

# APPENDIX

C

## STAGE 1 ARCHAEOLOGICAL ASSESSMENT

Updated on December 19, 2022

**STAGE 1 ARCHAEOLOGICAL ASSESSMENT OF STEELES AVENUE –  
TREMAINE ROAD TO INDUSTRIAL DRIVE MUNICIPAL CLASS EA, ON PARTS OF  
LOT 1 CONCESSIONS 1 AND 2, IN THE GEOGRAPHIC TOWNSHIP OF ESQUESING,  
AND PART OF LOT 15 CONCESSION 2, IN THE GEOGRAPHIC TOWNSHIP OF  
TRAFALGAR, FORMER HALTON COUNTY, TOWN OF MILTON, REGIONAL  
MUNICIPALITY OF HALTON**

**Original Report**

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## **EXECUTIVE SUMMARY**

This report discusses the rationale, methods and results of the Stage 1 archaeological assessment for the proposed widening of Steeles Avenue (Regional Road 8) between Tremaine Road (Regional Road 22) and Industrial Drive, in the Town of Milton, in the Regional Municipality of Halton. The assessment process was initiated by Halton Region as part of the Municipal Class EA (MCEA) study. New Directions Archaeology Ltd. (NDA) was contracted by WSP Canada Group Limited on behalf of Halton Region to conduct the Stage 1 archaeological assessment ahead of the proposed road improvements.

The purpose of this Stage 1 archaeological assessment is to provide information about the study area's geography, history, previous archaeological fieldwork, and current land condition in order to determine the study area's potential to contain archaeological material. Detailed documentary research was conducted as was a property inspection in order to gain first-hand knowledge of the study area's geography, topography, and current condition, and to evaluate and map archaeological potential. The Stage 1 assessment resulted in the identification of several features of archaeological potential within the vicinity of the study area including proximity to Sixteen Mile Creek and its associated tributaries and wetlands, the Milton Wetland Complex Swamp, five historically-surveyed roadways, one historic railway, one sawmill, and five farmsteads.

NDA's property inspection, coupled with the analysis of aerial photographs, satellite imagery, topographic mapping and digital environmental data, resulted in the determination that portions of the study area no longer contain archaeological potential. Specifically, the permanently disturbed areas are related to the construction of a round-about, the existing roadways of Steeles Avenue and Peru Road, the existing railway that traverses the study area, the current roadway construction, and the footprints of industrial buildings and their associated paved areas. The residential areas appear to retain archaeological potential, specifically in the front lawns and backyards, as water/sewage infrastructure does not appear to have impacted large portions of the areas. A combination survey of these areas will confirm the presence/absence of disturbance. The remainder of the assessed area has potential for Indigenous and Euro-Canadian archaeological materials. The remainder of the study corridor is comprised of agricultural fields, brush, woodlot, and manicured grassed areas, all of which appear to contain archaeological potential.

NDA has completed a Stage 1 archaeological assessment for the proposed widening of Steeles Avenue (Regional Road 8) between Tremaine Road (Regional Road 22) and Industrial Drive, in the Town of Milton, Regional Municipality of Halton. Based on the Stage 1 assessment, the following recommendations are made:

1. Additional archaeological assessment is not required for those areas visually determined to be disturbed including the construction of a round-about at the west end of the study area, the existing roadways of Steeles Avenue and Peru Road, the existing railway that traverses the study area, the current roadway construction at the east end of the study area, and the footprints of industrial buildings and their associated paved areas at the east end of the study area.

2. The remainder of the study area contains archaeological potential and will require a Stage 2 archaeological assessment prior to any ground disturbing activities:
  - a. The portion of the study area located in active agricultural fields must be subject to a pedestrian survey as per Section 2.1.1 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011:30). The fields must be ploughed and allowed to weather by at least one heavy rainfall to improve visibility of archaeological resources.
  - b. The portion of the study area located within the overgrown grasslands, woodlots, and within the manicured areas along Steeles Avenue and Peru Road must be subject to a test pit survey as per Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011:31).
  - c. The portion of the study area located within active residential areas must be subject to a combination survey comprised of a mixture of test pit survey and visual assessment, as per Section 2.1.8 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011:38).



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## 1.0 PROJECT CONTEXT

### 1.1 Development Context

This report discusses the rationale, methods and results of the Stage 1 archaeological assessment for the proposed widening of Steeles Avenue (Regional Road 8) between Tremaine Road (Regional Road 22) and Industrial Drive, in the Town of Milton, Regional Municipality of Halton (Map 1 and APPENDIX I). The assessment process was initiated by Halton Region as part of the Municipal Class EA (MCEA) study. New Directions Archaeology Ltd. (NDA) was contracted by WSP Canada Group Limited on behalf of Halton Region to conduct the Stage 1 archaeological assessment as part of the MCEA study.

The study corridor consists of an approximately 1.3 km long corridor along Steeles Avenue between Tremaine Road and Industrial Drive in Milton, Ontario. This study area is generally bounded by the continuation of Steeles Avenue and the Canadian National Railway (formerly the Hamilton & North Western Railway) to the northeast, an industrial park to the north and northwest, the Milton Banquet and Conference Centre to the east, agricultural fields to the southeast, a roundabout and Old Tremaine Road to the southwest, and Peru Road and brushed areas to the west (Map 1). The study corridor is traversed by the Canadian Pacific Railway (formerly the Credit Valley Railroad), and Sixteen Mile Creek. The study corridor is located on parts of Lot 1 Concession 1 and Lot 1 Concession 2 in the Geographic Township of Esquesing, as well as part of Lot 15 Concession 2 in the Geographic Township of Trafalgar, Former Halton County.

The purpose of this Stage 1 archaeological assessment is to provide information about the study area's geography, history, previous archaeological fieldwork, and current land condition in order to determine the study area's potential to contain archaeological material. Detailed documentary research was conducted as part of this study and provides a record of the study area's archaeological and land use history, as well as its present condition. This research is presented in the historical and archaeological context sections of this report (Sections 1.2 and 1.3). A property inspection was also completed to gain first-hand knowledge of the study area's geography, topography, and current condition, and to evaluate and map archaeological potential (Section 2.2). The study corridor was comprised of roads and their rights-of-way, as well as private properties. Since permission to enter private properties was not received, all photos were taken from publicly accessible lands.

Assessment activities were conducted in accordance with the provisions of the *Ontario Heritage Act* (R.S.O. 1990, c.o. 18) in compliance with the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011) under an archaeological consulting license (#P089) issued to Dean Knight of NDA. The field notes, photos and related documents are curated at the office of NDA (APPENDIX II).

### 1.2 Historical Context

After a century of archaeological work in southern Ontario, scholarly understanding of the historic usage of lands in the Town of Milton has become very well-developed. With occupation beginning in the Palaeo-Indian period approximately 11,000 years ago, the greater vicinity of the study corridor comprises a complex chronology of Indigenous and Euro-Canadian histories. Section

1.2.1 provides an overview of the region's settlement history, and Section 1.2.2 summarizes the past and present land use of the study corridor.

### 1.2.1 Settlement History

#### 1.2.1.1 Pre-Contact

The Pre-Contact history of the region is both lengthy and rich due to the variety of Indigenous groups who inhabited the landscape. Archaeologists generally divide this complex history into three main periods: Palaeo-Indian, Archaic and Woodland. Each of these periods comprises a range of discrete sub-periods characterized by specific material culture, settlement patterns and lifeways. The principal archaeological horizons/cultures of the region are summarized in Table 1.

**Table 1: Pre-Contact Settlement History**  
(Wright 1972; Ellis and Ferris 1990; Warrick 2000; Munson and Jamieson 2013)

Sub-Period	Timeframe	Characteristics
Early Palaeo-Indian	9000–8400 BC	Gainey, Barnes and Crowfield traditions; Small bands; Mobile hunters and gatherers; Utilization of seasonal resources and large territories; Fluted projectiles
Late Palaeo-Indian	8400–7500 BC	Holcombe, Hi-Lo and Lanceolate biface traditions; Continuing mobility; Campsite/Way-Station sites; Smaller territories are utilized; Non-fluted projectiles
Early Archaic	7500–6000 BC	Side-notched, Corner-notched (Nettling, Thebes) and Bifurcate Base traditions; Growing diversity of stone tool types; Heavy woodworking tools appear (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; 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 appear; Stone pipes emerge; Long-distance trade (marine shells and galena)
Early Woodland	900–400 BC	Meadowood tradition; Crude cord-roughened ceramics emerge; Meadowood cache blades and side-notched points; Bands of up to 35 people
Middle Woodland	400 BC–AD 600	Point Peninsula tradition; Vinette 2 ceramics appear; Small camp sites and seasonal village sites; Influences from northern Ontario and Hopewell area to the south; Hopewellian influence can be seen in continued use of burial mounds
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 (Early Iroquoian)	AD 900–1300	Glen Meyer tradition; Settled village-life based on agriculture; Small villages (0.4 ha) with 75–200 people and 4–5 longhouses; Semi-permanent settlements
Late Woodland (Middle Iroquoian)	AD 1300–1400	Uren and Middleport traditions; Classic longhouses emerge; Larger villages (1.2 ha) with up to 600 people; More permanent settlements (30 years)
Late Woodland (Late Iroquoian)	AD 1400–1600	Huron-Petun tradition; Globular-shaped ceramic vessels, ceramic pipes, bone/antler awls and beads, ground stone celts and adzes, chipped stone tools, and even rare copper objects; Large villages (often with palisades), temporary hunting and fishing camps, cabin sites and small hamlets; Territorial contraction in early 16 <sup>th</sup> century; Fur trade begins ca. 1580; European trade goods appear

### 1.2.1.2 Post-Contact

The arrival of the European explorers and traders at the beginning of the 17<sup>th</sup> century triggered widespread shifts in Aboriginal 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. 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**  
(Smith 1846; Walker & Miles 1877; Coyne 1895; Lajeunesse 1960; Cumming 1972; Smith 1987; Ellis and Ferris 1990; Surtees 1994; NRC 2010; AO 2016)

Historical Event	Timeframe	Characteristics
Early Contact	Early 17 <sup>th</sup> century	Brûlé explores the area in 1610; Champlain visits in 1613 and 1615/1616; Iroquoian-speakers (Huron, Petun and Neutral) and Algonkian-speakers (Anishnabeg) encountered; European goods begin to replace traditional tools
Five Nations Invasion	Mid-17 <sup>th</sup> century	Haudenosaunee (Five Nations) invade ca. 1650; Neutral, Huron and Petun Nations are defeated/removed; vast Iroquoian hunting territory established in the second half of the 17 <sup>th</sup> century; Explorers continue to document the area
Anishnabeg Influx	Late 17 <sup>th</sup> and early 18 <sup>th</sup> century	Ojibway, Odawa and Potawatomi expand into Haudenosaunee lands in the late 17 <sup>th</sup> century; Nanfan Treaty between Haudenosaunee and British in 1701; Anishnabeg occupy the area and trade directly with the French and English
Fur Trade Development	Early and mid-18 <sup>th</sup> century	Growth and spread of the fur trade; 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-18 <sup>th</sup> century	<i>Royal Proclamation</i> of 1763 recognizes the title of the First Nations to the land; Numerous treaties arranged by the Crown; First acquisition is the Seneca surrender of the west side of the Niagara River in August 1764
Loyalist Influx	Late 18 <sup>th</sup> century	United Empire Loyalist influx after the American Revolutionary War (1775–1783); British develop interior communication routes and acquire additional lands; <i>Constitutional Act</i> of 1791 creates Upper and Lower Canada
County Development	Late 18 <sup>th</sup> and early 19 <sup>th</sup> century	Area initially adjacent to York County's 'West Riding'; Became part of York County's 'West Riding' in 1798; 'Brant's Tract' at the head of Lake Ontario acquired in 1797; Remainder of southern portion acquired as part of the 'Head of the Lake Purchase' in 1806; Halton County established in 1816; Northern portion acquired as part of the 'Ajetance Purchase' in 1818; Independent after the abolition of the district system in 1849
<i>Esquesing</i> Township Formation and Development	Early and mid-19 <sup>th</sup> century	Surveyed in 1818; Population is principally English, Irish, and Scotch; By the mid-19 <sup>th</sup> century 57,347 acres taken up, of which 19,622 under cultivation, and eleven sawmills and four grist mills; A farming township known for wheat crops; Traversed by the Credit River; Communities at Norval and Hornby; Traversed by the Credit Valley and Hamilton & North Western Railways
<i>Trafalgar</i> Township Formation	Early 19 <sup>th</sup> century	Land acquired by the British from the Mississaugas in 1795; Surveyed in 1806 using Dundas Road (originally a military road) as a baseline; Population in 1817, 548; Earliest settler families included Sovereign, Proudfoot, Katting, Freeman, Post, Biggar, Mulholland, Kenney, Chalmer, Albertson, Chisholms, Sproat, Brown, and Hagar
<i>Trafalgar</i> Township Development	Mid 19 <sup>th</sup> century	By the mid-19 <sup>th</sup> century 70,115 acres were taken up, of which 28,180 under cultivation, and twenty-three sawmills and seven grist mills were present; Farming community known for its orchards; Traversed by the Credit Valley and Hamilton & North Western Railways, Twelve Mile Creek and Sixteen Mile Creek; Communities at Oakville, Bronte, and Palermo

### 1.2.2 Past and Present Land Use

The study corridor is located on parts of Lot 1 Concession 1 and Lot 1 Concession 2, in the Geographic Township of Esquesing, as well as part of Lot 15 Concession 2 in the Geographic Township of Trafalgar, Halton County. To reconstruct the historic land use of the study corridor, NDA examined three historical maps that document residents, structures (e.g., homes, businesses and public buildings) and/or features during the mid- and late 19<sup>th</sup> century, one aerial image from the 20<sup>th</sup> century, and one Google Earth satellite image from the 21<sup>st</sup> century. The following maps were consulted:

- *Tremaine's Map of the County of Halton, Canada West* (1858) (OHCMP 2016);
- *Esquesing* from Walker & Miles *Illustrated Historical Atlas of Halton County, Ontario*. (1877) (McGill University 2001);
- *Trafalgar* from Walker & Miles *Illustrated Historical Atlas of Halton County, Ontario*. (1877) (McGill University 2001);
- Aerial image from 1954 (University of Toronto 2009); and
- Satellite imagery from 2015 (Google Earth 2017)

The limits of the study corridor are shown on 1) georeferenced versions of the consulted historical maps, 2) a georeferenced aerial image from 1954 and 3) georeferenced satellite image from 2015. The ownership and settlement features of the Lots and Concessions that pertain to the study corridor are documented in Table 3.

**Table 3: Summary of Historic Ownership of the Study Corridor**  
(Tremaine 1859; Walker & Miles 1877)

Township	Lot	Concession	1858 (Tremaine)		1877 (Walker & Miles)	
			FoP	Owner	FoP	Owner
Esquesing	1	1	N/A	Agnes Robertson	Structure and orchard	Duncan Robertson
	1	2	N/A	William Anderson	Structure and orchard	George R. Anderson
Trafalgar	15	2	Sawmill	East Half: James and Robert Ruxton	Two structures and an orchard	East Half: George R. Anderson
			N/A	West Half: William Cumming	Structure and orchard	West Half: John Cumming

Tremaine's 1858 map of the County of Halton indicates that Lot 1 Concession 1 of Esquesing Township was owned by Agnes Robertson, a widowed farmer, and that Lot 1 Concession 2 was owned by William Anderson (Map 2). The 1861 Census of Canada lists William as a farmer living with his family in a frame house in Esquesing Township. The property owners noted on Lot 15 Concession 2 of Trafalgar Township are as follows: William Cumming, a Scottish born farmer, resided in the west half of Lot 15 Concession 1, and the east half of Lot 15 was owned by brothers James and Robert Ruxton, who were also farmers. A sawmill was located on Sixteen Mile Creek in the northeast part of the lot, which borders on the study corridor. It is unknown if the Ruxton brothers were owner/operators, or if they leased the land to the owner. The 1861 Census of Canada lists the brothers as residing in a 1½ story frame house near the creek. No other structures or features are indicated on any of the properties, but this should not be taken as evidence that houses



or out-buildings were not present as only notable public buildings were typically illustrated on this map.

Walker and Miles 1877 map of Esquesing (Map 3) indicates that ownership of Lot 1 Concession 1 passed from Agnes Robertson to her son Duncan Robertson, an Ontario born farmer of Scottish decent. His property contained a structure and orchard bordering the study corridor on the east side of the newly constructed Credit Valley Railway (now the Canadian Pacific Railway), which runs NW-SE through the lot. George R. Anderson, son of William Anderson, is listed as the owner of both Lot 1 Concession 2 in Esquesing and the east half of Lot 15 Concession 1 in Trafalgar Township. An orchard and structure are depicted on Anderson's property in Esquesing, partially within the study corridor, and two structures and an orchard are illustrated on his Trafalgar property. One of the latter structures may be the old sawmill as depicted in Tremaine's map. William Cumming's son and heir John Cumming is indicated as the owner of the west half of Lot 15 Concession 1 in Trafalgar Township (Map 4). An orchard and structure are depicted at the corner of historic Steeles Avenue and Old Tremaine Road outside of the study corridor. The Credit Valley Railway is also depicted as running towards the Town of Milton where it crosses the Hamilton & North Western Rail line (now the Canadian National Railway).

The study corridor is east of the Niagara Escarpment, one concession southeast of the Village of Peru, and west of the Town of Milton. The Village of Peru began as a farming community of mainly Scottish immigrants who came to the area around 1822. In fact, Peru formed part of the southwest corner of what was called "The Scotch Block", which was a distinct community that covered nearly 20,000 acres, stretching from No. 17 Side Road in the north down to Steeles Avenue in the South, and from Tremaine Road in the west to Fifth Line in the east (Town of Milton 2012:8). The Village of Peru was established around 1830 by an American Lawyer named John Hill and his family, who built and operated a saw mill on Sixteen Mile Creek. The small village also had a tannery and an ash and soap works run by William and Socrates Center, brothers from Quebec. Both townships had an established brick industry, as the nearby edges of the Niagara Escarpment were rich in materials. The availability of materials, myriad of local water sources, and nearby railways aided in the growth of the brick industry, such as The Milton Brick Company, which bordered the western edge of the town. The presence of the Niagara Escarpment also led to abundant limestone quarries and lime kilns in the area (Town of Milton 2012:10-16).

The following is a summation of information compiled by the Corporation of the Town of Milton regarding the history and characteristics of the Milton Heights and Peru character areas report No. PD-027-12 (Town of Milton 2012). The brick industry in the Milton area, specifically the small historic communities of Milton Heights and Peru, was recognized for its quality throughout Canada. At its peak, local brickworks employed at least 200 people from the communities. Most brickworks consisted of a plant and a brickyard. Brickyards, also known as brick fields, were large areas where stacks of bricks were laid out pre- and post kiln firing. While the historic brickworks are now largely demolished, the properties are cited as containing cultural heritage value due to the economic effect they had on the history of both communities.

There were three main brick operations in the area, but only two of them operated within the study area. The brickworks were not depicted on the historic 19<sup>th</sup> maps as they were constructed at a later date. The Milton Pressed Brick and Sewer Pipe Company operated a plant on Lot 1,

Concession 1, Esquesing, and quarried from adjacent Lot 1, Concession 7, Nassagaweya, and Lot 1, Concession 2, Esquesing. The Milton Pressed Brick and Sewer Pipe Company reached its height at the turn of the twentieth century, and by 1913 it was considered the largest and most modernized brickworks in North America. In the early 1900s, the company constructed worker's houses in the area including six houses on Steeles Avenue and semi-detached houses on Peru Road. In 1916, the company merged with the Toronto Pressed Brick & Terra Cotta Co. and the Medina Shale Brick Company becoming the Milton Pressed Brick Company (Town of Milton 2012:13). Financial difficulty hit the brickworks during the depression, and many workers were subsequently laid off. In the 1930s, the company was acquired by the National Trust Company. In an effort to reorganize and restructure the company the worker's houses and portions of yard properties were sold. The company officially ceased plant operations in 1974 (Town of Milton 2012:14), though the exact date of the demolition of the buildings is unknown.

Terra Cotta Brick was founded in 1888, and changed its name to the Toronto Pressed Brick & Terra Cotta Co. in 1911. The company plant was located on the east half of Lot 2, Concession 7, Nassagaweya, and on part of (10 acres) Lot 2, Concession 1, Esquesing. During its height the plant employed up to 50 workers. A fire in 1906 destroyed or badly damaged the brick making machinery. A decade after the plant fire, the company merged with the Milton Pressed Brick & Sewer Pipe company. The plant was in operation until 1935 when it was demolished (Town of Milton 2012:14).

The 1877 Walker and Miles township biography describes Milton as a prominent town in Trafalgar, home to the county courthouse, jail, and registry. Jasper Martin is credited as the founder of Milton. He purchased several hundred acres of land in Trafalgar on Sixteen Mile Creek in 1822, and constructed and operated a grist mill, the only one for some distance. The location proved to be profitable and by 1877 the town held a population of 1,200. By 1877, Milton boasted a large stone school house, several general stores, grocers, grist and saw mills, various foundries and other manufacturing businesses.

A 1954 aerial photo indicates that the study corridor and vicinity are much the same as in the late 19<sup>th</sup> century (see Map 5). The small village of Peru is northwest of the study corridor and Milton is to the east. The rail line, now owned by Canadian Pacific, crosses the study corridor in a NE-SW direction, and Sixteen Mile Creek flows through the northeast portion of the study lands. The remains of an antiquated orchard, possibly the Duncan Robertson orchard as illustrated on the Walker & Miles map (1877), is depicted at the corner of Steeles Avenue and Peru Road. Overall, the study corridor comprises a mix of agricultural fields and residential lots with structures that are clustered around the Steeles Avenue and Peru Road intersection.

A review of historic 21<sup>st</sup> century imagery provided by Google Earth from 2015 was also completed. Imagery from June 2015 indicates that a portion of land in the southwestern corner of the study corridor adjacent to the west side of Steeles Avenue was impacted by soil moving activities related to the construction of the round-about to the southwest (Map 6). The topsoil was stripped and the area graded in advance of the road alteration/widening.

### 1.3 Archaeological Context

The archaeological context of any given study area must be informed by the general condition of the study area (Section 1.3.1), summaries of any previous archaeological work conducted within 50 m of the subject study area (Section 1.3.2) and whether there are any registered or known archaeological sites located within 1 km of the study corridor (Section 1.3.3). The Stage 1 property inspection was carried out on August 4, 2017, and the specific weather and lighting conditions are summarized in Section 2.2.

#### 1.3.1 Condition of the Property

The study corridor lies within the deciduous forest, which is the southernmost forest region in Ontario and is dominated by agricultural and urban areas. This region generally has the greatest diversity of tree and vegetation species, while at the same time having the lowest proportion of forest. It has most of the tree and shrubs species found in the Great Lakes–St. Lawrence forest (e.g., white pine, red pine, hemlock, white cedar, yellow birch, sugar and red maples, basswood and red oak), and also contains black walnut, butternut, tulip, magnolia, black gum, many types of oaks, hickories, sassafras and red bud (MNRF 2015). Physiographically, the study corridor lies within the region known as the Peel Plain, which stretches across the central parts of Regional Municipalities of York, Peel and Halton. This plain is characterized by level-to-undulating clay soils which slope gradually toward Lake Ontario. The plain consists of deposits of limestone and shale till overlain by imperfectly drained shallow clays (Chapman and Putnam 1984:174–175). In terms of local watersheds, the subject land falls within the Sixteen Mile Creek drainage basin, which is under the jurisdiction of the Halton Conservation Authority (Conservation Halton 2017). The study corridor is traversed in the north by Sixteen Mile Creek and in the south by a tributary of Sixteen Mile Creek, as well as an unnamed wetland. Furthermore, the study corridor is 239 m west of Milton Wetland Complex Swamp, and 1.7 km northeast of Milton Outlier Wetland Complex Marsh.

There are three soils types within the study corridor: Chinguacousy clay loam, Jeddo clay loam, and Oneida clay loam, which are summarized below in Table 4. These three soil types can be used/worked for the production of farm crops. Specifically, Chinguacousy soils are excellent for the production of grain crops such as oats, barley, and wheat, Jeddo soils are limited to the production of hay, while Oneida soils are well suited for grain crops and fruit production (Gillespie et al. 1970:32, 43, 47).

**Table 4: Summary of Soil Types within the Study Corridor**  
(Gillespie et al. 1970)

Soil Type	Great Group	Parent Material	Drainage Class
Chinguacousy clay loam	Grey Brown Luvisol	Clay loam till	Imperfectly drained
Jeddo clay loam	Humic Gleysol	Clay loam till	Poorly drained
Oneida clay loam	Grey Brown Luvisol	Clay loam till	Well Drained

Currently, the present land use of the study corridor can be classified as a mixture of agricultural fields, brush, woodlot, residential lots, existing roadways and rail line, and industry areas. The

topography is generally flat apart from the sloped drainage ditches associated with the Steeles Avenue ROW, and the sloped banks of Sixteen Mile Creek.

### 1.3.2 Previous Archaeological Work

The Ontario Archaeological Sites Database was consulted to determine whether any archaeological assessments had been previously conducted within the limits of, or immediately adjacent to the study corridor. As a result of this investigation, it was determined that there is one report on record documenting previous archaeological fieldwork within a 50 m radius of the study corridor.

*Stage 1 Archaeological Assessment Steeles Avenue (Regional Road 8) Transportation Corridor Class Environmental Assessment Study from Industrial Drive to Regional Road 25 (Martin Street) Town of Milton, Regional Municipality of Halton, Ontario. [PIF #P057-409-2007] (ASI 2007)*

Archaeological Services Inc. (ASI) conducted a Stage 1 archaeological assessment for Hatch Mott MacDonald of a 0.9 km long corridor for the road widening of Steeles Avenue from Industrial Drive to Regional Road 25 (Martin Street), in the Town of Milton, Regional Municipality of Halton. The two to four lane road widening was proposed as part of Halton's Transportation Master Plan (2004). The Stage 1 property inspection was conducted on September 19, 2007, and consisted of a field review across the extent of the study corridor. The field review indicated that the entire study corridor had been disturbed by past road construction and the installation of utilities, specifically grading, paving, and ditching. No areas of archaeological potential were documented, and the following recommendations were made: "The study corridor does not require further archaeological work, and the study corridor is free of archaeological concern" (ASI 2007:8).

### 1.3.3 Registered or Known Archaeological Sites

The Ontario Archaeological Sites Database was also consulted to determine whether any registered or known archaeological resources are located within 1 km of the study corridor. As a result of this investigation, it was determined that there are no archaeological sites located within a 1 km radius. However, there are 16 registered archaeological sites greater than 1 km from the study corridor. These are presented below in Table 5.

**Table 5: Registered or Known Sites Greater Than 1 km from the Study Corridor**

Borden Number	Site Name	Cultural Affiliation	Site Type	Results & Recommendation	Researcher
AjGx-46	Harry Woolridge	Late Woodland	Unknown	One projectile point collected from the surface, CHVI not available	Finlayson (1985)
AjGx-44	Milton Heights	Post-Contact Late Woodland	Cemetery/ossuary	Salvage mitigation; impacted by housing development	(1986)
AjGx-223	The Harrison site	Post-contact	Homestead	Test pit survey, 60 m x 40 m, 78 artifacts collected, further CHVI	Steiss (2010)
AjGx-172	-	Late Archaic	Findspot	No further CHVI	Slocki (2006)
AjGx-171	Hogg Site	Post-Contact	Homestead	Pedestrian survey, 273 artifacts observed, 81 artifacts collected, no further CHVI	Slocki (2006)

Borden Number	Site Name	Cultural Affiliation	Site Type	Results & Recommendation	Researcher
AjGx-170	-	Post-Contact	Homestead	Pedestrian and test pit survey, 14 artifacts collected, no further CHVI	Slocki (2006)
AjGx-169	Triangular Field	Middle Archaic	Findspot	Pedestrian survey, no additional information or CHVI information	Sutton (2005)
AjGx-168	Bovine	Indeterminate	Unknown	Stage 3 CSP and test unit excavation, 10 artifacts collected, no CHVI information	Sutton (2005)
AiGx-268	-	Early Woodland	Findspot	No further CHVI	Wilson (2005)
AiGx-267	-	Early Archaic	Findspot	No further CHVI	Wilson (2005)
AiGx-266	-	Other	Refuse disposal	Stage 4: 40 m x 30 m, 60 artifacts collected, no further CHVI	Wilson (2005)
AiGx-265	Civiero	Post-Contact	Farmstead/cabin	30 m x 50 m, 5,153 artifacts collected, no further CHVI	Wilson (2005)
AiGx-264	-	Pre-Contact	Findspot	No further CHVI	Wilson (2005)
AiGx-249	North Derry #2	Pre-Contact	Camp/campsite	95 m x 38 m lithic scatter, no CHVI information	Pearce (2004)
AiGx-248	North Derry #1	Pre-Contact	Findspot	No CHVI information	Pearce (2004)
AiGx-130	Red Turtle	Late Woodland	Hamlet	Surface survey, diffuse scatter, no CHVI information	Finlayson (1984)

### 1.3.4 Review of Archaeological Management Plan

Archaeological management plans are tools that provide strategies for the identification and conservation of archaeological resources on a given property. A review of the Regional Municipality of Halton's *Master Plan of Archaeological Resources* (2009) indicates the entire study corridor is located within an area identified as holding archaeological potential (Map 7).

## 2.0 STAGE 1 BACKGROUND STUDY

### 2.1 Background

The Stage 1 background study was completed as per Section 1.1 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011:14). The background study involved an examination of the archaeology, history, geography and current land condition of the vicinity of the study corridor and is detailed in the Historical and Archaeological Context sections above. The research includes information from the following sources:

- Historic settlement maps
- Aerial photographs
- Commemorative plaques or monuments (none present)
- The most up-to-date listing of sites from the Ministry of Tourism, Culture and Sport's archaeological sites database within 1 km of the study corridor
- Reports of previous field work within 50 metres of the study corridor
- Topographic maps at 1:10,000 (recent and historical) or the most detailed scale available

With occupation beginning approximately 11,000 years ago, the greater vicinity of the study corridor comprises a complex chronology of Pre-Contact and Post-Contact histories. Artifacts associated with Palaeo-Indian, Archaic, Woodland and Early Contact traditions are well-attested in Halton County, as are 19<sup>th</sup> century Euro-Canadian archaeological sites. The lack of documented archaeological sites in the vicinity of the study corridor should not be taken as an indicator that the area was unattractive or undesirable for human occupation. Instead, this absence is more likely related to a lack of local archaeological exploration.

The natural environment of the study corridor would have been attractive to both Indigenous and Euro-Canadian populations as a result of proximity to Sixteen Mile Creek, and its associated wetlands and tributaries. The soils suited for grain and fruit crops, rich natural resources, and diverse local vegetation would have encouraged settlement throughout Ontario's lengthy history. Euro-Canadian populations would have been particularly drawn to the area once the various historically-surveyed thoroughfares and railways were established. In summary, the study corridor possesses several environmental characteristics which would have made it attractive to both Indigenous and Euro-Canadian populations. The rich deciduous forest and the nearby waterways would have attracted a wide variety of game animals, and consequently, early hunters. The mineral rich areas around the Niagara Escarpment, and abundant watercourses would have attracted early Euro-Canadian industry.

The highest quality and most detailed mapping available was utilized. The background study has demonstrated the past and present land use and settlement history of the study area, and has provided information sufficient to evaluate the presence of archaeological potential within the study corridor (Map 8).

## 2.2 Property Inspection Field Methods

In order to gain first-hand knowledge of the geography, topography and current condition of the study corridor, a property inspection was conducted on August 4, 2017. The study corridor was subject to random spot checking in accordance with the requirements set out in Section 1.2 of the *S&Gs* (MTCS 2011:15–17). Fieldwork was carried out under weather and lighting conditions that met the requirements set out in Section 1.2 Standard 2 of the *S&Gs* (MTCS 2011:16). Environmental conditions were ideal during the inspection, with overcast skies, a high of 24 °C, and excellent lighting. The study corridor was documented with photographs (Map 8, and Image 1 to Image 18).

The property inspection consisted of random-spot checking which began in the southwest end of the study corridor at Tremaine Road and progressed northeast towards Industrial Road. The property inspection confirmed that all features of archaeological potential (e.g., historically-surveyed roadways, watercourses, etc.) 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.).

Portions of the study area were noted as disturbed. Specifically, the permanently disturbed areas are related to the construction of a round-about at the west end of the corridor at new Tremaine Road (Image 1), the existing roadways of Steeles Avenue (Image 2, Image 5, Image 11, and Image 13) and Peru Road (Image 10), the existing railway that traverses the study area (Image 7), and the footprints of industrial buildings and their associated paved areas at the east end of the study area. Construction impacts for Steeles Avenue and Peru Road include the roadways as well as some road ditching, though parts of the rights-of-way appear relatively undisturbed and will require further assessment. A gravel access route was also noted in the west end of the study corridor, leading towards an old industrial yard that is currently undergoing remediation (Image 4). The old industrial yard was also the site of a historic brickworks plant or brickyard, possibly belonging to the Milton Pressed Brick Company or the Toronto Pressed Brick & Terra Cotta Co., both of which operated plants on Lot 1, Concession 1 and Lot 2, Concession 1. Additionally, the inspection noted that the intersection of Industrial Drive and Steeles Avenue, as well as a portion of the western side of Steeles Avenue, was actively under construction. The area has been stripped and part of a new retaining wall has been constructed (Image 16 to Image 18).

The property inspection also confirmed that portions of the study area are currently residential in use. Most of the residential houses within the study corridor were built by the late 20<sup>th</sup> century (Image 9); however, some late 19<sup>th</sup> century houses remain extant in the area, specifically near the Peru Road and Steeles Avenue intersection. Construction impacts for the residential areas appear to be limited to the footprints of the buildings and driveways, with the manicured front and back yards being only minimally disturbed.

The remainder of the study area is comprised of agricultural fields, brush, woodlot, and manicured grassed areas, all of which appear to contain archaeological potential. No natural features (e.g., permanently wet lands, 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 within the visually inspected area.

## 2.3 Analysis and Conclusions

In addition to relevant historical sources and the results of past archaeological assessments, the archaeological potential of a study area can be assessed using its soils, hydrology and landforms as considerations. Section 1.3.1 of the *S&Gs* (MTCS 2011:17–18) 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 within the vicinity of the study corridor (Map 8). The closest and most relevant indicators of archaeological potential includes a variety of primary and secondary water sources (e.g., Sixteen Mile Creek, and its tributary and associated wetlands, Milton Wetland Complex Swamp), five historically-surveyed roadways (Steeles Avenue West, Tremaine Road, Bronte Street North, Peru Road, Steeles Avenue East), one historic railway (Credit Valley Railroad, now the Canadian Pacific Railway), one sawmill, and five farmsteads. The historic communities of Peru and Milton, and the historic Hamilton & North Western Railway (now the Canadian National Railway) lie nearby. Furthermore, there is a high potential to encounter remains of past brickworks in the study area. The Milton Pressed Brick Company and the Toronto Pressed Brick & Terra Cotta Co., operated plants and/or brickyards on Lot 1, Concession 1 and Lot 2, Concession 1. The Milton Pressed Brick Company was in operation from the late 1800s to 1974 when it officially ceased operations. The Toronto Pressed Brick & Terra Cotta Co. was in operation from 1888 to its demolition in 1935. The exact location of the facility structures and yards are unknown, but it is possible that remnants of the brickworks, brickworks materials (e.g., brick fragments, metal fragments from machinery, etc.), and/or soil compaction and disturbance will be encountered within the study area.

Although proximity to a feature of archaeological potential is a significant factor in the potential modelling process, current land conditions must also be considered. Twenty-first century satellite imagery has established that a small portion of the study corridor in the southwest (on the north side of Steeles Avenue), was subject to soil disturbance during the construction of a round-about. Furthermore, the property inspection noted that the eastern section of Steeles Avenue, in the northwestern portion of the study corridor, is actively under construction, the soil having already been stripped.

NDA's property inspection, coupled with the analysis of aerial photographs, satellite imagery, topographic mapping and digital environmental data, resulted in the determination that the study corridor contains mixed archaeological potential (Map 9 to Map 13). Approximately 14.2% (6.12 ha) of the study corridor was identified as having no archaeological potential due to disturbance. Specifically, the permanently disturbed areas are related to the construction of a round-about at the west end of the study area, the existing roadways of Steeles Avenue and Peru Road, the existing railway that traverses the study area, the current roadway construction at the east end of the study area, and the footprints of industrial buildings and their associated paved areas.

The remainder of the study area (85.8%) contains archaeological potential and requires further assessment. This includes residential areas, which appear to contain areas of archaeological



potential intermixed with areas of no or low potential, and which will require a combination survey to confirm the presence/absence of disturbance. The residential areas appear to have retained archaeological potential in the front lawns and backyards, as water/sewage infrastructure does not appear to have impacted large portions of the areas. The remainder of the study corridor is comprised of agricultural fields, brush, woodlot, and manicured grassed areas, all of which appear to contain archaeological potential. Background research did not identify any features indicating that the study corridor has potential for deeply buried archaeological materials.

### 3.0 RECOMMENDATIONS

NDA has completed a Stage 1 archaeological assessment for the proposed widening of Steeles Avenue (Regional Road 8) between Tremaine Road (Regional Road 22) and Industrial Drive, in the Town of Milton, Regional Municipality of Halton. Based on the Stage 1 assessment, the following recommendations are made:

1. Additional archaeological assessment is not required for those areas visually determined to be disturbed including the construction of a round-about at the west end of the study area, the existing roadways of Steeles Avenue and Peru Road, the existing railway that traverses the study area, the current roadway construction at the east end of the study area, and the footprints of industrial buildings and their associated paved areas at the east end of the study area.
2. The remainder of the study area contains archaeological potential and will require a Stage 2 archaeological assessment prior to any ground disturbing activities:
  - a. The portion of the study area located in active agricultural fields must be subject to a pedestrian survey as per Section 2.1.1 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011:30). The fields must be ploughed and allowed to weather by at least one heavy rainfall to improve visibility of archaeological resources.
  - b. The portion of the study area located within the overgrown grasslands, woodlots, and within the manicured areas along Steeles Avenue and Peru Road must be subject to a test pit survey as per Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011:31).
  - c. The portion of the study area located within active residential areas must be subject to a combination survey comprised of a mixture of test pit survey and visual assessment, as per Section 2.1.8 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011:38).

## 4.0 ADVICE ON COMPLIANCE WITH LEGISLATION

Section 7.5.9 of the *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 (MTCS 2011:126–127):

1. This report is submitted to the *Minister of Tourism, Culture and Sport* as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the *Ministry of Tourism, Culture and Sport*, a letter will be issued by the ministry stating that there are no further concerns with regard to alteration to archaeological sites by the proposed development.
2. 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 times as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the *Ontario Public Register of Archaeology Reports* referred to in Section 65.1 of the *Ontario Heritage Act*.
3. 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*.
4. The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the *Ministry of Consumer Services*.
5. Archaeological sites recommended for further archaeological field work or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered nor may artifacts be removed from them, except by a person holding an archaeological license.

## 5.0 IMAGES



**Image 1: Field Conditions, Showing Study Corridor, Facing West**



**Image 2: Field Conditions, Showing Study Corridor, Facing East**



**Image 3: Field Conditions, Drainage Ditch and Surficial Disturbance in the West End of the Study Corridor, Facing West**



**Image 4: Field Conditions, Access Trail to Old Industrial Yard Currently Under Remediation, Facing Northwest**



**Image 5: Field Conditions, Study Corridor Alongside Steeles Avenue, Facing Northeast**



**Image 6: Field Conditions, Study Corridor Alongside Steeles Avenue, Facing Northeast**





**Image 7: Field Conditions, Study Corridor Showing Rail Line, Facing Southwest**



**Image 8: Field Conditions, Showing Fallow Field, Facing Southwest**



**Image 9: Field Conditions, Example of a 20<sup>th</sup> Century House on Peru Road, Facing Northeast**



**Image 10: Field Conditions, Peru road and Steeles Avenue Intersection, Facing Southeast**



**Image 11: Field Conditions, North Side of Steeles Avenue, Facing Southwest**



**Image 12: Field Conditions, South Side of Steeles Avenue with Culvert Ditching, Facing Southwest**





**Image 13: Field Conditions, South Side of Steeles Avenue with Culvert Ditching, Facing Northeast**



**Image 14: Field Conditions, Steeles Avenue and Residential Properties, Facing West**



**Image 15: Field Conditions, Event Centre Lawn, Facing West**



**Image 16: Field Conditions, Bridge with Construction in the Background, Facing North**



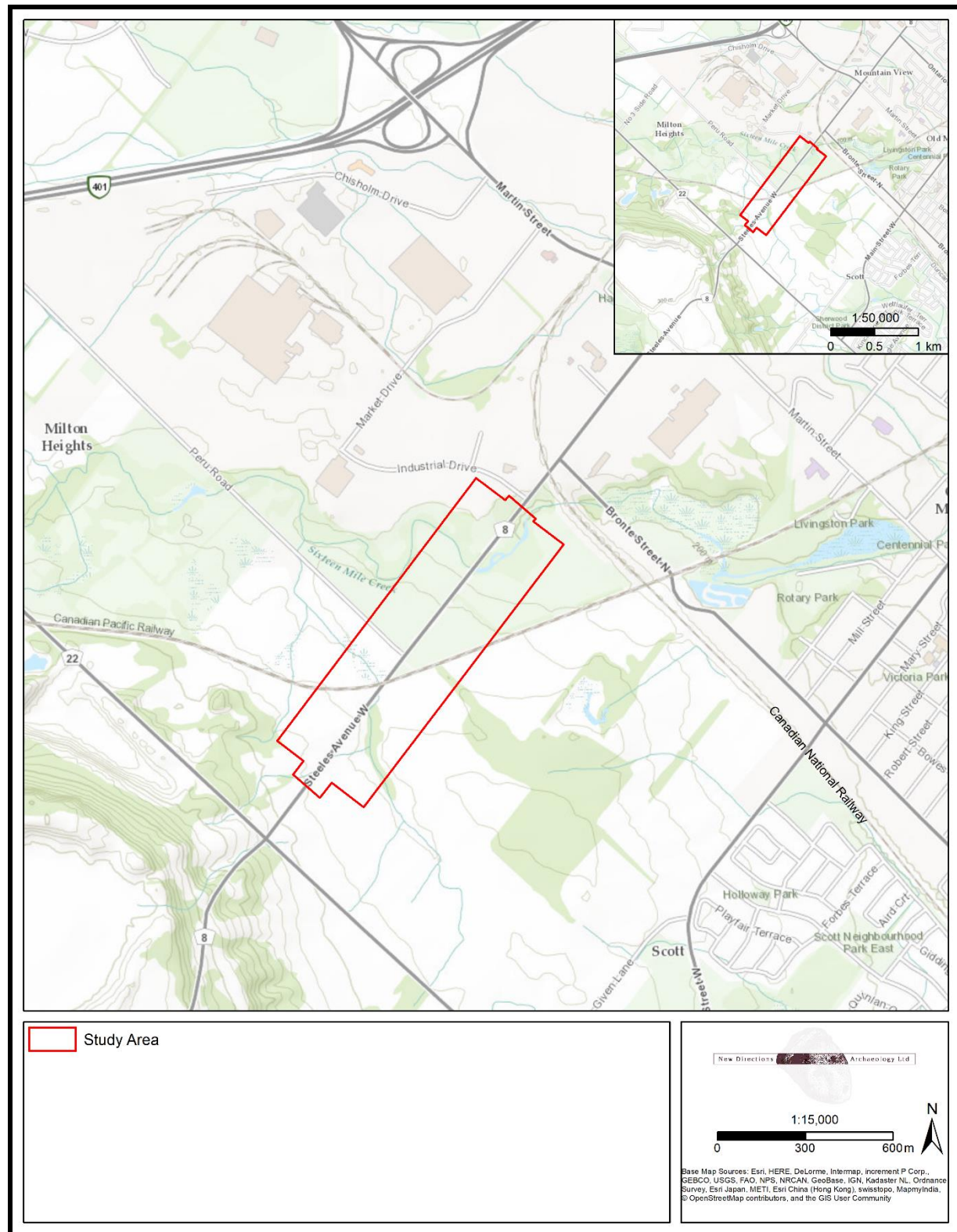
**Image 17: Field Conditions, East End of the Study Corridor with Construction, Facing Northeast**



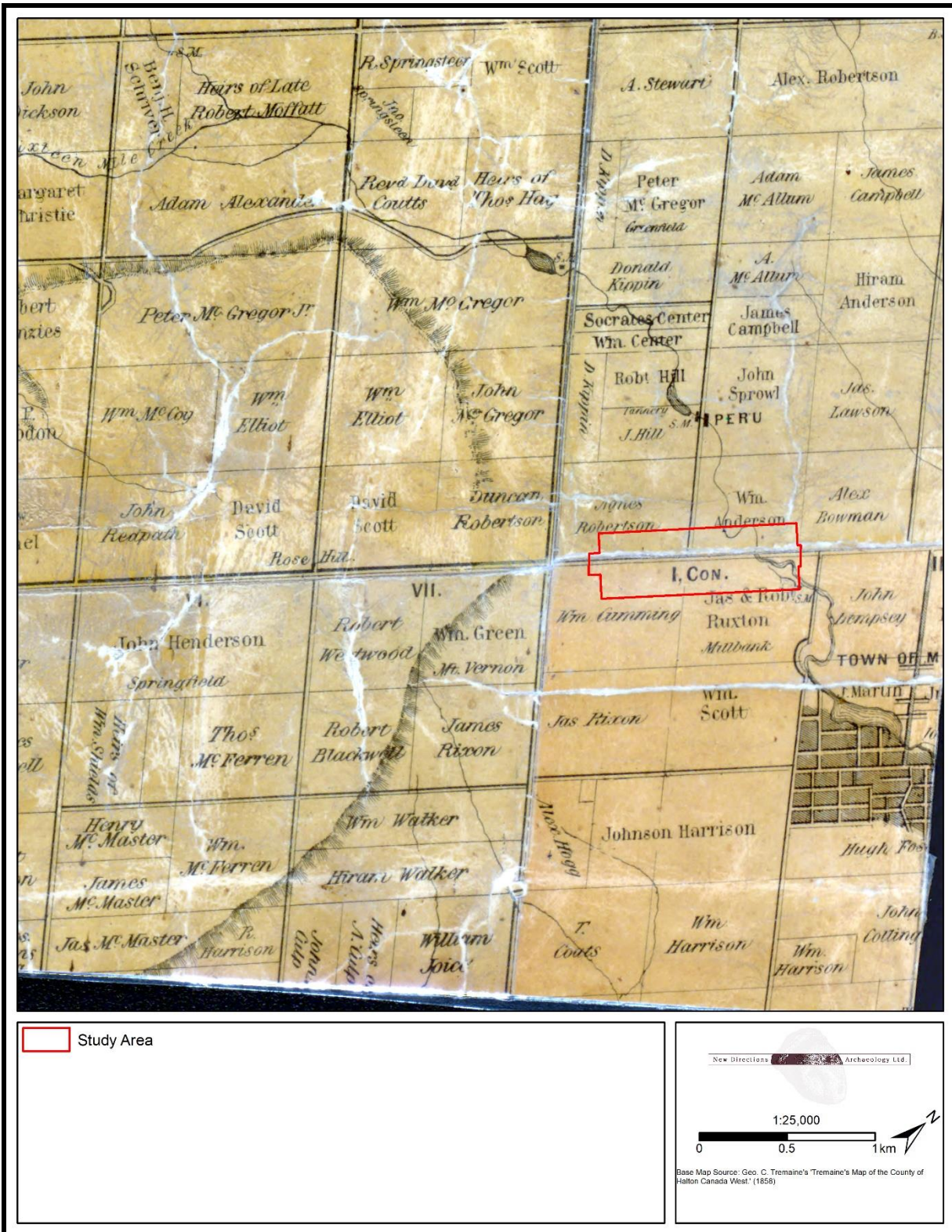
**Image 18: Field Conditions, Close-up of Construction at the East End of the Study Corridor (Steeles Avenue and Industrial Drive), Facing Southwest**



## 6.0 MAPS

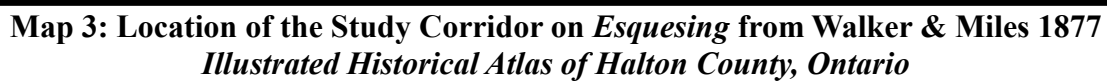






**Map 2: Location of the Study Corridor on Tremaine's 1858 Tremaine's Map of the County of Halton, Canada West**









**Map 4: Location of the Study Corridor on Trafalgar from Walker & Miles 1877  
Illustrated Historical Atlas of Halton County, Ontario.**



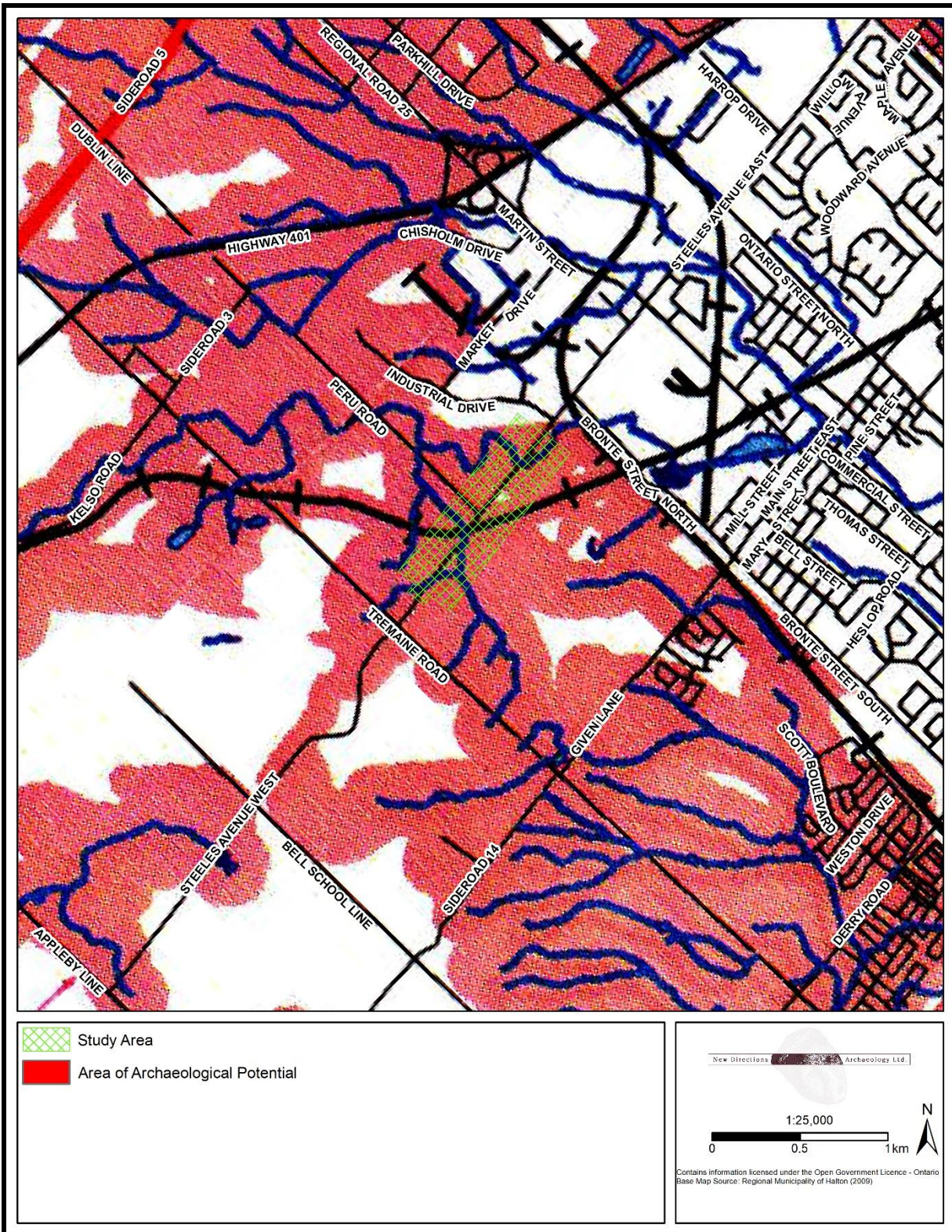


**Map 5: Location of the Study Corridor on 1954 Aerial Imagery**



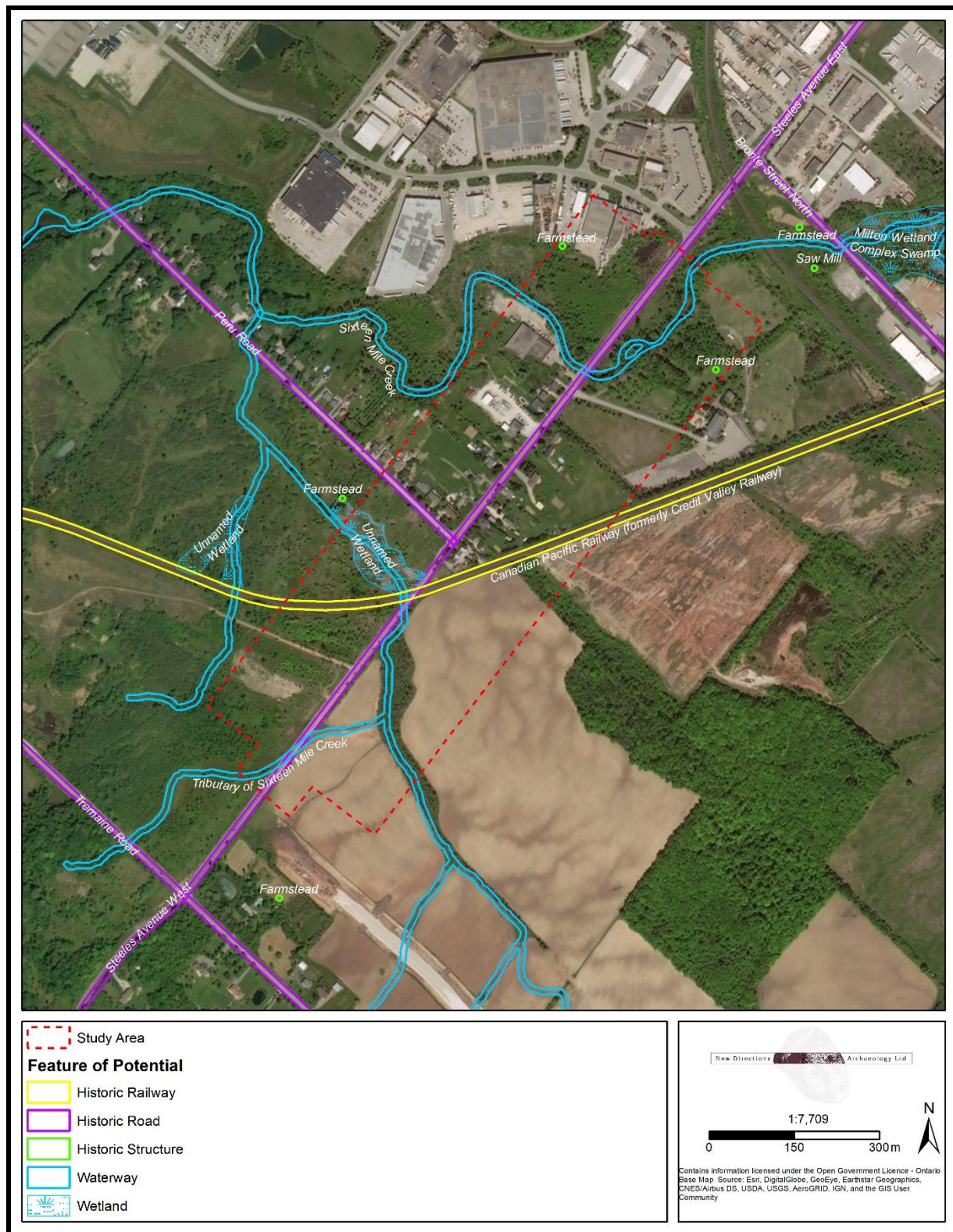
**Map 6: Location of the West Portion of the Study Corridor on 2015 Satellite Imagery**



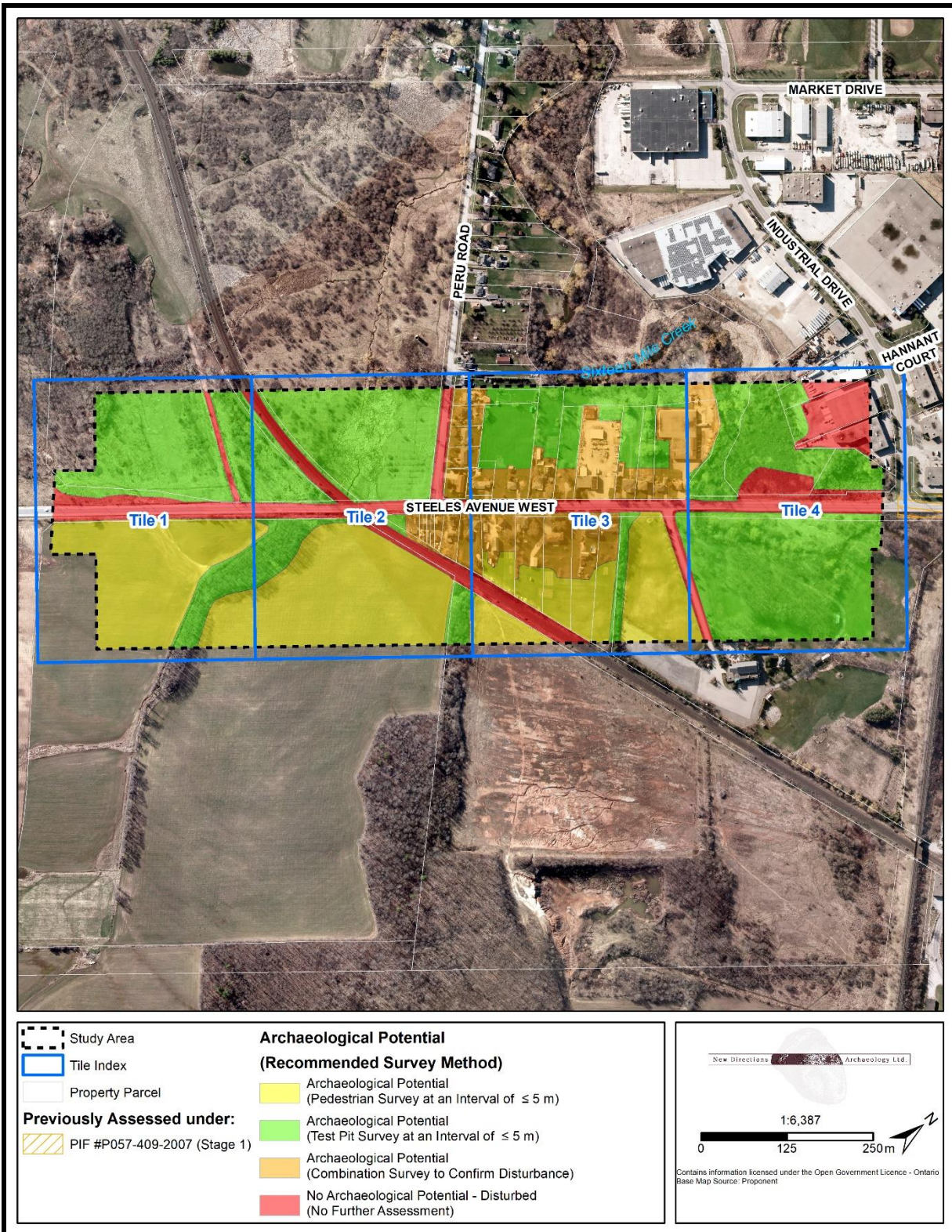


**Map 7: Location of the Study Corridor on Archaeological Management Plan**



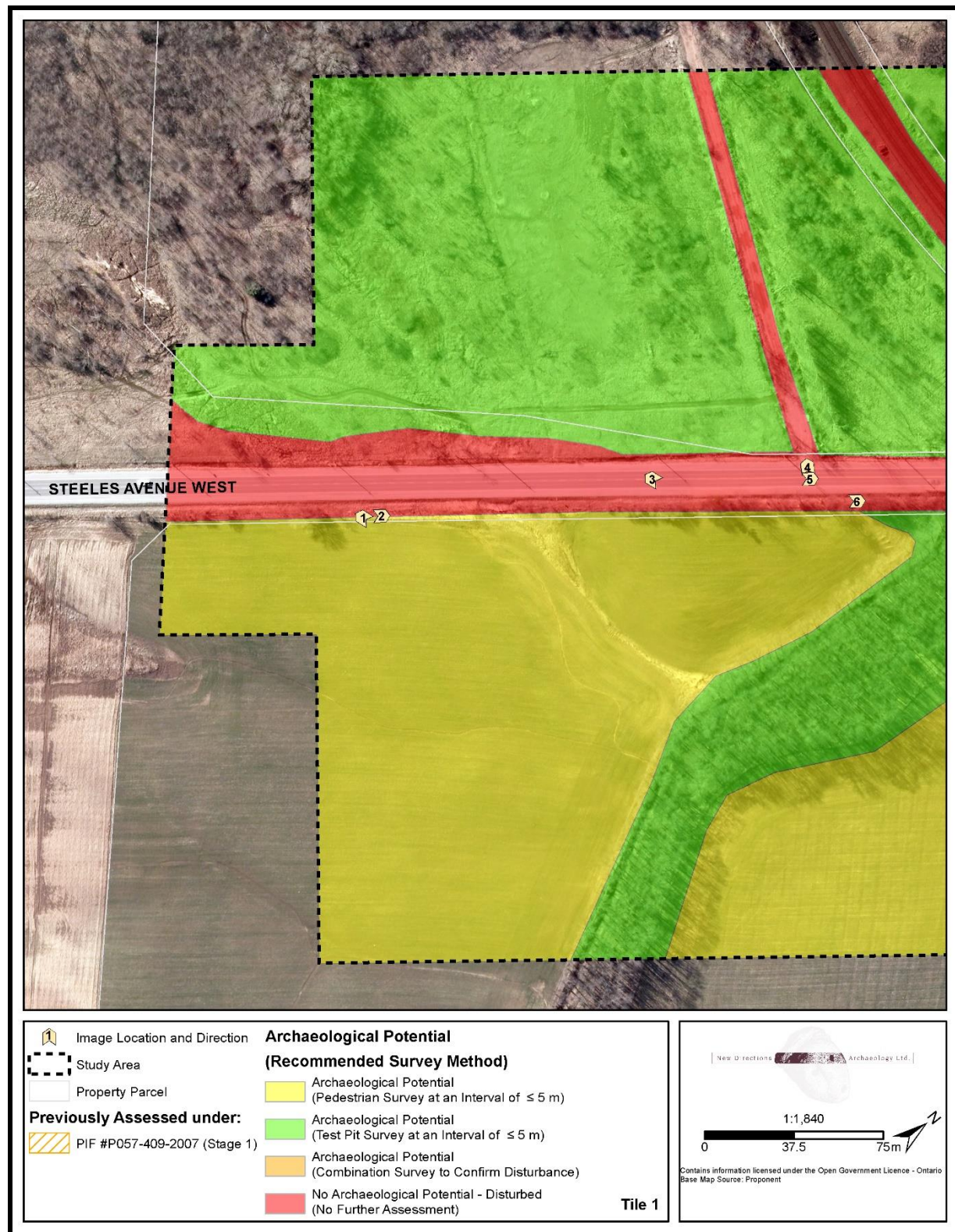






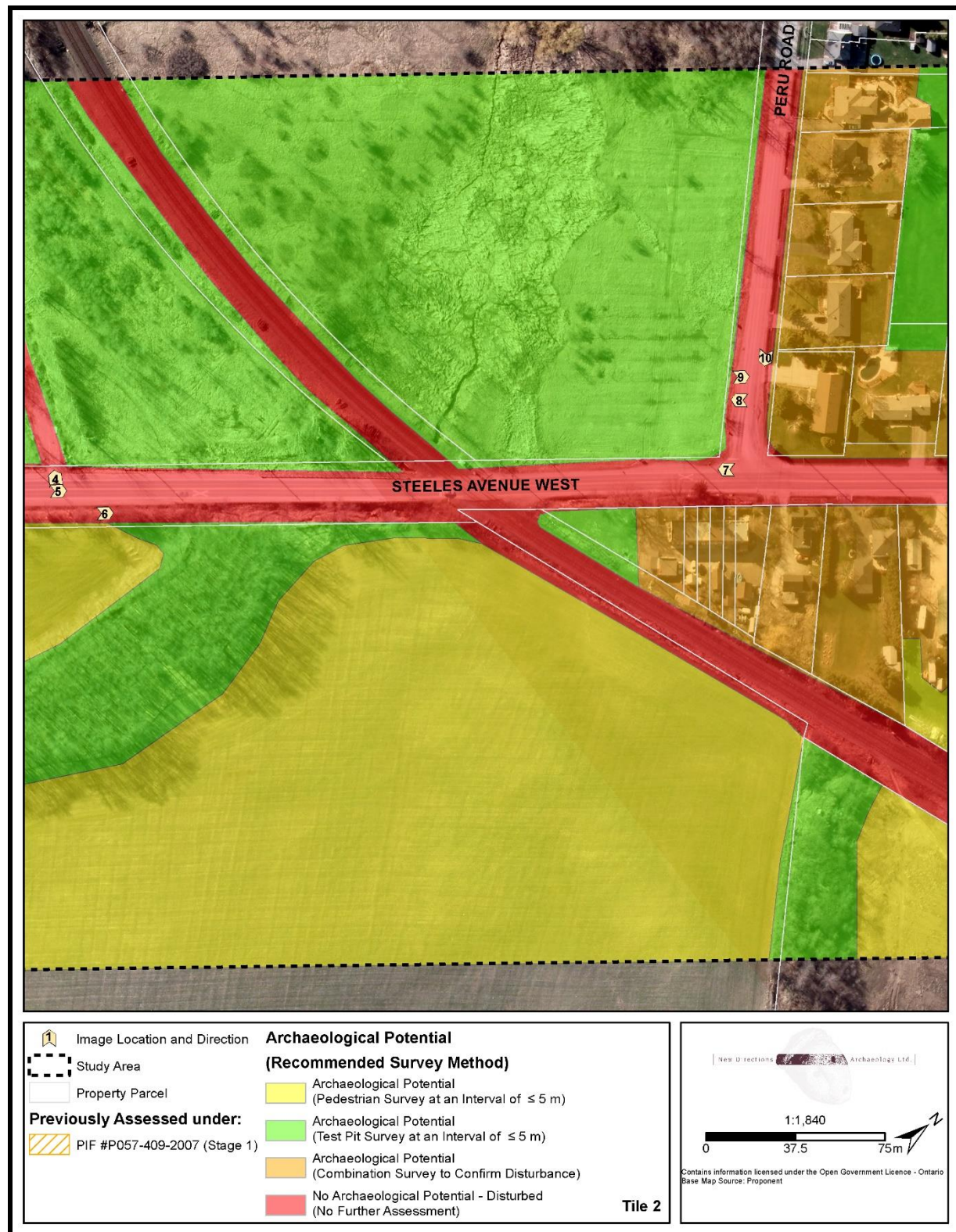
**Map 9: Overview of Assessment Results and Photo Locations of the Study Corridor**





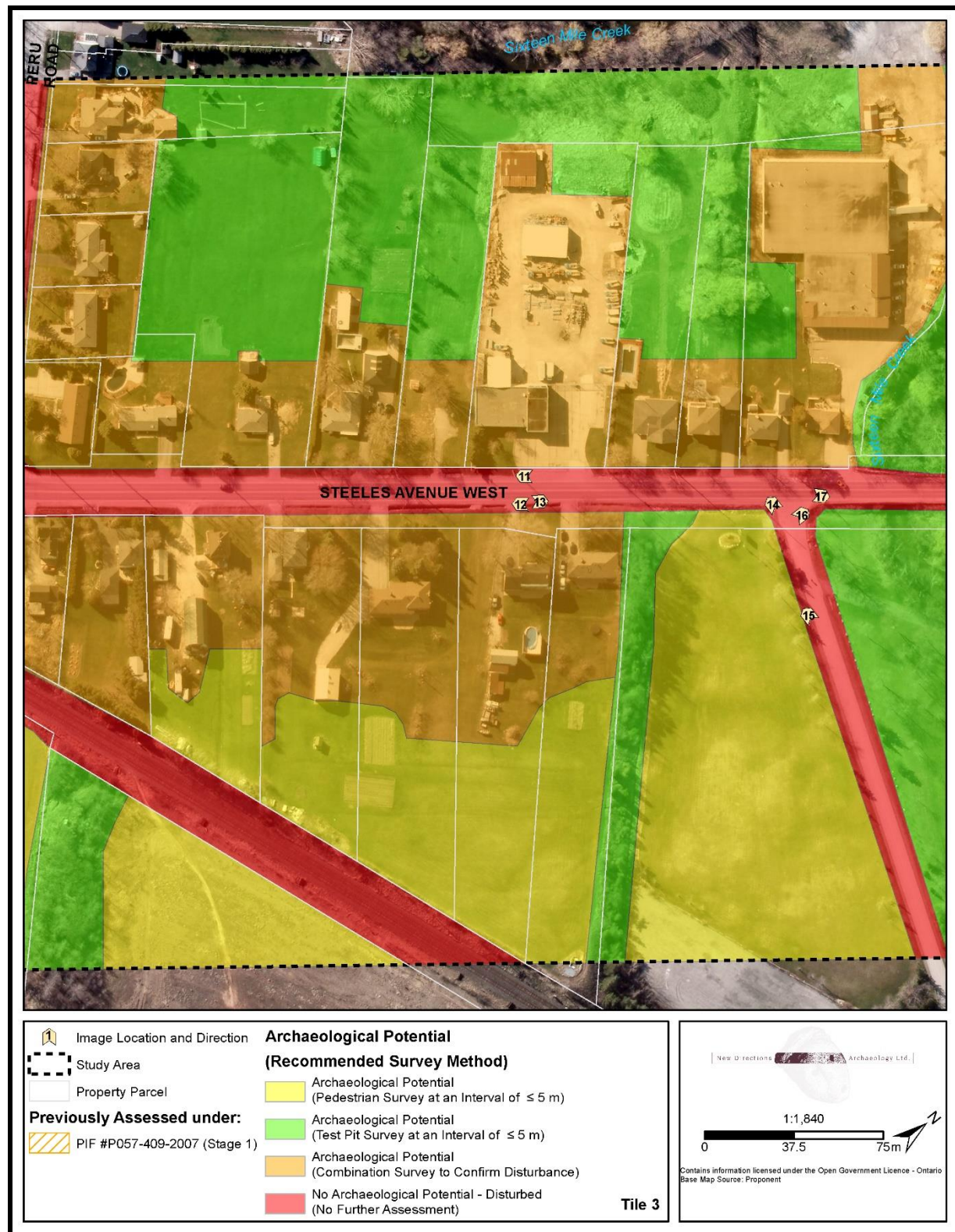
**Map 10: Assessment Results and Photo Locations of the Study Corridor – Tile 1**





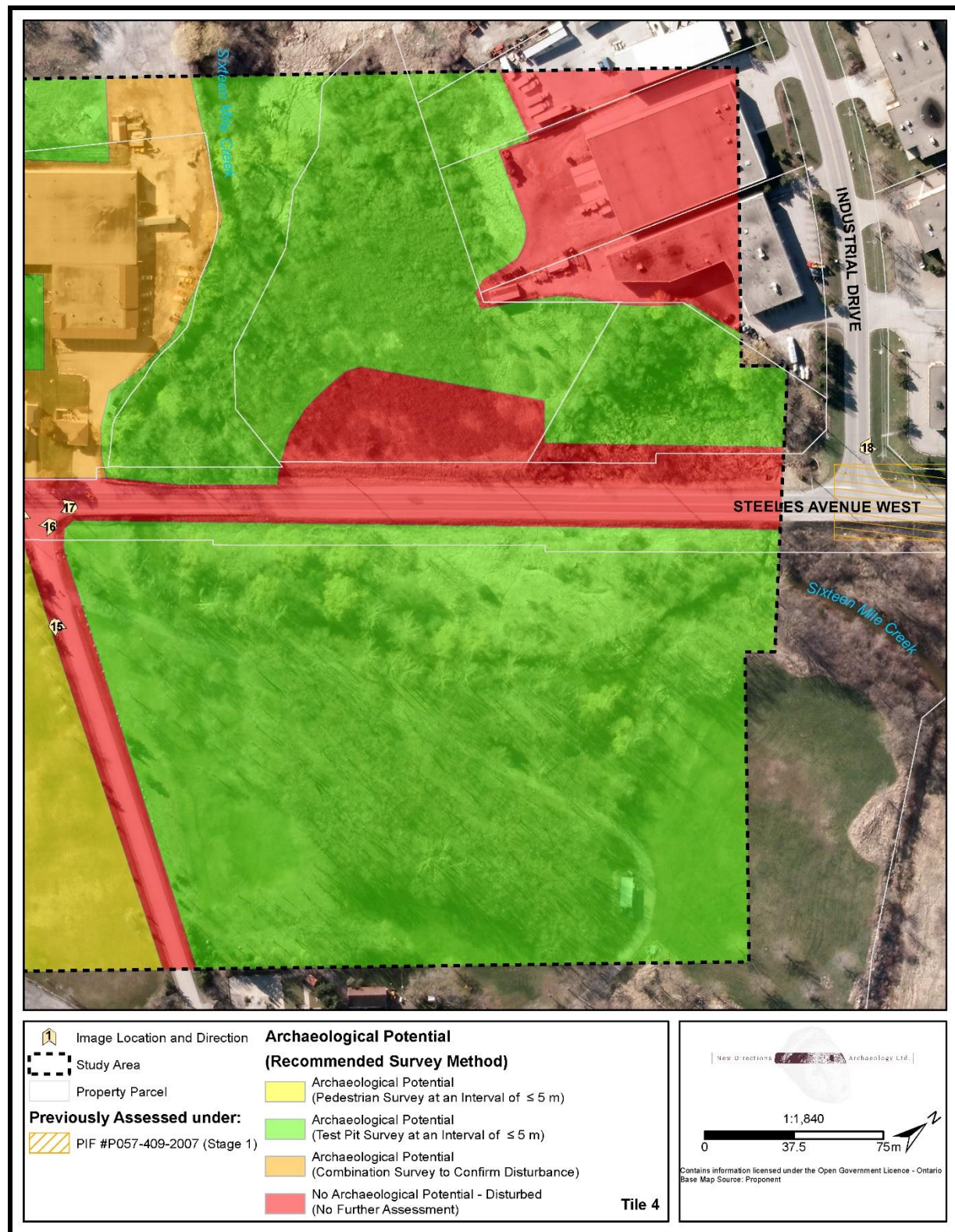
**Map 11: Assessment Results and Photo Locations of the Study Corridor – Tile 2**





Map 12: Assessment Results and Photo Locations of the Study Corridor – Tile 3





Map 13: Assessment Results and Photo Locations of the Study Corridor – Tile 4

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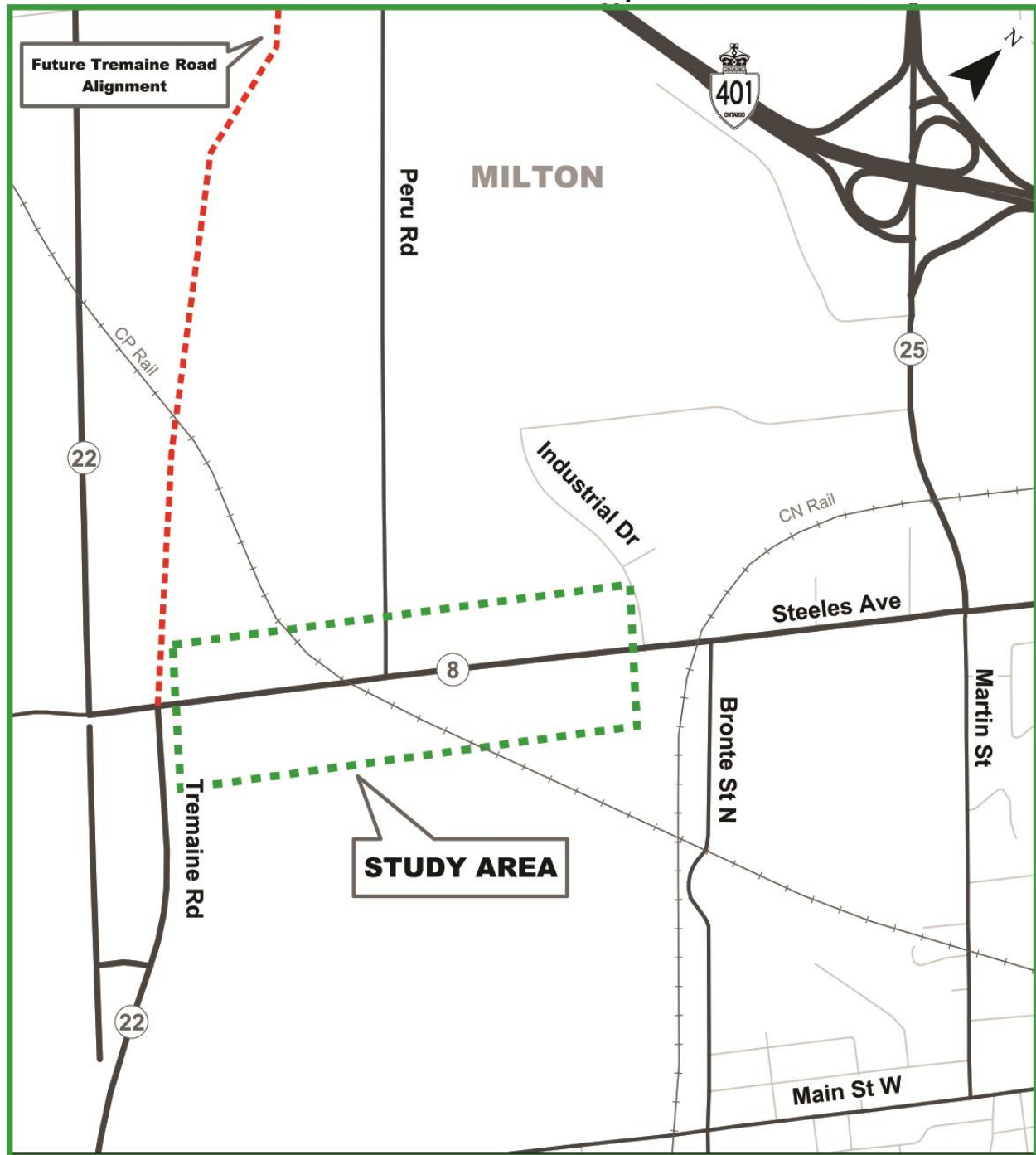
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## **APPENDICES**



# APPENDIX I: Unaltered Development Plan





**APPENDIX II: Document Inventory**

<b>Field Documents</b>	<b>Total</b>	<b>Nature</b>	<b>Location</b>
Photographs	32	Digital	On server at 1480 Sandhill Drive, Unit 3, Ancaster; Folder P089-0101-2018
Field Notes	3	Digital and hard copy	On server and on file at 1480 Sandhill Drive, Unit 3, Ancaster; Folder P089-0101-2018
Field Maps	4	Digital and hard copy	On server and on file at 1480 Sandhill Drive, Unit 3, Ancaster; Folder P089-0101-2018

REGIONAL MUNICIPALITY OF HALTON

# STAGE 1 ARCHAEOLOGICAL ASSESSMENT

## STEELES AVENUE WEST, TREMAINE ROAD TO INDUSTRIAL DRIVE MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT

UPDATED ON DECEMBER 19, 2022

ORIGINAL





PIF P1106-0030-2022

CRAIG RAMSOOMAIR – P1106

# STAGE 1 ARCHAEOLOGICAL ASSESSMENT

## STEELES AVENUE WEST, TREMAINE ROAD TO INDUSTRIAL DRIVE MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT

REGIONAL MUNICIPALITY OF HALTON

PART OF LOT 1, CONCESSION 1 AND 2, GEOGRAPHIC  
TOWNSHIP OF ESQUESING, LOT 15, CONCESSION 1,  
GEOGRAPHIC TOWNSHIP OF TRAFALGAR, HALTON  
COUNTY, NOW TOWN OF MILTON, REGIONAL  
MUNICIPALITY OF HALTON

ORIGINAL REPORT  
ORIGINAL

PROJECT NO.: 17M-00979-00  
DATE: DECEMBER 19, 2022

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December 19, 2022

Original

Stage 1 Archaeological Assessment

Steeles Avenue West, Tremaine Road to Industrial Drive Municipal Class Environmental Assessment

Part of Lot 1, Concession 1 and 2, Geographic Township of Esquesing,  
Lot 15, Concession 1, Geographic Township of Trafalgar,  
Halton County, Now Town of Milton,  
Regional Municipality of Halton

Prepared for:

Regional Municipality of Halton  
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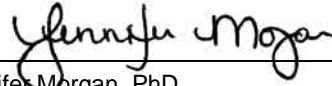
# SIGNATURES AND DISCLAIMERS

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# EXECUTIVE SUMMARY

WSP Canada Inc. (WSP) was retained by the Regional Municipality of Halton (the Client) to conduct a Stage 1 Archaeological Assessment as part of a Schedule C Municipal Class Environmental Assessment for the improvements of Steeles Avenue West (Regional Road 8) between Tremaine Road (Regional Road 22) to Industrial Drive (Steeles Avenue MCEA), in the Town of Milton. Historically, the study area is situated on part of Lot 1, Concession 1 and 2 in the Geographic Township of Esquesing and Lot 15, Concession 1 in the Geographic Township of Trafalgar, Halton County, now Town of Milton, Regional Municipality of Halton (Figure 1 and Figure 2).

This archaeological assessment was triggered by the requirements of the *Environmental Assessment Act* to ensure that the Municipality is compliant with the *Ontario Heritage Act, 1990*. The assessment was carried out in accordance with the Ministry of Tourism, Culture, and Sport's (MTCS) 2011 *Standards and Guidelines for Consultant Archaeologists*.

A previous Stage 1 Archaeological Assessment was completed for the Steeles Avenue (Regional Road 8) Municipal Class Environmental Assessment Study from Tremaine Road (Regional Road 22) to Industrial Drive by New Directions Archaeology (NDA) in 2019 (NDA, 2019); however, this did not include the full extent of the study area. This report includes the full study area (i.e. extending 115 metres (m) to the south beyond the previous Stage 1 Archaeological Assessment).

The Stage 1 Archaeological Assessment of the study area includes a review of previous archaeological research, historic maps, and local histories. A property inspection was not conducted as part of the Stage 1 Archaeological Assessment. Based on the results of previous and current Stage 1 Archaeological Assessments, it was determined that the vast majority of the study area retains archaeological potential. Based on these findings, **a Stage 2 archaeological assessment is recommended for all land determined to retain archaeological potential (Figure 6).**

The resultant archaeological recommendations have been made based on the results of background historic research, an understanding of the geography and natural environment of the study area, and recommendations from the previous Stage 1 Archaeological Assessment by NDA (2019). The Stage 2 Archaeological Assessment must follow Section 2.1 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS, 2011). The Stage 2 recommendations are as follows:

- Recently ploughed agricultural fields must be subject to pedestrian survey at 5 m intervals as per Section 2.1.1 of the *Standards and Guidelines for Consultant Archaeologists* (2011). Prior to pedestrian survey, the field must be ploughed and weathered to allow for ideal conditions for the identification of archaeological resources. After ploughing, soil visibility must be at least 80% in order for pedestrian survey to proceed;
- Where ploughing is not possible, the property must be subject to test pit survey at 5 m intervals as per Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* (2011). This recommendation includes areas such as wood lots, manicured lawns, and areas of scrub overgrowth; and,
- The portions of the study area located within private residential properties that will be impacted by the project must be subject to a combination of test pit survey and detailed property inspection to confirm areas of disturbance as per Section 2.1.8 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS

2011, p. 38). Test pit survey can be increased to 10 m intervals in areas of confirmed disturbance based on professional judgement.

It should be noted that the findings of this report are not considered final until the recommendations stated herein have been accepted by the MTCS and the report has been entered into the Ontario Public Register of Archaeological Reports.

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# PROJECT PERSONNEL

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## *APPENDICES*

### **A** FEATURES OF ARCHAEOLOGICAL POTENTIAL

# 1 PROJECT CONTEXT

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## 1.1 OBJECTIVES

The objectives of a Stage 1 Archaeological Assessment are as follows:

- To provide information regarding the property's geography, history, previous archaeological fieldwork, and current land conditions;
  - To conduct a detailed evaluation of the property's archaeological potential; and,
  - To recommend appropriate strategies for Stage 2 survey when required.
- 

## 1.2 DEVELOPMENT CONTEXT

WSP Canada Inc. (WSP) was retained by the Regional Municipality of Halton (the Client) to conduct a Stage 1 Archaeological Assessment as part of a Schedule C Municipal Class Environmental Assessment for the improvements of Steeles Avenue West (Regional Road 8) between Tremaine Road (Regional Road 22) to Industrial Drive (Steeles Avenue MCEA), in the Town of Milton. Historically, the study area is situated on part of Lot 1, Concession 1 and 2 in the Geographic Township of Esquesing and Lot 15, Concession 1 in the Geographic Township of Trafalgar, Halton County, now Town of Milton, Regional Municipality of Halton (Figure 1 and Figure 2).

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The Stage 1 Archaeological Assessment of the study area includes a review of previous archaeological research, historic maps, and local histories. A property inspection was not conducted as part of the Stage 1 Archaeological Assessment.

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## 1.3 HISTORICAL CONTEXT

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### 1.3.1 PRE-CONTACT PERIOD

The pre-contact period in Ontario has been reconstructed, primarily, from the archaeological record and interpretations made by archaeologists through an examination of material culture and site settlement patterns. Technological and temporal divisions of the pre-contact period have been defined by archaeologists based on

changes to natural, cultural, and political environments that are observable in the archaeological record. It is pertinent to state that although these divisions provide a generalized framework for understanding the broader events of the pre-contact period, they are not an accurate reflection of the fluidity and intricacies of cultural practices that spanned thousands of years. The following sections present a sequence of Indigenous land-use during periods defined by archaeologists from the earliest human occupation of Ontario following deglaciation to the period when Europeans began to settle the land. These periods are:

- The Paleo Period
- The Archaic Period
- The Woodland Period
- The Post-Contact Period

## PALEO PERIOD

Paleo period populations were the first to occupy what is now southern Ontario, moving into the region following the retreat of the Laurentide Ice Sheet approximately 11,000 years before present (BP). The first Paleo period populations to occupy southern Ontario are referred to by archaeologists as Early Paleo (Ellis & Deller, 1990).

Early Paleo period groups are identified by their distinctive projectile point morphological types, exhibiting long grooves, or 'flutes', that likely functioned as a hafting mechanism (method of attaching the point to a wooden shaft). These Early Paleo group projectile point types include Gainey (ca. 10,900 BP), Barnes (ca. 10,700), and Crowfield (ca. 10,500) (Ellis & Deller, 1990). By approximately 10,400 BP, Paleo projectile points transitioned to various unfluted varieties, such as Holcombe (ca. 10,300 BP), Hi Lo (ca. 10,100 BP), and Unstemmed and Stemmed Lanceolate (ca. 10,400 to 9,500 BP). These tool types were used by Late Paleo period groups (Ellis & Deller, 1990). Both Early and Late Paleo period populations were highly mobile, participating in the hunting of large game animals. Paleo period sites often functioned as small campsites where stone tool production and maintenance occurred (Ellis & Deller, 1990).

## ARCHAIC PERIOD

By approximately 8,000 BP, climatic warming supported the growth of deciduous forests in southern Ontario. These forests introduced new flora and faunal resources, which resulted in subsistence shifts and a number of cultural adaptations. This change is reflected in the archaeological record by new tool-kits that are reflective of a shift in subsistence strategies and has been categorized as the Archaic period.

The Archaic period in southern Ontario is sub-divided into the Early Archaic (ca. 10,000 to 8,000 BP), Middle Archaic (ca. 8,000 to 4,500 BP), and the Late Archaic (ca. 4,500 to 2,800 BP) periods. Generally, in North America, the Archaic period represents a transition from big game hunting to broader, more generalized subsistence strategies based on local resource availability. This period is characterized by the following traits:

- An increase in stone tool variation and reliance on local stone sources,
- The emergence of notched and stemmed projectile point types,
- A reduction in extensively flaked tools,
- The use of native copper,
- The use of bone tools for hooks, gorges, and harpoons,
- An increase in extensive trade networks, and
- The production of ground stone tools and an increase in larger, less portable tools.

The Archaic period is also marked by population growth with archaeological evidence suggesting that, by the end of the Middle Archaic period (ca. 4,500 BP), populations had steadily increased in size (Ellis, et al., 1990).

Over the course of the Archaic period, populations began to rely on more localized hunting and gathering territories and were shifting to more seasonal encampments. From the spring into the fall, settlements were focused in lakeshore/riverine locations where a variety of different resources could be exploited. Settlement in the late fall and winter months moved to interior sites where the focus shifted to deer hunting and the foraging of wild plants (Ellis et al., 1990, p. 114). The steady increase in population size and the adoption of a more localized seasonal subsistence strategy led to the transition into the Woodland period.

## EARLY AND MIDDLE WOODLAND PERIODS

The beginning of the Woodland period is defined by the emergence of ceramic technology. Similar to the Archaic period, the Woodland period is separated into three timeframes: the Early Woodland (ca. 2,800 to 2,000 BP), the Middle Woodland (ca. 2,000 to 1,200 BP), and the Late Woodland (ca. 1,200 to 350 BP) (Spence et al., 1990; Fox, 1990).

The Early Woodland period is represented in southern Ontario by two cultural complexes: the Meadowood Complex (ca. 2,900 to 2,500 BP), and the Middlesex Complex (ca. 2,500 to 2,000 BP). During this period, the life ways of Early Woodland populations differed little from that of the Late Archaic with hunting and gathering representing the primary subsistence strategies. The pottery of this period is characterized by its relatively crude construction and lack of decoration. These early ceramics exhibit cord impressions, which are likely the result of the techniques used during manufacture rather than decoration (Spence et al., 1990).

The Middle Woodland period has been differentiated from the Early Woodland period by changes in lithic tool forms (e.g. projectile points, expedient tools), and the increased decorative elaboration of ceramic vessels (Spence et al., 1990). Additionally, archaeological evidence suggests the rudimentary use of maize (corn) horticulture by the end of the Middle Woodland Period (Warrick, 2000).

In southern Ontario, the Middle Woodland has been divided into three different complexes based on regional cultural traditions: the Point Peninsula Complex, the Couture Complex, and the Saugeen Complex. These groups are differentiated by sets of characteristics that are unique to regions within the province, specifically regarding ceramic decorations.

The Point Peninsula Complex extends from south-central and eastern Ontario into southern Quebec. The northernmost borders of the complex can be found along the Mattawa and French Rivers. Ceramics are coil constructed with conical bases, outflaring rims, and flat, rounded, or pointed lips. The interior surfaces of vessels are often channelled with a comb-like implement, creating horizontal striations throughout. The exterior is smoothed, or brushed, and decoration generally includes pseudo-scallop stamps or dentate impressions. Occasionally, ceramics will have been treated with a red ochre wash (Spence et al, 1990).

The Saugeen Complex is found generally in south-central Ontario and along the eastern shores of Lake Huron. The Saugeen Complex ceramics are similar in style to Point Peninsula Complex; however, the vessels tended to be cruder than their Point Peninsula counterparts. They were characterized by coil construction with thick walls, wide necks, and poorly defined shoulders. Usually, the majority of the vessel was decorated with pseudo-scallop stamps or dentate impressions, with the latter occurring more frequently at later dates (Spence et al., 1990). The Couture Complex is found in southwestern Ontario and outside of the scope of the study area.

## LATE WOODLAND PERIOD

There is much debate as to whether a transitional phase between the Middle and Late Woodland periods is present in southern Ontario, but it is generally agreed that the Late Woodland period begins around 1,100 BP. The Late Woodland period in southern Ontario can be divided into three cultural sub-phases: The early, middle, and late Late Woodland periods. The early Late Woodland is characterized by the Glen Meyer and Pickering cultures and the middle Late Woodland is characterized by the Uren and Middleport cultures. These groups are ancestral to the Iroquoian-speaking Neutral-Erie (Neutral), the Huron-Wendat (Huron), and Petun Nations that inhabited southern Ontario during the late Late Woodland period (Smith, 1990).

The Pickering and Glen Meyer cultures co-existed within southern Ontario during the early Late Woodland period (ca. 1250-700 BP). Pickering territory is understood to encompass the area north of Lake Ontario to Georgian Bay and Lake Nipissing (Williamson, 1990). Glen Meyer is centred around Oxford and Norfolk counties, but also includes the southeastern Huron basin and the western extent is demarcated by the Ekfrid Clay Plain southwest of London, Ontario (Noble, 1975). Villages of either tradition were generally smaller in size and composed of smaller oval structures, which were later replaced by larger structures later in the Late Woodland period. Archaeological evidence suggested a mixed economy where hunting and gathering played an important role, but small-scale horticulture was present, indicating a gradual shift from hunting-gathering to a horticultural economy (Williamson, 1990).

The first half of the middle Late Woodland period is represented by the Uren culture (700-650 BP) and the second half by the Middleport (650-600 BP). Uren and Middleport sites of the middle Late Woodland share a similar distribution pattern across much of southwestern and south-central Ontario. (Dodd et al., 1990). Significant changes in material culture and settlement-subsistence patterns are noted during this short time. Iroquois Linear, Ontario Horizontal, and Ontario Oblique pottery types are the most well-represented ceramic assemblages of the middle Late Woodland period (Dodd et al., 1990). At Middleport sites, material culture changes included an increase in the manufacture and use of clay pipes as well as bone tools and adornments (Dodd et al., 1990; Ferris & Spence, 1995).

During this period, evidence in the archaeological record of small year-round villages, secondary ossuary burials, and what are thought to be semi-subterranean sweat lodges suggest a marked increase in sedentism in southern Ontario during the Uren and Middleport cultures (Ferris & Spence, 1995). The increasing permanency of settlements was a result of the development of small-scale cultivation and a subsequent increased reliance on staple crops such as maize, beans, and squash (Dodd et al., 1990; Warrick, 2000; Ferris & Spence, 1995).

Archaeological evidence from the middle Late Woodland sites also documents increases in population size, community organization and village fissioning, and the expansion of trade networks. The development of trade networks with northern Algonquian peoples has also been inferred from findings at Middleport sites along the northern parts of southwestern and south-central Ontario. These changes resulted in the more organized and complex social structures observed in the late Late Woodland period.

During the late Late Woodland period, village size significantly increased as did the complexity of community and political systems. The settlement patterns of the period can be categorized into three types: large village sites, smaller hamlets or cabin sites, and special resource extraction sites. The larger villages and smaller hamlets are typically on small creeks with sandy soils suitable for agriculture. Both larger village and small hamlet sites were both typically surrounded by palisades and activities were focused on subsistence (Lennox & Fitzgerald, 1990, p. 441). Larger longhouses oriented differently than others in the village have been associated with primary familial groups, while longhouses that were located outside of palisade walls may have been for visiting groups for the purposes of trade or social gatherings (Ramsden, 1990). The cabin sites were occupied on a more seasonal basis and typically only had one or two longhouses. By this time, large-scale agriculture had taken hold, making year-round villages even more practical with the improved ability to store large crop yields over winter.



These villages in southern Ontario were occupied by the ancestors of the historic seventeenth century peoples that Champlain called the Neutral in 1615 as they did not participate in the conflict between the Huron and the Five Nation Iroquois (Lennox & Fitzgerald, 1990, p. 405). They were known as the “Attawandaron” by the Huron, their neighbours to the north, “the people of a slightly different language.” Distribution of ancestral Neutral sites reached from just past the Niagara River in the east to the Detroit River in the west, Lake Erie in the south, while London and Milton represent the northern boundary. Despite the wide distribution, Neutral concentrations were primarily centered on three riverine/lacustrine areas in the fifteenth century: the Niagara Peninsula; the Grand River and the rivers to the northeast (Spencer, Bronte and Sixteen Mile Creeks); and the Thames River and the shoreline of Lake Erie (Lennox & Fitzgerald, 1990, p. 405). By the late sixteenth and early seventeenth century, the settlement patterns of the Neutral had retracted to the eastern areas with concentrations largely centered on the Niagara Peninsula. Their eastern limit was the Buffalo River while their western limit was the Grand River. Populations also continued in the area of the Spencer, Bronte and Sixteen Mile Creeks in what is now the Milton and Oakville area (Lennox & Fitzgerald, 1990, p. 411).

In terms of material culture, projectile point types of the Neutral are typically long, narrow isosceles triangles with side notching, though there is generally great variation and not all are side notched. Forms included Middleport Triangular, Middleport Notched, Naticoke Triangular and Naticoke Notched in the fifteenth and sixteenth centuries with Daniels Triangular, and Hamilton Serrated in the seventeenth (Lennox & Fitzgerald, 1990, p. 419-421). Ceramics evolved from the slightly elongated globular form of the Middleport sub phase to a more globular to squat-globular form frequently with castellations in the fifteenth century. Common decorations during this time included Ontario Horizontal and Pound Necked incised, stamped or trailed motifs which became simpler over time.

Early contact with European settlers at the end of the Late Woodland period resulted in extensive changes to the traditional lifestyles of most populations inhabiting Ontario including settlement size, population distribution, and material culture. The introduction of European-borne diseases significantly increased mortality rates, resulting in a drastic drop in population size (Warrick, 2000).

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### 1.3.2 POST-CONTACT PERIOD

By the 1650s, the Neutral had been dispersed as a result of increasing conflicts with the Haudenosaunee, and the warfare and disease that had arrived with European colonization. A significant number of the Neutral had also been adopted into Haudenosaunee populations. The large-scale population dispersals gave way for the Haudenosaunee to occupy the north shore of Lake Ontario and continue their offensive northward to Anishinabek territory where they were faced with opposition by the Mississauga. The Mississauga and their allies, the Ottawa and Chippewa nations, successfully fought the Haudenosaunee and drove them south of Lake Ontario to re-inhabit southern Ontario. The Mississauga later participated in a significant number of treaty agreements with the British Crown, establishing the foundation of Euro-Canadian settlement in southern Ontario (Ferris & Spence, 1995).

The land on which the study area falls is located falls within the boundaries of the Ajetance Treaty (Treaty No. 19). The Ajetance Treaty was negotiated between Chief Ajetance of the Mississaugas of the Credit First Nation and William Claus later in 1818. The treaty covered a total of 648,000 acres and included the cities of Milton and Brampton (Duric, 2017a).

## HALTON COUNTY

The area that later became Halton County was settled in 1783 by the United Empire Loyalists (Walker & Miles, 1877). During this early settlement, Lieutenant Governor John Graves Simcoe ordered a military route to connect York (now Toronto) to his envisioned capital of London to the west. The route, then known as York Road, was cut through Halton County in 1793, generally following an existing First Nations’ portage trail. York Road (now

present-day Dundas Street) was not developed into a regulation-sized road until after the signing of the Head of the Lake Purchase in 1806 (Duric, 2017b).

The land on which Halton County was formed was subsequently ceded to the Crown through a series of treaties including all or parts of the Brant Tract (1795), Treaty No. 13a (1805), the Head of the Lake Purchase (1806), the Ajetance Treaty, No. 19 (1818), Treaty No. 22, and Treaty No. 23 (Duric, 2017a). The Ajetance Treaty covers the northern half of the county, including present-day Georgetown and Brampton. When the Mississaugas of the Credit negotiated the Ajetance Treaty with the Crown in 1818, the Nation was left with three parcels of land, one on each of the banks of Twelve Mile Creek, Sixteen Mile Creek, and the Credit River. Two years later, William Claus, Deputy Superintendent of the Indian Department, oversaw the negotiation of these remaining parcels of land in the 1820 Treaties No. 22 and No. 23. Treaty 22 included all of the Twelve Mile Creek, Sixteen Mile Creek parcels, and the northern and southern segments of the Credit River parcel. Treaty No. 23, signed the same day, involved the remaining land along the central portion of the Credit River (Mika & Mika, 1983, p. 671; Duric, 2017c; Heritage Mississauga, 2018).

Surveys of the area began shortly after treaty negotiations for the land were signed in 1806 using Dundas Street as a reference line to establish the earliest townships (Riendeau, 1985, p. 17). Halton and Wentworth Counties were created in 1816 as part of the Gore District. At the time, Halton County included the townships of Nelson, Trafalgar, Flamborough, and Beverly. By 1821, expansion resulted in the addition of Esquesing, Erin, Nassagaweya, Eramosa, and Garafraxa Townships. With the establishment of the Wellington District in 1838, Erin, Eramosa, and Garafraxa Townships were removed from Halton County (Mika & Mika, 1981, p. 216). After the passage of several Acts of Parliament, the abolishment of the Gore District, and territorial reorganization, Halton County was reduced to the townships of Esquesing, Nassagaweya, Nelson, and Trafalgar in 1851.

The central location of Halton County and its proximity to Lake Ontario made it an ideal centre for trade, with harbours constructed in Bronte, Oakville, and Burlington (Mika & Mika, 1981, p. 218). Farming was a prosperous endeavor with soil suitable for agriculture and abundant land for grazing livestock. The arrival of the Grand Trunk Railway, the Great Western Railway, the Hamilton and North-Western Railways, and the Credit Valley Railway further boosted prosperity and settlement in larger communities such as Milton, Oakville, Acton, Georgetown, and Burlington, and many smaller communities, including Eden Mills, Milton Heights, Campbellville, Omagh, and Palermo (Mika & Mika, 1981, p. 219). In 1857, the towns of Milton and Oakville were incorporated, followed by the villages of Georgetown, Burlington, and Acton in 1865, 1873, and 1874, respectively (Walker & Miles, 1877). Between 1958 and 1962, several amalgamations and annexations of towns and townships resulted in the reorganization of the county. By 1974, Halton County had been replaced by the Regional Municipality of Halton.

## TOWNSHIP OF ESQUESING

When Euro-Canadian settlement began in Esquesing in 1819, it was noted as an area with many large pines and named after the Anishinaabeg word for “place of tall pines.” Most early settlers were British with a large number of Scottish migrants arriving in the southwest of the Township in an area later known as the “Scotch Block.” In 1821, it became part of the Gore District with a population of 424. The first post office in the township was established in 1832 and the first tavern in 1840. Several churches were also built around this time including the Congregational Church in 1840, the Knox Presbyterian Church in 1845, the Acton Wesleyan Methodist Church in 1850 and the Boston Presbyterian Stone Church in 1868 in the Scotch Block (Mika & Mika, 1977).

Aside from agriculture, the early economy of Esquesing was supported by a paper and woollen mill, a tannery, and a brewery and was boosted by the arrival of the Grand Trunk Railway in 1857. Much of this economy outside of agricultural was primarily focused around the town of Georgetown. With the municipal reorganization of the 1970s, Esquesing was split between the Town of Milton, and the Town of Halton Hills, both of which are part of the Regional Municipality of Halton (Mika & Mika, 1977).

## TOWNSHIP OF TRAFALGAR

Trafalgar Township was surveyed in 1806 by Samuel Wilmot and was initially called Alexander Township. It was later renamed in honor of the defeat of the French and Spanish at the Battle of Trafalgar by the British led by Admiral Nelson (McKeon & McKeon, 1986, p. 24; Oakville Historical Society, n.d.). The earliest settlers arrived in 1807 and enjoyed a favourable environmental setting, as the land was well drained by Twelve Mile Creek, Sixteen Mile Creek, and their various tributaries (Walker & Miles, 1877). Some lots were reserved for the Crown and for the Anglican Church, but the rest were quickly claimed by settlers who were required to clear and fence at least five acres, build a house, and clear the road adjacent to their land (Oakville Historical Society, n.d.).

By 1817, the population of the township reached 548 with four sawmills and one grist mill in operation (Walker & Miles, 1877). Richard Bristol surveyed the northern part of the Township of Trafalgar in 1819 and the first post office in the township was established at Post's Corners in 1820. By the mid 19<sup>th</sup> century, a total of 28,375 hectares (ha) had been settled, 11,404 ha of which under cultivation, and there were 23 sawmills and 7 grist mills in operation (Walker & Miles, 1877). The population of Trafalgar reached 4,513 by 1850, and by 1862, additional industries included three foundries, a woolen factory, a brewery, a tannery, a steam engine and machine works, and a shingle factory. The 1871 census of Trafalgar, which did not include the Towns of Oakville and Milton, counted a population of 5,027 (Walker & Miles, 1877). In 1962, the Township of Trafalgar, the Village of Bronte, and the Town of Oakville were amalgamated to form the new Town of Oakville (McKeon & McKeon, 1986, p. 77).

## TOWN OF MILTON

Milton was the first of many 'grist mill' communities that sprang up in the area in the 1820s. In 1822, Jasper Martin and his wife Sarah constructed the first grist mill on Sixteen Mile Creek. It proved to be successful and soon after, the Martins built a sawmill, an ashery, and a store. This gave rise to the community known as Martin's Mills. Many other settlers were quickly attracted to the area because of the mix of rich soil, forests and easy access to the area's many rivers. In 1837, Martin's Mills was renamed Milton by its approximately 100 inhabitants, after the poet John Milton. Milton then included an additional general store, a cooper shop, and a log schoolhouse. By 1850, the population had reached 500 and included blacksmiths, shoemakers, masons, wagonmakers, cabinetmakers, and coopers. It also had three hotels and numerous churches. The economy had been driven by Milton's nineteen sawmills which shipped their lumber to overseas markets (Mika & Mika, 1983, p. 672).

By 1853, the County of Halton was established, and Milton was selected as the County Town. This central position within the county resulted in the construction of county buildings and a jail in 1855 (Mika & Mika, 1983, p. 672). Milton was incorporated as a town in 1857. This development prompted the first mayor, George Brown, to commission the construction of town hall, which was completed in 1863.

The development of the town between 1857 and 1877 was rapid and included the establishment of the first library, newspaper, and market house. Many other industries took root in the community, including Roberston's Steam Sash Door, and Blind factory; Rodler and Huff's tannery; Socrates Center's ashery; Ramshaw's Quality Buggies; and MacKenzie's blacksmith and carriage works. The agricultural economy of Milton received a boost with the invention of the Joseph Brother's threshing machine, reducing the time it took to separate chaff and grain (Mika & Mika, 1983, p. 672).

The industrial development of Milton continued with the arrival of the Hamilton and Northwestern Railway in 1877 and the Credit Valley Railway in 1879. The former supported the beginning of the Robertson Lime Kiln in 1877, which remained in operation until the 1930s. Probably the most important development was the Robertson's Screw Company, which, at one point employed one fifth of the town's population. By the 1930s, the population had reached 2,000 and remained steady until the arrival of Highway 401 in the 1950s. By 1979, the population was 24,163 (Mika & Mika, 1981, p. 672).

### 1.3.3 STUDY AREA SPECIFIC HISTORY

To better understand the historic land use of the study area, the 1858 Tremaine's *Map of the County of Halton, Canada West* and the 1877 Walker and Miles' *Illustrated Historical Atlas of the County of Halton* (Figure 3) were reviewed to examine whether historic features are located within, or in close proximity to the study area. This analysis contributes to the determination of archaeological potential. A summary of the historical occupation of the study area is provided in Table 1.

**Table 1: Historical Land Use Summary by Lot and Concession**

Township	Lot	Concession	1858 Tremaine Map		1877 Atlas Map	
			Occupants	Features	Occupants	Features
Esquesing	1	1	Agnes Robertson	No features illustrated	Duncan Robertson	Homestead and structure with orchard
	1	2	William Anderson	No features illustrated	George R. Anderson	Orchard
Trafalgar	15	1	William Cumming (West)	No features illustrated	John Cumming (West)	Homestead with orchard
			James and Robert Ruxton (East)	Sawmill "Millbank"	George R. Anderson	Homestead with orchard, structure

By 1858, the study area was fully occupied by several landowners; however, no structures are illustrated. It should be noted that for properties where structures are absent, illustrating all structures on the historic atlas maps would have been beyond the intended scope of the atlas and, often, structures were only illustrated for those landowners who purchased a subscription. Present-day Steeles Avenue West and Peru Road had been constructed through the study area by this time. A sawmill called "Millbank" is illustrated to the southeast along Sixteen Mile Creek. The growing Town of Milton is illustrated to the east.

The 1877 map illustrates the location of several homesteads on each lot with two homesteads, both listed to George R. Anderson, falling within or adjacent to the study area boundaries. The Credit Valley Railroad (the present-day Canadian Pacific Railway) has been constructed and bisects the study area. Expansion of Milton's Town plot to the southeast is noted to the east of the study area.

To gain a better understanding of the more recent land use of the study area, aerial imagery from 1954 and 2015, made available by McMaster University and Google Earth, were also consulted (McMaster University Library, n.d.; Google Earth, n.d.). By 1960, the study area is largely agricultural with most development largely focused on the intersection of Steeles Avenue West and Peru Road. There is a notable level of disturbance at the present-day business park on the north side of Steeles Avenue West. A small, unnamed roadway to the west of the railway has also been added. In 2015, the new Tremaine Road was constructed along the western side of the study area, the present-day Milton Banquet and Conference Centre had expanded, and there had been extensive development on the far east side of the study area with the addition of Industrial Drive and its associated industrial complexes (Figure 4).

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## 1.4 ARCHAEOLOGICAL CONTEXT

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### 1.4.1 CURRENT CONDITIONS

The current study is located northwest of the present-day Town of Milton. It is bounded by Tremaine Road in the west, Industrial Drive in the east, agricultural fields in the south, and a mixture of woodlot and residential structures in the north. It includes areas of woodlot, agricultural fields, residential areas, and industrial complexes. It is centred along Steeles Avenue West and includes a section of Peru Road, and the Canadian Pacific Railway.

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### 1.4.2 PHYSIOGRAPHY AND ECOLOGY

The study area is located in the Peel Plain physiographic region, a clay tract that covers an area of approximately 300 square miles over the central areas of the Regional Municipalities of York, Peel, and Halton. It consists of primarily bevelled till plains (Chapman & Putnam, 1984, pp. 174-175). A number of large rivers and streams have cut deep valleys across the plain, leaving much of the area fairly well drained. These group includes the Credit, Humber, Don, Rouge, Bronte, Oakville and Etobicoke rivers. The plain is largely shale and limestone, covered in either level or undulating heavy, usually red, clay.

The parts of the Peel Plain to the southwest of the Credit river tend to have a redder clay than those to the east. The color can be attributed to contact with the Georgian Bay and Queenston formations of grey and red shales (Chapman & Putnam, 1984, pp. 175). The clay is often a veneer on the plain but can also be quite deep with evidence of varving. It is more calcareous than the underlying shale till which is the result of being brought in from limestone areas in the east and north by meltwater. The clay is most often imperfectly drained very dark brown Peel clay followed by a sub-surface layer of brown grey, clay loam (Chapman & Putnam, 1984, pp. 174-175). The soil in the study area is a mixture of three soil types: Oneida clay loam in the northeast, Jeddo clay loam around Sixteen Mile Creek, with the remainder comprised of Chinguacousy clay loam. These are well-drained, poorly drained and imperfectly drained, respectively. Well drained soil types are ideal for agricultural purposes and would have been desirable for both pre-contact and European settlement (Gillespie, Wicklund, & Miller, 1971).

The first settlers in this area favored grain and wheat, which eventually was abundant enough to be exported. The focus on crops would later shift to a focus on livestock and animal products, including beef cattle, hogs, and dairy. Much of the Peel Plain was later developed by the increasing level of urbanization in the City of Toronto (Chapman & Putnam, 1983, pp. 174-175).

The study area lies within the Mixedwood Plains Ecozone and the Lake Erie-Lake Ontario Ecoregion (Ecoregion 7E). The Lake Erie-Lake Ontario Ecoregion has a hot and moist climate in the summer and is cool in the winter, with a mean annual temperature range of 6.3 to 9.4 degrees Celsius. Surface topography is generally flat and overlain with deep undulating ground moraine deposits. Historic lakes that once occupied the Ecoregion have left substantial glaciolacustrine deposits in many areas (Crins et al., 2009).

The flora and fauna of Ecoregion 7E are the most diverse in Canada and would have provided significant food resources for human occupation throughout the pre- and post-contact periods. Characteristic mammals, birds, reptiles, and fish include white-tailed deer, northern racoon, striped skunk, Virginia opossum, green heron, Virginia rail, Cooper's hawk, eastern kingbird, willow flycatcher, brown thrasher, yellow warbler, common yellowthroat, northern cardinal, savannah sparrow, red-backed salamander, American toad, eastern garter snake, Midland painted

turtle, longnose gar, channel catfish, smallmouth bass, yellow perch, walleye, northern hog sucker, banded killifish, and spot tail shiner (Crins et al., 2009).

The Lake Erie-Lake Ontario Ecoregion is associated with the Deciduous Forest Region. During the pre-contact and early post-contact periods, this area would have been characterised by broad-leaved deciduous trees including sugar maple, beech, white elm, basswood, red ash, white oak and butternut. It also marks the northern limit of the tulip-tree, cucumber-tree, pawpaw, red mulberry, Kentucky coffee-tree, black gum, blue ash, sassafras, mockernut hickory, pig nut hickory, the black oak, and the pin oak. The Deciduous Forest Region also contains black walnut, sycamore and the swamp white oak. Some conifers can be found in the area including the eastern white pine, tamarack, eastern red cedar, and the eastern hemlock (Rowe, 1972). The diverse flora and fauna of Lake Erie-Lake Ontario Ecoregion provided abundant natural resources for Indigenous and early Euro-Canadian populations.

Proximity to natural sources of water is an important indicator of archaeological potential. The eastern part of the study area includes the West Branch of Sixteen Mile Creek. The Sixteen Mile Creek watershed covers 372 km<sup>2</sup> and begins in the wetlands and forested swamps associated with the Niagara Escarpment. From here, it flows south into Lake Ontario in Oakville. The West Branch of the Creek originates downstream of the Kelso Reservoir. Most of Sixteen Mile Creek is located in a large valley created by a glacial spillway (Dunn, 2012). It should be noted that the waters within Sixteen Mile Creek are part of a land claim, submitted to the Federal and Provincial Governments in 2016, which asserts that the Mississaugas of the Credit First Nation have unextinguished title to all water, beds of water, and floodplains within their traditional territory and treaty lands as outlined in the *Aboriginal Title to Waters Statement of Claim* (Joan Holmes & Associates Inc, 2015).

In addition to Sixteen Mile Creek, there is an unnamed wetland within the study area and the study area boundaries are approximately 240 metres (m) west of the Milton Wetland Complex.

### 1.4.3 PREVIOUS ARCHAEOLOGICAL ASSESSMENTS

A search of the MTCS' *Ontario Public Register of Archaeological Reports* indicates that five archaeological assessments have been conducted within approximately 50 m of the study area, including three assessments for land located within the study area. Details on these previous archaeological assessments are provided in Table 2 and those assessments within the study area are bolded (Figure 5).

**Table 2: Previous archaeological assessments on or within 50 m of the study area**

Year	PIF	Title	Researcher
2005	<b>P038-188</b>	<b><i>Report on the 2006 Stage 1-2 AA of the proposed Milton Meadows Properties North, Milton Meadows South, Century Groves Homes, Tony Sandhu &amp; Andrin (Milton) Properties Ltd, Part of Lots 1-5, Conc. 1 (former Twp of Esquesing), Town of Milton, RM of Halton</i></b>	<b>AMICK Consultants Ltd (AMICK)</b>
2006	P057-145	<i>REVISED - Stage 1 AA Tremaine Rd (Reg. Rd 22) Transportation Corridor Class EA Town of Milton, RM of Halton</i>	ASI Archaeological and Cultural Heritage Services (ASI)
2007	P057-409-2007	<i>Stage 1 Archaeological Assessment Steeles Avenue (Regional Road 8) Transportation Corridor Class Environmental Assessment Study from Industrial Drive to Regional Road</i>	ASI



Year	PIF	Title	Researcher
		25 (Martin Street) Town of Milton, Regional Municipality of Halton, Ontario	
2013	P057-725-2012	Stage 2 Archaeological Assessment Property Assessment Reconstruction of Tremaine Road (Regional Road 22): Section 'A' North of Main Street to North of CPR Right-of-Way Former Townships of Nelson, North Trafalgar and Esquesing Region of Halton, Ontario	ASI
2019	P089-0101-2018	Stage 1 Archaeological Assessment of Steeles Avenue – Tremaine Road to Industrial Drive Municipal Class EA, on Parts of Lot 1 Concessions 1 and 2, in the Geographic Township of Esquesing, and Part of Lot 15 Concession 2, in the Geographic Township of Trafalgar, former Halton County, Town of Milton, Regional Municipality of Halton	NDA

In 2005, AMICK was retained to conduct a Stage 1-2 Archaeological Assessment for the development of lands including lands within the study area west of Peru Road, north of Steeles Avenue East, and east of the Canadian Pacific Railway. Areas of archaeological potential were subject to either pedestrian survey or test pit survey at 5 m intervals (AMICK, 2005). The precise methodology applied for the lands within the study area are not indicated and as such, not included in the current report.

The corridor for the reconstruction of Tremaine Road east of the old route was subject to a Stage 1 Archaeological Assessment in 2006 by ASI (ASI, 2006). Lands with archaeological potential were subject to archaeological assessment in 2013 through test pit survey and pedestrian survey at 5 m intervals. No archaeological resources were identified, and no further work was recommended (ASI, 2013).

ASI was retained to conduct a Stage 1 Archaeological Assessment for Steeles Avenue West between Industrial Drive to Regional Road 25 in 2007. The entire study area was determined to be disturbed of all archaeological potential. No further work was recommended (ASI, 2007).

In 2019, NDA conducted the original Stage 1 Archaeological Assessment for the Steeles Avenue West (Regional Road 8) between Tremaine Road (Regional Road 22) to Industrial Drive project. Areas identified as retaining archaeological potential were recommended for further work (NDA, 2019). The recommendations by NDA (2019) are included in the results for this report. At the time of completion of this report, no Stage 2 Archaeological Assessment has been completed.

#### 1.4.4 REGISTERED ARCHAEOLOGICAL SITES

A search of the MTCS' *Ontario Archaeological Sites Database* indicates that there are 18 registered archaeological sites within 1 kilometre (km) of the study area. Of the 18 registered sites, ten are Indigenous, six are Euro-Canadian, and the remaining two are multi-component. None of these sites are within 500 m of the study area. Details on these sites are provided in Table 3.

**Table 3: Registered archaeological sites within 1 km of the study area**

Borden	Site Name	Time Period	Cultural Affinity	Site Type	Current Development Status
AiGx-130	Red Turtle	Woodland, Late	Iroquoian	Hamlet	-

<b>Borden</b>	<b>Site Name</b>	<b>Time Period</b>	<b>Cultural Affinity</b>	<b>Site Type</b>	<b>Current Development Status</b>
<b>AiGx-248</b>	North Derry #1	Pre-Contact	Indigenous	Findspot	-
<b>AiGx-249</b>	North Derry #2	Pre-Contact	Indigenous	Other, camp/campsite	-
<b>AiGx-264</b>	-	Pre-Contact	Indigenous	Findspot	No further work required
<b>AiGx-265</b>	Civiero	Post-Contact	Euro-Canadian	Cabin, farmstead	No further work required
<b>AiGx-266</b>	-	Other	Other, Euro-Canadian	Other: Refuse disposal	No further work required
<b>AiGx-267</b>	-	Archaic, Early	Indigenous	Findspot	No further work required
<b>AiGx-268</b>	-	Woodland, Early	Indigenous	Findspot	No further work required
<b>AiGx-472</b>	-	Post-Contact	Euro-Canadian	Farmstead	Further work required
<b>AjGx-44</b>	Milton Heights	Post-Contact, Woodland, Late	Indigenous, Euro-Canadian, Neutral	Cemetery, ossuary	-
<b>AjGx-46</b>	Harry Woolridge	Woodland, Late	Indigenous, Iroquoian	Unknown	-
<b>AjGx-168</b>	Bovine	Pre-contact*	Indigenous*	-	-
<b>AjGx-169</b>	Triangular Field	Archaic, Middle	Indigenous	Findspot	-
<b>AjGx-170</b>	-	Post-Contact	Euro-Canadian	Homestead	No further work required
<b>AjGx-171</b>	Hogg Site	Post-Contact	Euro-Canadian	Homestead	No further work required
<b>AjGx-172</b>	-	Archaic, Late	Indigenous	Findspot	No further work required
<b>AjGx-223</b>	The Harrison site	Post-Contact	Euro-Canadian	-	No further work required
<b>AjGx-292</b>	Bronte Pioneer Cemetery*	Post-Contact, Pre-Contact	Indigenous, Euro-Canadian*	Unknown, cemetery	Further work required

- denotes no information listed

\* denotes inferences made by author

### 1.4.5 ARCHAEOLOGICAL MASTER PLAN

The 2008 update to the 1998 Archaeological Master Plan (AMP) for the Regional Municipality of Halton by Archaeological Services Inc (ASI) was consulted to inform the determination of archaeological potential of the current study area (ASI, 2009). Following the AMP, any area within 200 m of a water source has potential for pre-contact archaeological resources (ASI, 2009). Sixteen Mile Creek and its tributaries flow through the study area, which also includes an area of wetland. Regarding the historical potential of the study area, the AMP indicates that there is historical potential within 50 to 100 m of historical roadways (ASI, 2009). Present-day Steeles Avenue West and Peru Road are historical roads and were constructed through the study area before 1858. According to the AMP, the study area has both pre-contact and historical archaeological potential.

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#### 1.4.6 LISTED AND DESIGNATED HERITAGE PROPERTIES

A search of the *Town of Milton Heritage Register* (Town of Milton, 2019) indicates that there are 13 listed heritage properties within 300 m of the study area. Table 4 provides a listing of these properties. The properties from 3198 to 3230 Steeles Avenue West are situated within the study area, south of the intersection of Peru Road and Steeles Avenue West.

**Table 4: Listed and Designated Heritage Properties within proximity to the study area**

Address	Status	Details
<b>13 Peru Road</b>	Listed	-
<b>15 Peru Road</b>	Listed	-
<b>17 Peru Road</b>	Listed	-
<b>19 Peru Road</b>	Listed	-
<b>3198 Steeles Avenue West</b>	Listed	-
<b>3216 Steeles Avenue West</b>	Listed	-
<b>3220 Steeles Avenue West</b>	Listed	-
<b>3222 Steeles Avenue West</b>	Listed	-
<b>3224 Steeles Avenue West</b>	Listed	-
<b>3226 Steeles Avenue West</b>	Listed	-
<b>3228 Steeles Avenue West</b>	Listed	-
<b>3230 Steeles Avenue West</b>	Listed	-
<b>7781 Tremaine Road</b>	Listed	-

- denotes no information listed

## 2 ANALYSIS AND CONCLUSIONS

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### 2.1 ARCHAEOLOGICAL POTENTIAL

The criteria for determining the level of archaeological potential are primarily focused on physiographic variables that include distance and nature of the nearest source/body of water, distinguishing features in the landscape (e.g. ridges, knolls, eskers, wetlands), the agricultural viability of soils, resource availability, and other features which would have made the area more suitable for settlement and occupation. A more comprehensive list of features indicative of archaeological potential, as outlined in the *Standards and Guidelines for Consultant Archaeologists* (MTCS, 2011), can be found in Appendix A.

Based on the results of the background study and previous Stage 1 Archaeological Assessment, the vast majority of the study area retains potential for the presence of archaeological resources. Pre-contact archaeological potential is high given the proximity to Sixteen Mile Creek, its tributaries, and several wetlands which would have served as an important source of food resources and a transportation route. Extensive Indigenous land-use of the Sixteen Mile Creek watershed is also evident from the presence of 12 previously identified Indigenous archaeological sites within 1 km of the study area.

The potential for the presence of Euro-Canadian archaeological resources is also high given the early settlement of the area, the presence of more than a dozen historic homesteads within and near the study area, and the presence of early transportation routes in the study area, specifically present-day Steeles Avenue West and Peru Road.

The *Criteria for Evaluating Marine Archaeological Potential* (MTCS, 2016) were reviewed to determine if a Marine Archaeological Assessment is required for the section of the Sixteen Mile Creek that is included the study area. Currently, there are no indicators of marine archaeological potential close enough to study area to recommend further Marine Archaeological Assessment.

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### 2.2 CONCLUSION

This Stage 1 Archaeological Assessment determined that the majority of the study area requires Stage 2 field survey to determine the presence/absence of archaeological resources. Areas determined to have been previously disturbed are largely based on the results of the previous Stage 1 Archaeological Assessment completed by NDA in 2019 and include the roadways and associated right-of-way, the Canadian Pacific Railway, and areas of extensive commercial development. Whereas Sixteen Mile Creek has been determined to have no marine archaeological potential.



### 3 RECOMMENDATIONS

The Stage 1 Archaeological Assessment was carried out in accordance with the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists*. Based on the results of previous and current Stage 1 Archaeological Assessments, it was determined that the vast majority of the study area retains archaeological potential. Based on these findings, **a Stage 2 Archaeological Assessment is recommended for all land determined to retain archaeological potential (Figure 6).**

The resultant archaeological recommendations have been made based on the results of background historic research, an understanding of the geography and natural environment of the study area, and recommendations from the previous Stage 1 Archaeological assessment by NDA (2019). The Stage 2 Archaeological assessment must follow Section 2.1 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS, 2011). The Stage 2 recommendations are as follows:

- Recently ploughed agricultural fields must be subject to pedestrian survey at 5 m intervals as per Section 2.1.1 of the *Standards and Guidelines for Consultant Archaeologists* (2011). Prior to pedestrian survey, the field must be ploughed and weathered to allow for ideal conditions for the identification of archaeological resources. After ploughing, soil visibility must be at least 80% in order for pedestrian survey to proceed;
- Where ploughing is not possible, the property must be subject to test pit survey at 5 m intervals as per Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* (2011). This recommendation includes areas such as wood lots, manicured lawns, and areas of scrub overgrowth; and,
- The portions of the study area located within private residential properties that will be impacted by the project must be subject to a combination of test pit survey and detailed property inspection to confirm areas of disturbance as per Section 2.1.8 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011, p. 38). Test pit survey can be increased to 10 m intervals in areas of confirmed disturbance based on professional judgement.

It should be noted that the findings of this report are not considered final until the recommendations stated herein have been accepted by the MTCS and the report has been entered into the Ontario Public Register of Archaeological Reports.

## 4 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Minister of Tourism and Culture as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the Standards and Guidelines for Consultant Archaeologists (2011) that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the Ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

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

## 5 REFERENCES

- AMICK Consultants Ltd. (2005). *Report on the 2006 Stage 1-2 AA of the proposed Milton Meadows Properties North, Milton Meadows South, Century Groves Homes, Tony Sandhu & Andrin (Milton) Properties Ltd, Part of Lots 1-5, Conc. 1 (former Twp of Esquesing), Town of Milton, RM of Halton*. Ontario Archaeology License Report within the Ontario Public Register of Archaeological Reports under MTCS file PIF# P038-188.
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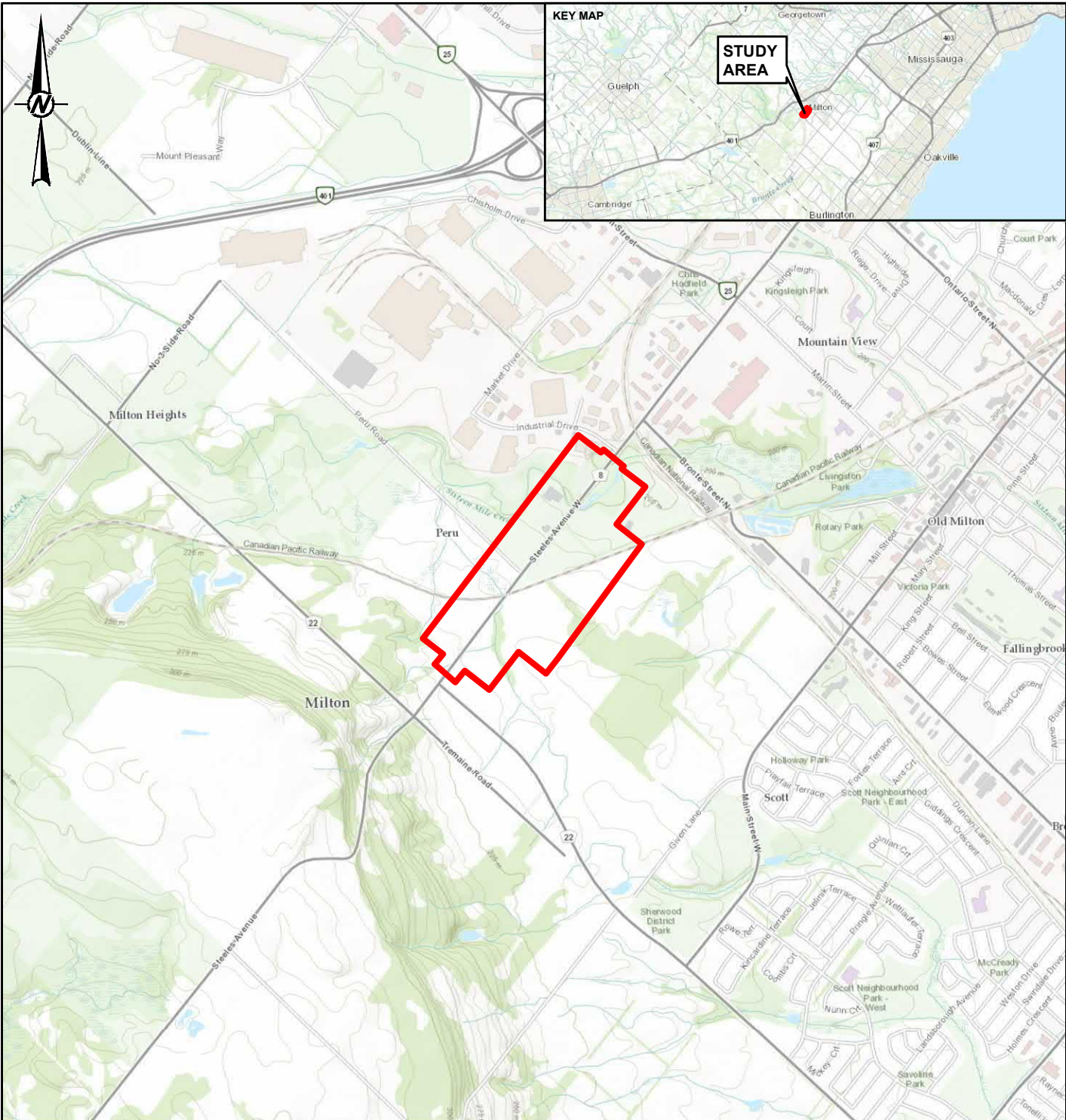
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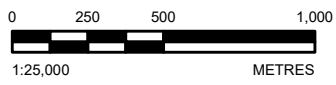
# 6 FIGURES





**LEGEND**

 STUDY AREA




**NOTE(S)**  
1. ALL LOCATIONS ARE APPROXIMATE

**REFERENCE(S)**  
1. SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY  
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT  
**REGIONAL MUNICIPALITY OF HALTON**

PROJECT  
**STAGE 1 ARCHAEOLOGICAL ASSESSMENT: STEELES AVENUE, TREMAINE ROAD TO INDUSTRIAL DRIVE MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT**

TITLE  
**PROJECT LOCATION**

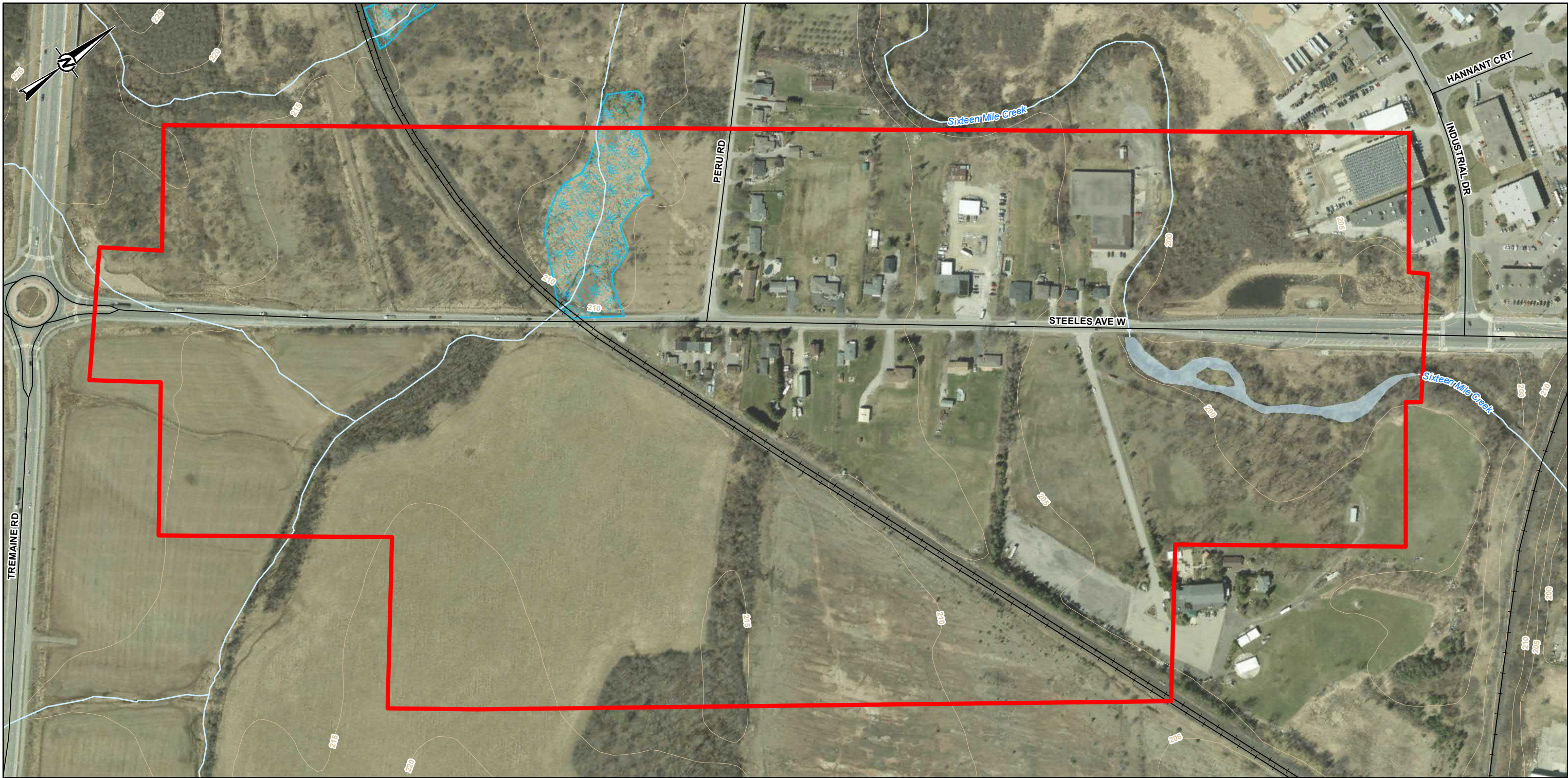
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PROJECT NO. 17M-00979-00	CONTROL 0001	REV. A	FIGURE 1

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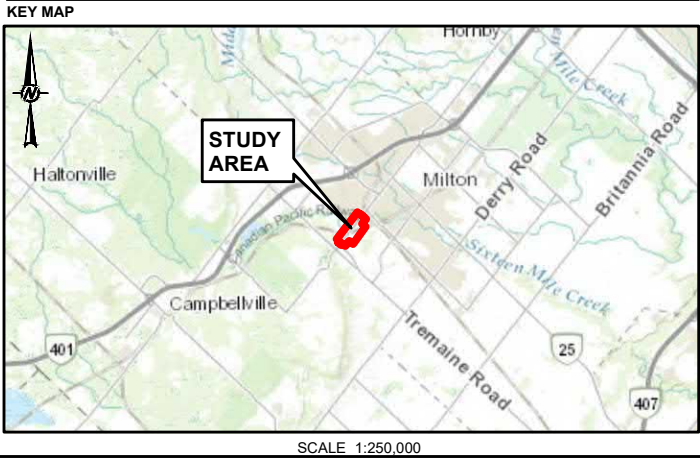


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STUDY AREA

ROADWAY

**NOTE(S)**  
1. ALL LOCATIONS ARE APPROXIMATE

**REFERENCE(S)**  
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO  
2. SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY  
SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY  
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT  
REGIONAL MUNICIPALITY OF HALTON

PROJECT  
STAGE 1 ARCHAEOLOGICAL ASSESSMENT: STEELES AVENUE,  
TREMINE ROAD TO INDUSTRIAL DRIVE MUNICIPAL CLASS  
ENVIRONMENTAL ASSESSMENT

TITLE  
STUDY AREA IN DETAIL

CONSULTANT

YYYY-MM-DD  
2022-10-26

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17M-00979-00

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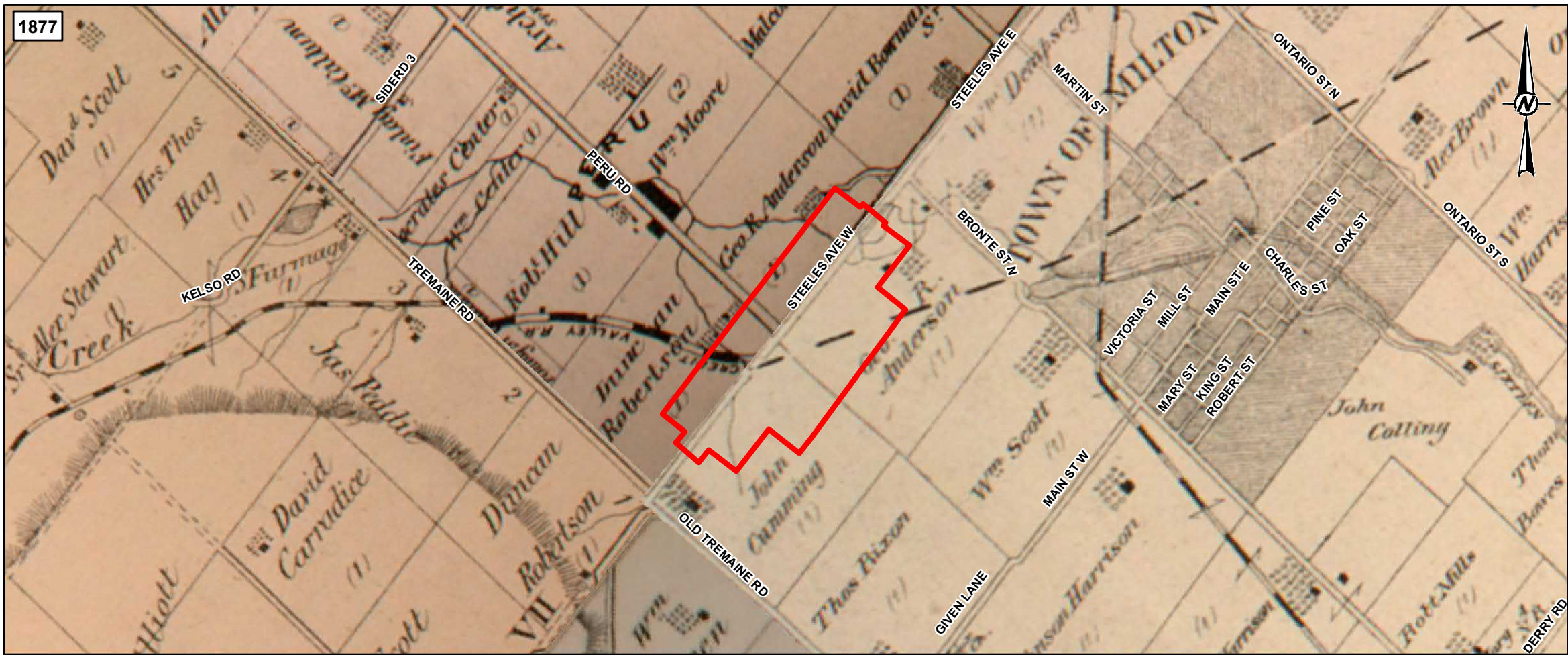
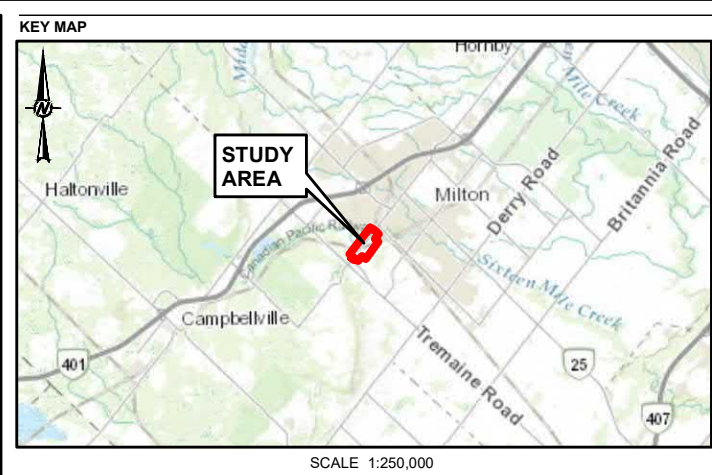
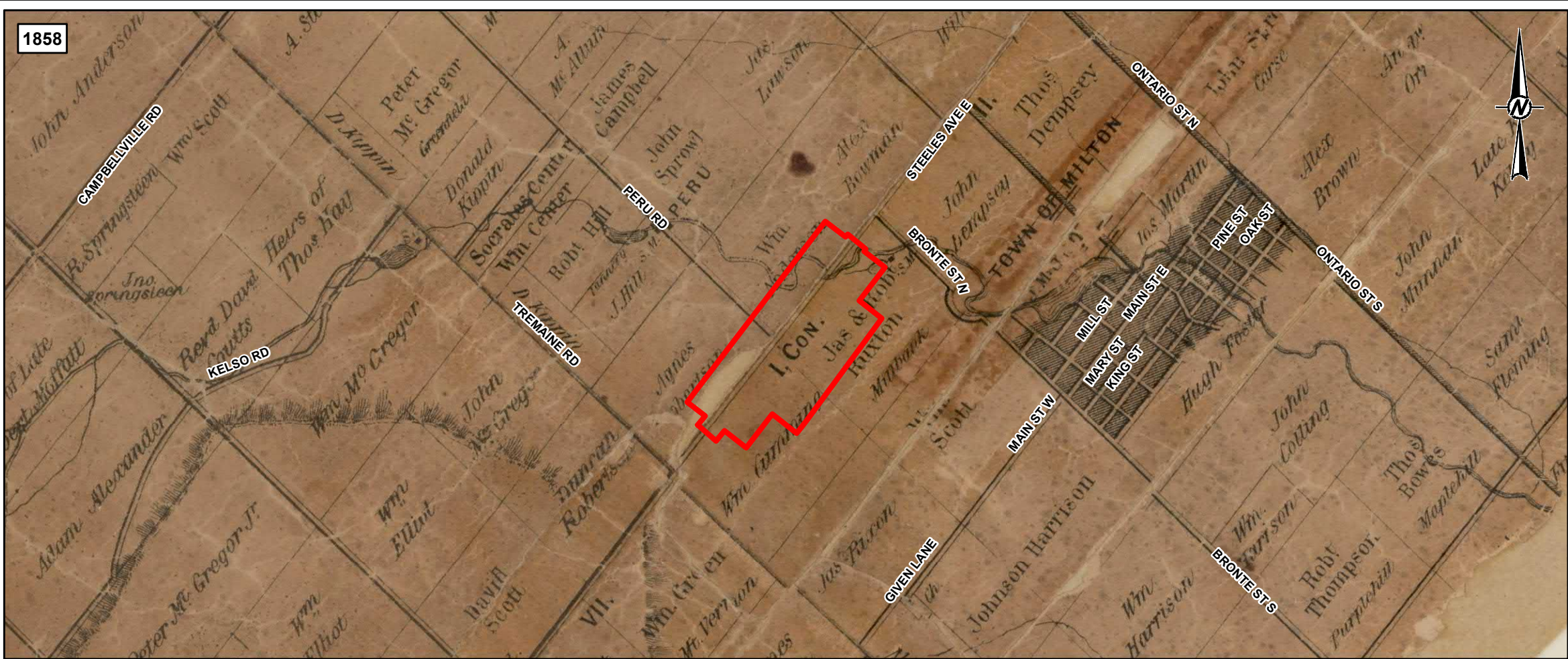
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FIGURE  
2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B 28mm



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NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. TREMAINE, G. R. (1858) MAP OF THE COUNTY OF HALTON, CANADA WEST.  
2. WALKER & MILES (1877) ILLUSTRATED HISTORICAL ATLAS OF THE COUNTY OF HALTON, ONT.  
3. SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY  
4. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

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REGIONAL MUNICIPALITY OF HALTON

PROJECT

STAGE 1 ARCHAEOLOGICAL ASSESSMENT: STEELES AVENUE, TREMAINE ROAD TO INDUSTRIAL DRIVE MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT

TITLE

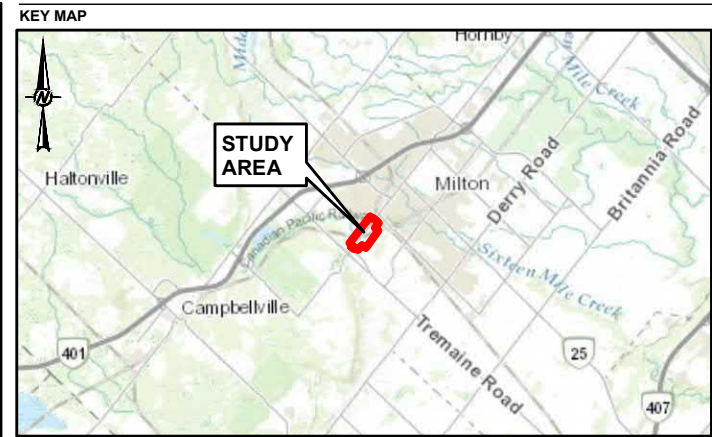
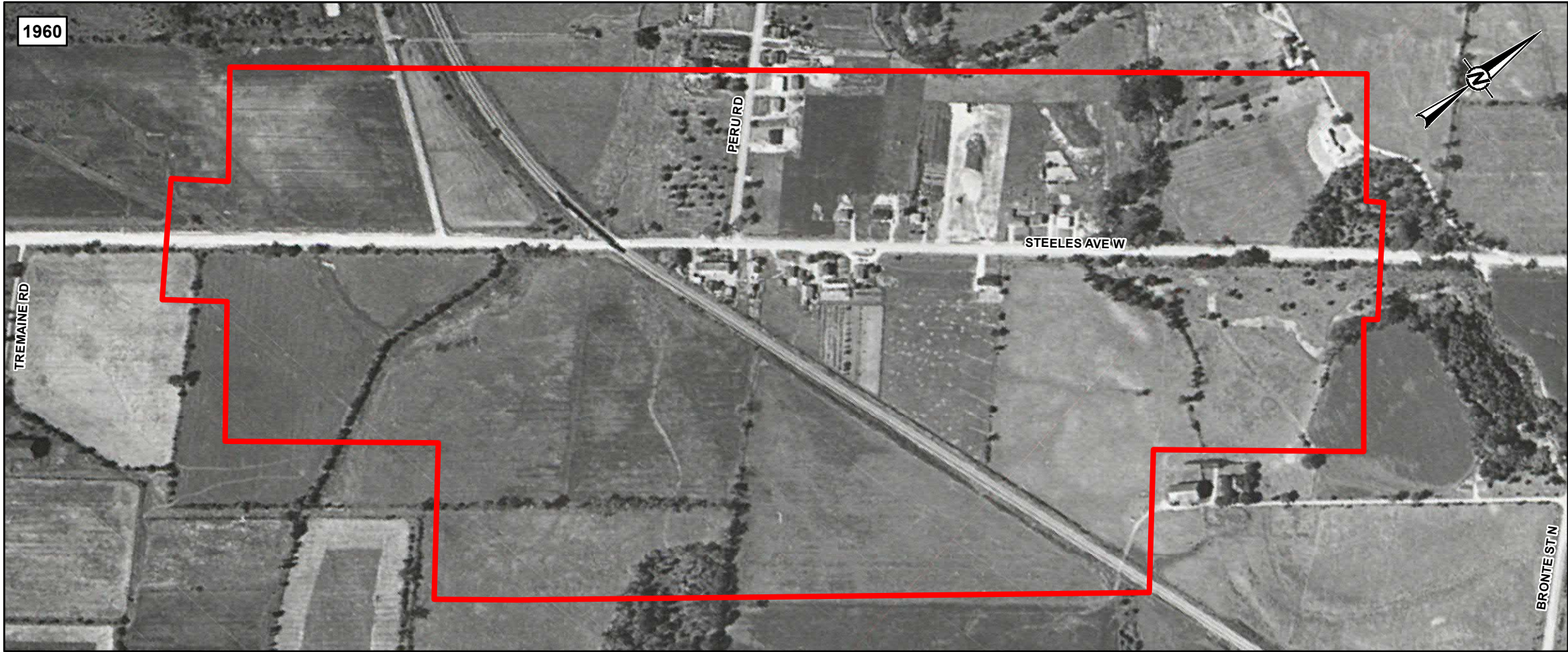
HISTORICAL MAPPING (1858 AND 1877)

CONSULTANT	YYYY-MM-DD	2022-10-12
DESIGNED	CR	
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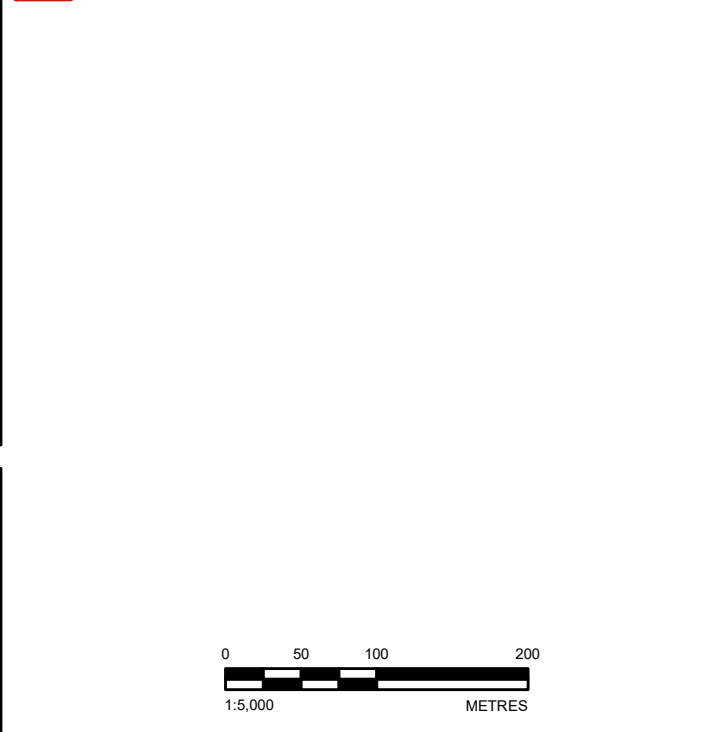




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LEGEND

STUDY AREA

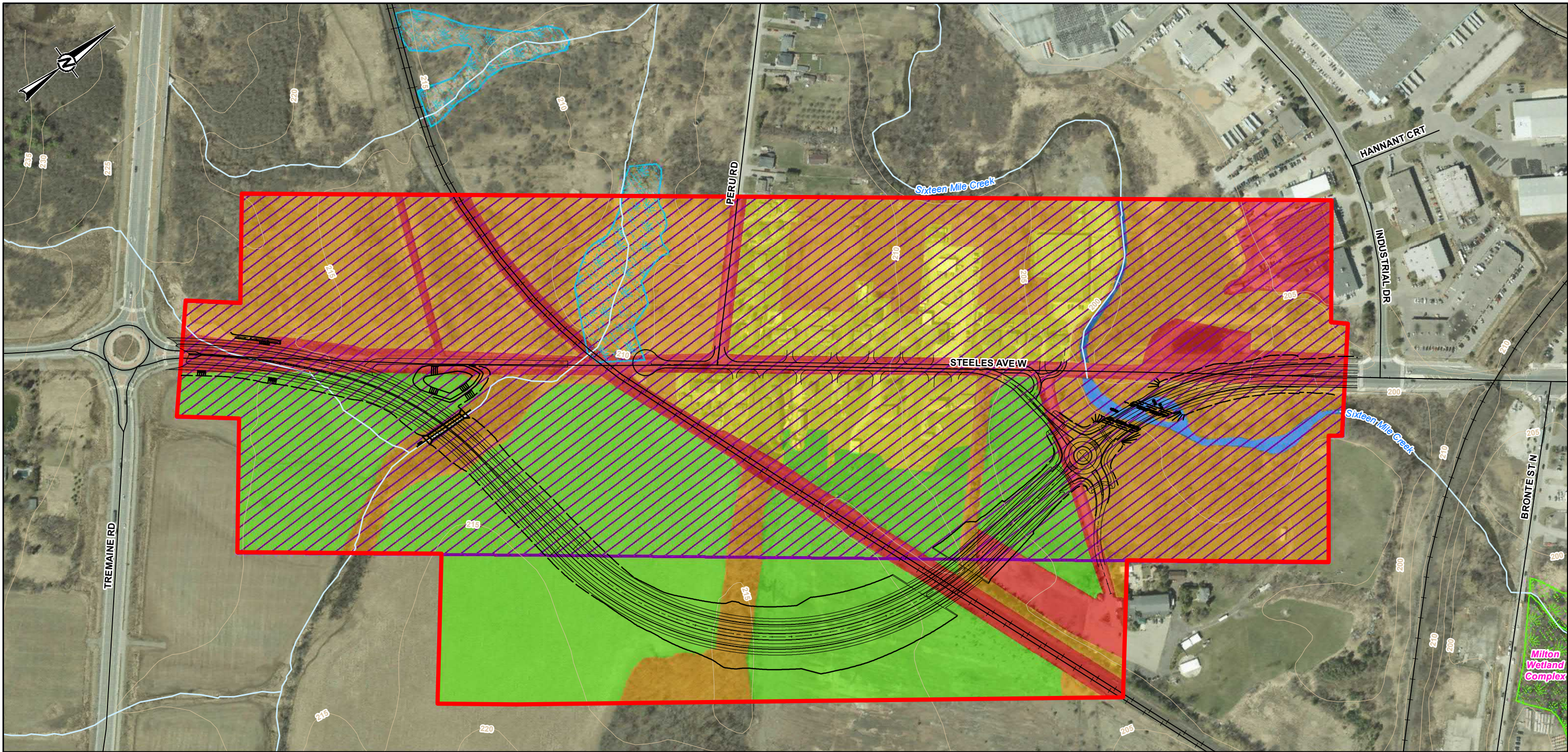






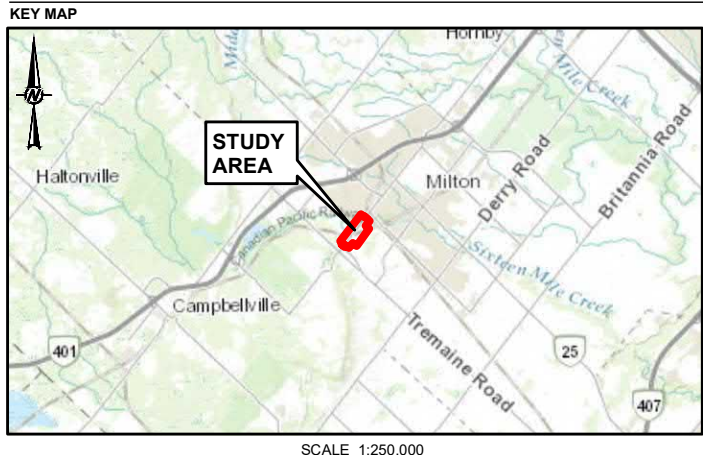


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- PEDESTRIAN SURVEY AT 5 M INTERVALS
- TEST PIT SURVEY AT 5 M INTERVALS
- TEST PIT SURVEY AT 10 M INTERVALS TO CONFIRM DISTURBANCE
- LOW MARINE ARCHAEOLOGICAL POTENTIAL - NO FURTHER WORK RECOMMENDED
- DISTURBED - NO FURTHER WORK REQUIRED
- PREVIOUSLY ASSESSED - FURTHER WORK REQUIRED
- STUDY AREA
- ROADWAY
- RAILWAY
- WATERCOURSE
- TOPOGRAPHIC CONTOUR, metres
- UNEVALUATED WETLAND
- EVALUATED WETLAND (NO SIGNIFICANCE)
- WATERBODY



**NOTE(S)**  
1. ALL LOCATIONS ARE APPROXIMATE

**REFERENCE(S)**  
1. DEVELOPMENT PLAN PROVIDED BY CLIENT TITLED "17M-00979-STEELES AVE-OPT B.DWG"  
2. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO  
3. SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY  
SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY  
4. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N



**CLIENT**  
REGIONAL MUNICIPALITY OF HALTON

**PROJECT**  
STAGE 1 ARCHAEOLOGICAL ASSESSMENT: STEELES AVENUE, TREMAINE ROAD TO INDUSTRIAL DRIVE MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT

**TITLE**  
RESULTS OF THE STAGE 1 ARCHAEOLOGICAL ASSESSMENT

CONSULTANT	DATE	REVISION
	YYYY-MM-DD	2022-10-26
	DESIGNED	CR
	PREPARED	BR
	REVIEWED	----
	APPROVED	----

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# APPENDIX

**A**

FEATURES OF  
ARCHAEOLOGICAL  
POTENTIAL

# APPENDIX

## FEATURES INDICATING ARCHAEOLOGICAL POTENTIAL

The following are features or characteristics that indicate archaeological potential:

- Previously identified archaeological sites.
- Water sources:
  - Primary water sources (lakes, rivers, streams, creeks).
  - Secondary water sources (intermittent streams and creeks, springs, marshes, swamps).
  - Features indicating past water sources (e.g. glacial lake shorelines, relic river or stream channels, shorelines of drained lakes or marshes, cobble beaches).
- Accessible or inaccessible shoreline (e.g. high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh).
- Elevated topography (e.g. eskers, drumlins, large knolls, plateaux).
- Pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground.
- Distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases.
- Resource areas, including:
  - Food or medicinal plants (e.g. migratory routes, spawning areas, prairie).
  - Scarce raw materials (e.g. quartz, copper, ochre, or outcrops of chert).
  - Early Euro-Canadian industry (e.g. fur trade, logging, prospecting, mining).
- Areas of early Euro-Canadian settlement. These include places of early military or pioneer settlement (e.g. pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries.
- Early historical transportation routes (e.g. trails, passes, roads, railways, portage routes).
- Property listed on a municipal register or designated under the Ontario Heritage Act or that is federal, provincial or municipal historic landmark or site.
- Property that local histories or informants have identified with possible archaeological sites, historic events, activities, or occupations

## SOURCE

Section 1.3. Ministry of Tourism, Culture and Sport. (2011). *Standards and Guidelines for Consultant Archaeologists*. Toronto, Ontario: Queen's Printer for Ontario.