga Chert	Lithic Debitage	Flake (Edge Trimming)					No	A472
20	10	Test Unit 2	1	0-25		08/09/2025	1	Indigenous	Onondaga Chert	Lithic Debitage	Shatter					No	A472
21	10	Test Unit 2	1	0-25		08/09/2025	1	Indigenous	Onondaga Chert	Informal Lithic	Utilized Flake (Primary)				Wear along concave lateral margin	No	A472

**Appendix C: Supplementary Analysis of Formal Lithic Artifacts**

Site	Object Name	Record	Length (mm)	Width (mm)	Thickness (mm)	Completeness	Cross-Section	Blade Length (mm)	Lateral Edge Shape	Stem Length (mm)	Base Width (mm)	Haft Width (mm)	Notch Width (mm)	Basal Edge Shape
2	Biface (Fragment)	2	34.4+	27.5+	6.5+	Tip	Slightly Biconvex	30.5+	Convex	Indeterminate	Indeterminate	Indeterminate	Indeterminate	Indeterminate
3	Biface (Ovate)	5	62.9	39	9.5	Complete	Plano-convex	N/A	Convex	N/A	32.7	N/A	N/A	Slightly Convex
4	Biface (Fragment)	7	31.5+	24.2+	7.1	Tip	Biconvex	32.4+	Convex	Indeterminate	Indeterminate	Indeterminate	Indeterminate	Indeterminate
7	Point (Side Notched)	11	30.3+	26.3	6.8	Missing tip	Biconvex	20.8+	Convex	9.9	24.2	18.5	6.4	Irregular

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## Appendix D: Documentary Record

Category	Total	Nature	Location
Field notes	7	Digital	50 Nebo Road, Unit 1, Hamilton
Maps	5	Digital	50 Nebo Road, Unit 1, Hamilton
Photographs	170	Digital	50 Nebo Road, Unit 1, Hamilton