STAGE 1 ARCHAEOLOGICAL ASSESSMENT
NINTH LINE IMPROVEMENTS
FROM EGLINGTON AVENUE WEST TO DERRY ROAD WEST
PART OF LOTS 1-11, CONCESSIONS 10-11
AND PART OF LOTS 5-6, CONCESSION 2 NDS
(FORMER TOWNSHIP OF TRAFALGAR, COUNTY OF HALTON)
CITY OF MISSISSAUGA, REGIONAL MUNICIPALITY OF PEEL, ONTARIO

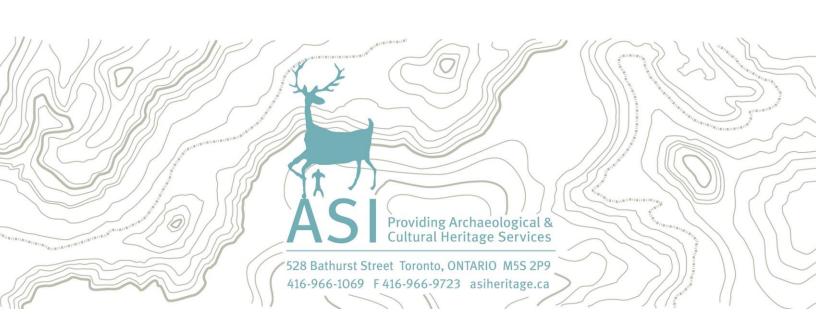
ORIGINAL REPORT

Prepared for:

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Ministry of Heritage, Sport, Tourism and Culture Industries PIF# P1066-0125-2020
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Stage 1 Archaeological Assessment
Ninth Line Improvements
From Eglington Avenue West to Derry Road West
Part of Lots 1-11, Concessions 10-11
And Part of Lots 5-6, Concession 2 NDS
(Former Township of Trafalgar, County of Halton)
City of Mississauga, Regional Municipality of Peel, Ontario

EXECUTIVE SUMMARY

Archaeological Services Inc. was contracted by HDR Inc. to conduct a Stage 1 Archaeological Assessment (Background Research and Property Inspection) as part of the Ninth Line Improvements from Eglinton Avenue West to Derry Road West in the City of Mississauga. This project involves the proposed improvements for Ninth Line, from Eglinton Avenue West to Derry Road West.

The Stage 1 background study determined that 46 previously registered archaeological sites are located within one kilometre of the Study Area, four of which are within the Study Area but do not exhibit Cultural Heritage Value or Interest (CHVI). The Study Area includes St. Peter's Catholic Cemetery. The property inspection determined that the Study Area exhibits archaeological potential and will require Stage 2 assessment.

In light of these results, the following recommendations are made:

- 1. The Study Area exhibits archaeological potential. If impacted, these lands require Stage 2 archaeological assessment by test pit/pedestrian survey at five metre intervals, where appropriate, prior to any proposed construction activities;
- 2. The Study Area includes the St. Peter's Catholic Cemetery, which should be avoided by the project design. However, there is potential for unmarked burials directly adjacent to the cemetery boundary. A Stage 3 Cemetery Investigation is required in the grassed margin along the cemetery property, prior to any proposed impacts, to confirm the presence or absence of unmarked graves in this area.
 - A Stage 2 test-pit survey at five metre intervals should be conducted within the areas of impact to locate any near-surface finds, prior to the Stage 3 assessment.
 - The Stage 3 entails the mechanical removal of topsoil in the narrow, grassed margin along the cemetery property, under the supervision of a licensed archaeologist. The exposed subsoil will then be shovel-shined and thoroughly examined for the presence of burial shafts. Depending on the results, additional fieldwork may be recommended within and beyond this margin.
 - If field conditions such as buried utilities and/or road infrastructure, preclude the safe removal of topsoil in support of a Stage 3 investigation, then archaeological construction monitoring should be conducted.



- An Investigation Authorization issued by the Bereavement Authority of Ontario may be required for any Stage 2-4 archaeological fieldwork.
- 3. The remainder of the Study Area does not retain archaeological potential on account of deep and extensive land disturbance, low and wet conditions, or slopes in excess of 20 degrees. These lands do not require further archaeological assessment; and,
- 4. Should the proposed work extend beyond the current Study Area, further Stage 1 archaeological assessment should be conducted to determine the archaeological potential of the surrounding lands.



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1.0 PROJECT CONTEXT

Archaeological Services Inc. (ASI) was contracted by HDR Inc. to conduct a Stage 1 Archaeological Assessment (Background Research and Property Inspection) as part of the Ninth Line Improvements from Eglinton Avenue West to Derry Road West in the City of Mississauga (Figure 1). This project involves the proposed improvements for Ninth Line, from Eglinton Avenue West to Derry Road West.

All activities carried out during this assessment were completed in accordance with the *Ontario Heritage Act* (1990, as amended in 2018) and the 2011 *Standards and Guidelines for Consultant Archaeologists* (S & G), administered by the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI 2011), formerly the Ministry of Tourism, Culture and Sport.

1.1 Development Context

All work has been undertaken as required by the *Environmental Assessment Act*, RSO (Ministry of the Environment 1990 as amended 2010) and regulations made under the Act, and are therefore subject to all associated legislation. This project is being conducted in accordance with the Municipal Engineers' Association document *Municipal Class Environmental Assessment* (2000 as amended in 2007, 2011 and 2015).

Authorization to carry out the activities necessary for the completion of the Stage 1 archaeological assessment was granted by HDR Inc. on March 11, 2020.

1.2 Historical Context

The purpose of this section, according to the S & G, Section 7.5.7, Standard 1, is to describe the past and present land use and the settlement history and any other relevant historical information pertaining to the Study Area. A summary is first presented of the current understanding of the Indigenous land use of the Study Area. This is then followed by a review of the historical Euro-Canadian settlement history.

1.2.1 Indigenous Land Use and Settlement

Southern Ontario has been occupied by human populations since the retreat of the Laurentide glacier approximately 13,000 years before present (BP) (Ferris 2013). Populations at this time would have been highly mobile, inhabiting a boreal-parkland similar to the modern sub-arctic. By approximately 10,000 BP, the environment had progressively warmed (Edwards and Fritz 1988) and populations now occupied less extensive territories (Ellis and Deller 1990). The Lake Iroquois strandline ca. 12,500 BP is documented to have several small 10-11,000-year-old archaeological sites in the Duffins Creek watershed.

Between approximately 10,000-5,500 BP, the Great Lakes basins experienced low-water levels, and many sites which would have been located on those former shorelines are now submerged. This period produces the earliest evidence of heavy wood working tools, an indication of greater investment of labour in felling trees for fuel, to build shelter, and watercraft production. These activities suggest prolonged seasonal residency at occupation sites. Polished stone and native copper implements were being produced by



approximately 8,000 BP; the latter was acquired from the north shore of Lake Superior, evidence of extensive exchange networks throughout the Great Lakes region. The earliest evidence for cemeteries dates to approximately 4,500-3,000 BP and is indicative of increased social organization, investment of labour into social infrastructure, and the establishment of socially prescribed territories (Ellis et al. 1990; Ellis et al. 2009; Brown 1995:13).

Between 3,000-2,500 BP, populations continued to practice residential mobility and to harvest seasonally available resources, including spawning fish. The Woodland period begins around 2,500 BP and exchange and interaction networks broaden at this time (Spence et al. 1990:136, 138) and by approximately 2,000 BP, evidence exists for small community camps, focusing on the seasonal harvesting of resources (Spence et al. 1990:155, 164). By 1,500 BP there is macro botanical evidence for maize in southern Ontario, and it is thought that maize only supplemented people's diet. There is earlier phytolithic evidence for maize in central New York State by 2,300 BP - it is likely that once similar analyses are conducted on Ontario ceramic vessels of the same period, the same evidence will be found (Birch and Williamson 2013:13–15). As is clearly evident in the detailed ethnographies of Anishinaabek populations, winter was a period during which some families would depart from the larger group as it was easier to sustain smaller populations (Rogers 1962). It is generally understood that these populations were Algonquian-speakers during these millennia of settlement and land use.

From the beginning of the Late Woodland period at approximately 1,000 BP, lifeways became more similar to that described in early historical documents. Between approximately 1000-1300 Common Era (CE), the communal site is replaced by the village focused on horticulture. Seasonal disintegration of the community for the exploitation of a wider territory and more varied resource base was still practised (Williamson 1990:317). By 1300-1450 CE, this episodic community disintegration was no longer practised and populations now communally occupied sites throughout the year (Dodd et al. 1990:343). From 1450-1649 CE this process continued with the coalescence of these small villages into larger communities (Birch and Williamson 2013). Through this process, the socio-political organization of the First Nations, as described historically by the French and English explorers who first visited southern Ontario, was developed.

By 1600 CE, the Huron-Wendat communities within Simcoe County had formed the Confederation of Nations encountered by the first European explorers and missionaries. In the 1640s, the traditional enmity between the Haudenosaunee and the Huron-Wendat (and their Algonquian allies such as the Nippissing and Odawa) led to the dispersal of the Huron-Wendat. Shortly afterwards, the Haudenosaunee established a series of settlements at strategic locations along the trade routes inland from the north shore of Lake Ontario. By the 1690s however, the Anishinaabeg were the only communities with a permanent presence in southern Ontario. From the beginning of the eighteenth century to the assertion of British sovereignty in 1763, there was no interruption to Anishinaabeg control and use of southern Ontario.

1.2.2 Treaties

The Study Area is within Treaty 13a. Treaty 13a was signed on August 2, 1805 by the Mississaugas and the British Crown in Port Credit at the Government Inn. A provisional agreement was reached with the Crown on August 2, 1805, in which the Mississaugas ceded 70,784 acres of land bounded by the Toronto Purchase of 1787 in the east, the Brant Tract in the west, and a northern boundary that ran six miles back from the shoreline of Lake Ontario. The Mississaugas also reserved the sole right of fishing at the Credit



River and were to retain a one-mile strip of land on each of its banks, which became the Credit Indian Reserve. On September 5, 1806, the signing of Treaty 14 confirmed the Head of the Lake Purchase between the Mississaugas of the Credit and the Crown (Mississaugas of the Credit First Nation 2017; Mississauga of the New Credit First Nation 2001).

In 1818, the majority of the Mississauga Tract was acquired by the Crown excluding the lands tracts flanking the Credit River, Twelve Mile Creek and Sixteen Mile Creek. In 1820, the remainder of Mississauga land was surrendered except approximately 81 hectares (ha) along the Credit River (Heritage Mississauga 2012:18). In 1825-26 the Credit Indian Village was established as an agricultural community and Methodist mission near present day Port Credit (Heritage Mississauga 2019; Mississaugas of the Credit First Nation 2014). By 1840 the village was under significant pressure from Euro-Canadian settlement that plans begun to relocate the settlement. In 1847 the Credit Mississaugas were made a land offer by the Six Nations Council to relocate at the Grand River. In 1847, 266 Mississaugas settled at New Credit, approximately 23 km southwest of Brantford. In 1848 a mission of the Methodist Church was established there by Rev. William Ryerson (Woodland Indian Cultural Education Centre 1985). Although the majority of the former Mississauga Tract had been surrendered from the Mississauga by 1856 (Gould 1981), this does not exclude the likelihood that the Mississauga continued to utilise the landscape at large during travel (Ambrose 1982) and for resource extraction.

1.2.3 Euro-Canadian Land Use: Township Survey and Settlement

Historically, the Study Area is located in the Former Trafalgar Township, County of Halton, in part of Lots 1-11 Concession 9, Lots 1-11 Concession 10, and Lots 5-6 Concession 2 North of Dundas Street (NDS).

The S & G stipulates that areas of early Euro-Canadian settlement (pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches, and early cemeteries are considered to have archaeological potential. Early historical transportation routes (trails, passes, roads, railways, portage routes), properties listed on a municipal register or designated under the *Ontario Heritage Act* or a federal, provincial, or municipal historic landmark or site are also considered to have archaeological potential.

For the Euro-Canadian period, the majority of early nineteenth century farmsteads (i.e., those that are arguably the most potentially significant resources and whose locations are rarely recorded on nineteenth century maps) are likely to be located in proximity to water. The development of the network of concession roads and railroads through the course of the nineteenth century frequently influenced the siting of farmsteads and businesses. Accordingly, undisturbed lands within 100 m of an early settlement road are also considered to have potential for the presence of Euro-Canadian archaeological sites.

The first Europeans to arrive in the area were transient merchants and traders from France and England, who followed Indigenous pathways and set up trading posts at strategic locations along the well-traveled river routes. All of these occupations occurred at sites that afforded both natural landfalls and convenient access, by means of the various waterways and overland trails, into the hinterlands. Early transportation routes followed existing Indigenous trails, both along the lakeshore and adjacent to various creeks and rivers (ASI 2006).



Trafalgar Township

Trafalgar was simply known as Township Number 2 when it was first surveyed by Samuel S. Wilmot, and was subsequently renamed Alexander Township in honour of Alexander Grant, who was President and Administrator of the Province of Upper Canada (Mathews 1953:6). Shortly thereafter, when news reached Upper Canada of Lord Nelson's victorious sea battle off the coast of Spain, the names of two townships in the county were changed to Nelson and Trafalgar. The New Survey of Trafalgar was undertaken by Richard Bristol between April and June 1819. Bristol noted that the timber was primarily elm, beech, maple, white oak, "black ash" and pine. Trafalgar Township originally formed part of the West Riding of York in the Home District and following 1816, it became part of the Gore District, with Hamilton as the administrative District seat. Although the old Districts of Upper Canada were abolished by legislation in May 1849, the area which was to subsequently become Halton remained as part of the United Counties of Wentworth and Hamilton until it was finally separated and elevated to independent County status by an act of legislature in June 1853.

Dundas Street, the baseline survey road in Trafalgar Township had been surveyed in 1793 as a military road connecting Lake Ontario, Lake Erie, Lake St. Clair and Lake Huron, as well as a road to aid Loyalist settlement and deter expansionist claims in Upper Canada. After the two concessions south of Dundas St. were opened up, two new east-west concession line access roads, the Upper Middle Road and the Lower Middle Road, were surveyed. These early east-west roads were later complemented in 1832 by the Lakeshore Road, which was constructed nearby and parallel to an aboriginal pathway skirting Lake Ontario. The concession roads of the 1806 survey, and the line roads running perpendicular, blocked out the township in areas a mile and quarter square (approximately 324 ha) with five 200-acre (approximately 81 ha) lots to a square. Between every five lots ran a line road (Mathews 1953: 45).

By 1817, the population had increased to 548, and the township contained one grist mill and four saw mills. The value of land had increased to 22 shillings per acre. In 1846, the township was described as "well settled... containing numerous well cleared and cultivated farms, most which have good orchards" (Smith 1846:198-199). By 1850, the population had increased to 4,513, and the township contained three grist and nineteen saw mills (Smith 1850:261). The timber cover in the township was described as "principally hardwood with a little pine intermixed" (Smith 1850:261).

The earliest families to settle within the township included those of Sovereign, Proudfoot, Katting, Freeman, Post, Biggar, Mulholland, Kenney, Chalmer, Albertson, Chisholms, Sproat, Brown and Hagar.

St. Peter's Catholic Cemetery

The first Irish immigrants of Trafalgar Township made their homes as early as 1818, many settling along the north-south roads of 8th, 9th, and 10th concessions. The area was known as the "Catholic Swamp" or Nunan's Corners for its many Irish Catholic settlers and the wet and boggy terrain (Heritage Mississauga; Watt n.d.). In the autumn of 1819, Bartholomew O'Connor and Charles O'Hara walked forty miles to Dundas to convince Father O'Reilly to celebrate mass at Mr. O'Hara's cabin located on Lot 1, Concession 9 in Trafalgar Township. O'Reilly, and perhaps other priests, continued to include the O'Hara cabin on their circuits until 1823, when a purpose-built log church was erected on Lot 6, Concession 9 of Ninth Line, the property on which the current church is located (Milton L.A.C.A.C. Heritage Inventory 1981; Goodall 2007; Find a Grave 2020; Watt n.d.). This land was donated by Dan Highland (sometimes Hyland). An inscription near the front door of the extant church reads: "1823/St. Peter's R.C. Church/First in the area" (St. Andrew's Church 1990). Historian Laura Smith, a specialist in nineteenth century Catholicism in Upper Canada, notes that Catholic priests in Upper Canada were known to travel



to assigned places around the colony (on what were deemed circuits) to say mass and provide the sacraments at widely known houses called Stations. People would have known well in advance of the priest's arrival, and preparations for food and accommodation would have been made (ASI 2020a: email communication with Laura Smith, 23 March 2020).

Hazel Matthews, an authority on the history of Oakville and Trafalgar Township, noted that the St. Peter's mission was frequented by roughly 150 people in 1835 (Mathews 1953). The congregation came from local settlers in the Catholic Swamp and those willing to travel from Brampton, Georgetown, Milton, and other surrounding communities (Goodall 2007; Watt n.d.). This log church was replaced by a framed church, the date of which is under question. Father Edward Gordon's personnel file at the Archives of the Roman Catholic Archdiocese of Toronto notes that he was responsible for building the church in Trafalgar Township in 1838 (ASI 2020a: email communication with Laura Smith, 23 March 2020). That same year, Fr. Eugene O'Reilly noted in his census of the Toronto-based missions that there was one Catholic Church in Trafalgar Township on Lot 6, Concession 9 with enough seating for 200, and that it served the Catholic faithful living within 150 square miles (O'Reilly 1838). This suggests that the frame church dates to 1838 and not 1850, as some have suggested (Milton L.A.C.A.C. Heritage Inventory 1981; Watt n.d.).

The extant church was erected in 1882, possibly under the orders of Bishop Peter Francis Crinnon. During his bishopric (1874-1882), Crinnon was known to actively support the building of churches during his bishopric and was of Irish-Canadian background. Due to lack of parishioners, the church was closed between 1890 and its reopening in 1938, administered by the Roman Catholic Episcopal Corporation of the Diocese of Hamilton, Ontario. St. Peter's was run as a mission church under the auspices of Holy Rosary Parish in Milton from its reopening until 2010. During that time, the priest based in Milton served the spiritual needs of those attending St. Peter's (Holy Rosary Parish 2016). In its centenary year, 1982, the church was moved back (west) from Ninth Line and placed upon a new foundation which included a basement. Other renovations of an unknown nature were done in 1995 (Goodall 2007).

St. Peter's Cemetery was also established in 1823, though the first burial may have occurred in 1821, a Richard Campbell. Most of the burials occurred in the second half of the nineteenth century. The cemetery continued to operate after the church's closure, and the last known internment was in 1961. It is currently inactive. Family names include many early settling families of the Catholic Swamp such as Hyland, Kelly, McCarron, McConville, Nunan, O'Connor, and O'Hara (Watt n.d.; Wilkinson 2008; Find a Grave 2020; Goodall 2007). The boundaries of the historical cemetery are unknown. Burial markers are clustered in the northeast quadrant of the property.

1.2.4 Historical Map Review

The 1858 *Tremaine's Map of Trafalgar* (Tremaine 1858) and 1877 *Illustrated Historical Atlas of Trafalgar* (Pope 1877) were examined to determine the presence of historic features within the Study Area during the nineteenth century (Figures 2-3).

It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases, given that they were financed by subscription, and subscribers were given preference with regard to the level of detail provided on the maps. Moreover, not every feature of interest would have been within the scope of the atlases.



In addition, the use of historical map sources to reconstruct/predict the location of former features within the modern landscape generally proceeds by using common reference points between the various sources. These sources are then geo-referenced in order to provide the most accurate determination of the location of any property on historic mapping sources. The results of such exercises are often imprecise or even contradictory, as there are numerous potential sources of error inherent in such a process, including the vagaries of map production (both past and present), the need to resolve differences of scale and resolution, and distortions introduced by reproduction of the sources. To a large degree, the significance of such margins of error is dependent on the size of the feature one is attempting to plot, the constancy of reference points, the distances between them, and the consistency with which both they and the target feature are depicted on the period mapping.

Table 1: Nineteenth-century property owner(s) and historical features(s) within or adjacent to the Study Area

1858 Map 1877 Map

		1030 1114		10// map	
Con #	Lot #	Property Owner(s)	Historical Feature(s)	Property Owner(s)	Historical Feature(s)
9	1	Chas O'Hara	None	Wm O'Hara	Orchard
9	2	Saml Rogers	None	Johnson Rogers	None
9	3	John Beatty	None	John Beatty	None
9	4	Frans Cummings	None	Henry Cook	None
9	5	F. Cummings John Treanor	None None	Alex Cook	House
9	6	Wm Nunan	Sixteen Mile Creek tributary	Est of Wm Numan	Church, Sixteen Mile Creek tributary
9	7	Philip Triller	None	Mrs L. Kelly N.R.	None
9	8	Wm Watson	None	Geo Douglass N.R.	House, orchard
9	9	Chas Cordingley	None	Jos Hannah	None
9	10	Robt McCurdy	Church	Byard McCurdy Moses McCurdy	Church None
9	11	Isaac Askins	Schoolhouse	Richard Askin	Orchard
10	1	Murak McLeod	None	Wm McLeod	None
10	2	Wm Sparling	None	Wm & Jos Sparling	None
10	3	John O'Harra	None	Wm McCarron	House
10	4	S. & J. Cordingley	None	Wm Hamilton Wm McCarron	House, orchard House
10	5	Owen McCarren	None	Robt McCarron	None
10	6	Wm Nunan	Sixteen Mile Creek tributary	Est of Wm Numan	House, orchard
		Owen McCarren	None	Robt McCarron	Sixteen Mile Creek tributary
10	7	John F. Orr	None	Dugold McGregor	Orchard
10	8	Bartley Connor	None	Chas O'Connor	None
10	9	Davd Cordingly Bartley Connor	None None	John Cordingley Chas O'Connor	House, orchard House, orchard
10	10	John Cordingly	None	John Cordingley	House, orchard
10	11	John Mason	None	Jos Mason	None



		1858 Map		1877 Мар	
Con #	Lot #	Property Owner(s)	Historical Feature(s)	Property Owner(s)	Historical Feature(s)
2 NDS	5	Chas O'Hara	None	Michl O'Hara	House, orchard
2 NDS	6	Chas O'Hara	None	Michl O'Hara	None

The 1858 and 1877 maps show that Ninth Line, Derry Road, Britannia Road and Eglinton Avenue were historic roads. The 1858 map shows a schoolhouse at the western corner of Ninth Line and Derry Road, and a church at the southern corner. A church is located on the property of William Nunan, adjacent Derry Road on the southern side, located west of Britannia Road and east of a tributary of Sixteen Mile Creek. The tributary crosses Ninth Line on properties belonging to William Nunan, Lot 6, Concessions 9 and 10. The 1877 map depicts 10 houses, 10 orchards, two churches, and one schoolhouse adjacent Ninth Line.

1.2.5 Twentieth-Century Mapping Review

The 1909 and 1994 National Topographic Series (NTS) Brampton sheets (Department of Militia and Defence 1909; Department of Energy, Mines and Resources 1994), as well as the 1954 aerial photography (Hunting Survey Corporation Limited 1954) were examined to determine the extent and nature of development and land uses within the Study Area (Figures 4-6).

The 1909 map depicts four bridges on Ninth Line. One is located north of Derry Road West, one north of Britannia Road West, and two south of Britannia Road West. Tributaries of Sixteen Mile Creek cross the three bridges surrounding Britannia Road West. The 1954 aerial photography shows the Study Area is largely open fields, with some forested areas. The 1994 map shows a gas main running through Ninth Line east of Derry Road West. There is now a higher quantity of buildings alongside Ninth Line, often forming small clusters with gaps between groupings.

1.3 Archaeological Context

This section provides background research pertaining to previous archaeological fieldwork conducted within and in the vicinity of the Study Area, its environmental characteristics (including drainage, soils or surficial geology and topography, etc.), and current land use and field conditions. Three sources of information were consulted to provide information about previous archaeological research: the site record forms for registered sites available online from the MHSTCI through "Ontario's Past Portal"; published and unpublished documentary sources; and the files of ASI.

1.3.1 Current Land Use and Field Conditions

A review of available Google satellite imagery since 2004 shows the following impacts to the Study Area:

- Widening of Ninth Line between Derry Road West and Hazelridge Road in 2016
- In 2017, construction occurs between Osprey Boulevard and Pondview Way
- Development of Banff Court began by 2013 and was completed by 2015
- Berryman Trail and southeast of Worthview Place undergoes construction in 2015



- Development of Lisgar Neighbourhood Square at 3945 Doug Leavens Boulevard in 2007
- Construction of Bloomington Crescent in 2004-2006
- Development in 2015-2016 to extend Arvona Place closer to Ninth Line
- Subdivision development between Janice Drive and Eglinton Avenue West in 2004-2006
- Development of Burdette Terrace and Roadside Way in 2004, 2005, 2007, and 2009
- Earth moving activities south of Ninth Line opposite Talias Crescent to Burdette Terrace in 2018
- Construction southeast of Eglinton Avenue West and Ninth Line in 2017

A Stage 1 property inspection was conducted on Tuesday April 9, 2020. The Study Area is generally located in a mixed agricultural and residential context near the Mississauga-Milton border. Ninth Line is oriented in a north-south alignment and features one lane of northbound and one lane of southbound vehicular traffic, with a centre-left turn lane for much of the Study Area. Generally, the east side of Ninth Line consists of residential subdivisions and the west is largely single-home nineteenth- and twentieth-century residential and agricultural properties. The roadway features curbs on the west side and lacks curbs on the east side. On the east side are gravel shoulders and occasional ditches. Ninth Line features large boulevards along the east side and sidewalks in some areas, as well as overhead and buried utilities on both sides of the road.

1.3.2 Geography

In addition to the known archaeological sites, the state of the natural environment is a helpful indicator of archaeological potential. Accordingly, a description of the physiography and soils are briefly discussed for the Study Area.

The S & G stipulates that primary water sources (lakes, rivers, streams, creeks, etc.), secondary water sources (intermittent streams and creeks, springs, marshes, swamps, etc.), ancient water sources (glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches, etc.), as well as accessible or inaccessible shorelines (high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.) are characteristics that indicate archaeological potential.

Water has been identified as the major determinant of site selection and the presence of potable water is the single most important resource necessary for any extended human occupation or settlement. Since water sources have remained relatively stable in Ontario since 5,000 BP (Karrow and Warner 1990:Figure 2.16), proximity to water can be regarded as a useful index for the evaluation of archaeological site potential. Indeed, distance from water has been one of the most commonly used variables for predictive modeling of site location.

Other geographic characteristics that can indicate archaeological potential include: elevated topography (eskers, drumlins, large knolls, and 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. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings. Resource areas, including; food or medicinal plants (migratory routes, spawning areas) are also considered characteristics that indicate archaeological potential (S & G, Section 1.3.1).



The Study Area is located within the bevelled till plains of the Peel Plain Physiographic Region and the till moraines of the South Slope Physiographic Region (Figure 7) of southern Ontario (Chapman and Putnam 1984).

The Peel Plain is a level-to-undulating area of clay soil which covers an area of approximately 77,700 hectares across the central portions of the Regional Municipalities of York, Peel, and Halton. The Peel Plain has a general elevation of between 500 and 750 feet above sea level with a gradual uniform slope towards Lake Ontario. The Peel Plain is sectioned by the Credit, Humber, Don, and Rouge Rivers with deep valleys as well as a number of other streams such as the Bronte, Oakville, and Etobicoke Creeks. These valleys are in places bordered by trains of sandy alluvium. The region is devoid of large undrained depressions, swamps, and bogs though nevertheless the dominant soil possesses imperfect drainage.

The Peel Plain overlies shale and limestone till which in many places is veneered by occasionally varved clay. This clay is heavy in texture and more calcareous than the underlying till and was presumably deposited by meltwater from limestone regions and deposited in a temporary lake impounded by higher ground and the ice lobe of the Lake Ontario basin. The Peel Plain straddles across the contact of the grey and red shales of the Georgian Bay and Queenston Formations, respectively, which consequently gives the clay southwest of the Credit River a more reddish hue and lower lime content than the clay in the eastern part of the plain. Additionally, the region exhibits exceptional isolated tracts of sandy soil specifically in Trafalgar Township, near Unionville, and north of Brampton where in the latter location there is a partly buried esker. The region does not possess any good aquifers and the high level of evaporation from the clay's now deforested surface is a disabling factor in ground-water recharge. Further, deep groundwater accessed by boring is often found to be saline (Chapman and Putnam 1984:174-175).

The South Slope physiographic region (Chapman and Putnam 1984:172-174) is the southern slope of the Oak Ridges Moraine. The South Slope meets the Moraine at heights of approximately 300 metres above sea level, and descends southward toward Lake Ontario, ending, in some areas, at elevations below 150 metres above sea level. Numerous streams descend the South Slope, having cut deep valleys in the till.

Figure 8 depicts surficial geology for the Study Area. The surficial geology mapping demonstrates that the Study Area is underlain by fine-textured glaciolacustrine deposits of silt, clay, minor sand and gravel, interbedded silt and clay and gritty, pebbly flow till and rainout deposits, as well as till of clay to silt-texture derived from glaciolacustrine deposits or shale (Ontario Geological Survey 2010). Soils in the Study Area consist of Oneida clay loam, a well-drained gray brown luvisol, Chinguacousy clay loam, an imperfectly drained gray brown luvisol, and Jeddo clay loam, a poorly drained humic gleysol (Figure 9). A tributary of Sixteen Mile Creek crosses the Study Area. The Study Area is also within the Loyalist Creek and Sawmill Creek subwatersheds of the Credit River watershed.

The Sixteen Mile Creek watershed is a 357 square kilometre subwatershed composed of a west, middle and eastern branch, which converge below the Niagara Escarpment and flow south through the deeply incised creek valley into Lake Ontario at Oakville. The steep banks and stepped terraces of the Valley were created by glacial meltwater, and erosion of the till and shale deposits left behind by retreating glaciers and is protected as an environmentally sensitive area, as it provides habitat for rare species, has relatively undisturbed blocks of woodland, and significant geological features. The creek was known as Nanzuhzaugewazog or 'having two outlets' by the Mississauga, because it was very shallow and had a gravel bar dividing the mouth at Lake Ontario. European settlers named it Sixteen Mile Creek based on its distance from Burlington Bay (Campbell et al. 2017; Conservation Halton 2017; Town of Oakville 2017)



The Credit River Watershed drains an area of approximately 860 square kilometres from its headwaters in Orangeville, Erin, and Mono, passing through part of the Niagara Escarpment and the Oak Ridges Moraine, and draining into Lake Ontario at Port Credit (Credit Valley Conservation 2009). The river was named "Mis.sin.ni.he" or "Mazinigae-zeebi" by the Mississaugas, and surveyor Augustus Jones believed this signified "the trusting creek" or could also be translated as "to write or give and make credit", while the French name used when the river was first mapped in 1757 was "Riviere au Credit". These names refer to the fur trading period, when French, British, and Indigenous traders would meet along this river (Jameson 1838:73–74; Smith 1987:255–257; Rayburn 1997:84; Scott 1997:182; Gibson 2002:177; Robb et al. 2003:6). The Credit River was historically considered to be one of the best potential power sources for milling in all of southern Ontario, which led to the development of early saw and grist mill industries, and later textile mills, distilleries, bottling plants, and hydro-electric plants spawned communities throughout the river valley, typically close to the Niagara Escarpment (Town of Caledon 2009:fig. 7.1).

1.3.3 Previous Archaeological Research

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database (OASD) maintained by the MHSTCI. This database contains archaeological sites registered within the Borden system. Under the Borden system, Canada has been divided into grid blocks based on latitude and longitude. A Borden block is approximately 13 km east to west, and approximately 18.5 km north to south. Each Borden block is referenced by a four-letter designator, and sites within a block are numbered sequentially as they are found. The Study Area under review is located in Borden block *AjGw*.

According to the OASD, 46 previously registered archaeological sites are located within one kilometre of the Study Area (MHSTCI 2020). A summary of the sites is provided below.

Table 2: List of previously registered sites within one kilometre of the Study Area

Borden #	Site Name	Cultural Affiliation	Site Type	Researcher
AjGw-24	Cold	Pre-Contact Indigenous	Findspot	Spittal 1976
AjGw-29	80-403-15	Pre-Contact Indigenous	Findspot	Pihl 1980
AjGw-34	81-403-53	Euro-Canadian	Homestead	Pihl 1981
AjGw-61	Ronald Plant	Archaic, Middle	Campsite	MPP 1985
AjGw-195	n/a	Pre-Contact Indigenous	Scatter	ASI 1989
AjGw-196	n/a	Pre-Contact Indigenous	Scatter	ASI 1989
AjGw-197	n/a	Pre-Contact Indigenous	Scatter	ASI 1989
AjGw-198	Cordingly	Euro-Canadian	Homestead	ASI 1989
AjGw-199	n/a	Pre-Contact Indigenous	Findspot	ASI 1989
AjGw-206	Venturon 6	Pre-Contact Indigenous	Campsite	ASI 1990
AjGw-207	Venturon 7	Archaic, Late	Findspot	ASI 1990
AjGw-210	Conkright	Archaic, Middle	Findspot	ASI 1990
AjGw-223	Break	Archaic, Late	Findspot	ASI 1991
AjGw-224	Wheel	Woodland, Middle	Findspot	ASI 1991



Borden #	Site Name	Cultural Affiliation	Site Type	Researcher
AjGw-225	Line 8	Pre-Contact Indigenous	Findspot	DRPA 1992
	Churchill Meadows 5		Homestead	MOA 1995
	Churchill Meadows		Homestead	MOA 1995
	15	Pre-Contact Indigenous	Findspot	MOA 1995
AjGw-252	New Connection Methodist Church	Euro-Canadian	Building	MHCI 1996
AjGw-254	Laneway	Euro-Canadian	Midden	MHCI 1996
	Johnston Rogers Homestead	Euro-Canadian	Homestead, midden	MHCI 1997
	Muddysauga	Pre-Contact Indigenous; Euro-Canadian	Campsite; homestead	MOA 1996
AjGw-270	Boot Sucker	Pre-Contact Indigenous	Campsite	MHCI 1996; CRMG 1996
AjGw-272	n/a	Pre-Contact Indigenous	Campsite	MHCI 1996; CRMG 1996
AjGw-273	n/a	Pre-Contact Indigenous	Campsite	MHCI 1996; CRMG 1996
AjGw-274	Blue Moon	Woodland, Middle	Campsite	MHCI 1996; CRMG 1996
AjGw-275	Location 8	Pre-Contact Indigenous	Campsite	MHCI 1996; CRMG 1996
AjGw-277	n/a	Archaic, Middle	Findspot	MHCI 1996
AjGw-278	n/a	Pre-Contact Indigenous	Campsite	MHCI 1996
AjGw-279	n/a	Pre-Contact Indigenous	Campsite	MHCI 1996; CRMG 1996
AjGw-281	Hernberger	Woodland, Middle	Findspot	MHCI 1996
AjGw-282	Evans	Pre-Contact Indigenous	Campsite	MHCI 1996
AjGw-283	Barrington	Archaic, Late	Findspot	MHCI 1996
AjGw-285	Britanny	Archaic, Late	Findspot	ASI 1997
AjGw-286	n/a	Euro-Canadian	Homestead	ASI 1998, 1999
AjGw-287	n/a	Pre-Contact Indigenous	Findspot	ASI 1998
AjGw-288	n/a	Pre-Contact Indigenous	Findspot	ASI 1998
AjGw-299	Morrow	Euro-Canadian	Homestead	PAC 1998
AjGw-431	Argo Milton	Euro-Canadian	Homestead	AAL 2008
AjGw-520	Parkway 1	Archaic, Early	Scatter	ARA 2012
AjGw-521	Parkway 2	Archaic, Early	Scatter	ARA 2012
AjGw-530	Parkway 6	Archaic, Late	Scatter	ARA 2013
AjGw-537	IF#3	Woodland, Early	Findspot	DRPA 2014



Borden #	Site Name	Cultural Affiliation	Site Type	Researcher
AjGw-540	Parkway West Location 1	Pre-Contact Indigenous	Campsite	Golder 2014
AjGw-559	Douglas	Euro-Canadian	Homestead	ASI 2016
AjGw-560	n/a	Archaic, Late	Findspot	ASI 2016
AjGw-624	McGregor	Euro-Canadian	Homestead	ASI 2020
AjGw-625	n/a	Woodland, Early	Findspot	ASI 2020

Sites in **bold** are within the Study Area

Sites in italic are within 50m

ARA - Archaeological Research Associates Ltd.

CRMG - Cultural Resource Management Group Limited, Nova Scotia

DRPA - D.R. Poulton & Associates

Golder - Golder Associates

MOA – Museum of Ontario Archaeology

MPP - Mayer, Pihl, Poulton and Associates Inc.

PAC - Parker Archaeological Consulting

The four archaeological sites located within the Study Area (AjGw-199, AjGw-223, AjGw-237, AjGw-252) are not considered to retain cultural heritage value or interest (CHVI) and do not require additional archaeological assessment.

The Wheel Site (AjGw-224), the Douglas site (AjGw-559), and AjGw-560 are located within 50 metres of the Study Area, and do not exhibit further CHVI. The Muddysauga Site (AjGw-261) is also located within 50 metres of the Study Area, within a developed subdivision.

According to the background research, 36 previous reports detail fieldwork within 50 m of the Study Area.

- (AMICK Consultants Ltd. 2013) conducted a Stage 1-2 AA of 6155 Ninth Line, intersecting with the current Study Area at Osprey Boulevard and Ninth Line. A test pit survey was conducted at five-metre intervals, not encountering archaeological resources. No further archaeological assessment was recommended. P384-064-2013
- (AMICK Consultants Ltd. 2014) conducted a Stage 1-2 AA for 6565 Ninth Line, which overlaps the current Study Area at what is now the end of Berryman Trail. A test pit survey was conducted at five-metre intervals, and at 10-metre intervals in disturbed areas. No archaeological resoources were encountered, and no further archaeological assessment was recommended. 384-0082-2013
- (Archeoworks Inc. 2015a) conducted a Stage 1 AA for the proposed development of Park 459 located between Deepwood Heights and Erin Centre Boulevard, west of Ninth Line in the City of Mississauga. Background research determined the area held potential requiring a Stage 2 Archaeological Assessment. P1016-0026-2014
- (Archeoworks Inc. 2015b) conducted a Stage 2 AA for the proposed development of Park 459 located between Deepwood Heights and Erin Centre Boulevard, west of Ninth Line in the City of



Mississauga. Pedestrian and test pit surveys were conducted at five-metre intervals, and test pit survey was increased to 10-metre intervals when met with disturbance. Test pit survey was intensified when a collection of material was encountered within the edge of the ploughed field and hedgerow. The collection of post-1900s material included glazed brick, asphalt, wood posts, electrical wire, rubber sheets and concrete. Since the material did not possess CHVI, it was not collected. No further archaeological investigation was recommended. P1016-0040-2014

- (ASI 1989) conducted a Stage 1-2 AA of a proposed subdivision, located east of Derry Road West and north of Ninth Line. A pedestrian survey was conducted at five metre intervals. Findspot AjGw-199 was located within the current Study Area and consisted of one retouched flake of Onondaga chert. Due to its isolated nature, no further archaeological assessment was recommended. The Cordingly site (AjGw-198) is located within 50-metres of the Study Area. The Cordingly site consists of a scatter of 36 ceramic and three glass historic Euro-Canadian artifacts, dating to mid- to late-nineteenth century occupation. Further understanding of the occupation was deemed unlikely to be gained by further investigation. The property was recommended as free of further concern. 89-130B
- (ASI 1992a) conducted a Stage 1-2 AA of a proposed subdivision, located between Indigo Crescent and Sapling Trail, north of Ninth Line. A pedestrian survey was conducted at five-metre intervals. The Break site (AjGw-223) consisted of an incomplete projectile point thought to date to the Late Archaic period, found within the current Study Area. The Wheel site (AjGw-224) consisted of an incomplete projectile point manufactured from a variant of Upper Mercer chert, thought to be of Middle Woodland affiliation, located within 50 metres of the Study Area. Due to the isolated nature of the Break site (AjGw-223) and the Wheel site (AjGw-224), the property was recommended to be free of further archaeological concern. 91-15
- (ASI 1992b) conducted a Stage 1-2 AA of a proposed subdivision, located at the northwest corner of Derry Road West at Ninth Line. A pedestrian survey was conducted at five-metre intervals, which did not encounter cultural resources. The property was recommended to be free of further archaeological concern. 92-010
- (ASI 1996) conducted a Stage 2 AA of a proposed subdivision located between Windhaven Drive and Osprey Boulevard, east of Ninth Line. A pedestrian survey was conducted at fivemetre intervals, locating one Onondaga chert flake. The area was scrutinized at one-metre intervals 96-019
- (ASI 1997) Stage 1-2 AA of a proposed subdivision, between what is now the Lacman Trail and Tacc Drive, east of Ninth Line. A pedestrian survey was conducted at five-metre intervals on undisturbed and ploughed lands, which did not result in the location of cultural material. Immediately south of Lacman Trail was not ploughed, and thus not tested. No further work was recommended within the assessed areas. 97-017
- (ASI 2002) conducted a Stage 1 AA of Derry Road between Fifth Line and Ninth Line. A field review determined archaeological potential and recommended all lands currently or formerly under agricultural production, or woodlots and scrub bush areas to be subject to Stage 2 archaeological assessment. 2001-020-184



- (ASI 2012) conducted a Stage 1-2 AA of the former 5353 and 5337 Ninth Line. A test pit survey was conducted at five-metre intervals, which did not identify cultural resource materials. No further archaeological assessment was recommended. P047-396-2012
- (ASI 2016a) conducted a Stage 1 AA of 6596 Ninth Line. The property inspection determined the laneway to be disturbed, with no further archaeological assessment to be required. All agricultural and open fields as well as treed and scrub lands were determined to required Stage 2 archaeological assessment. P046-0117-2015
- (ASI 2016b) conducted a Stage 2 AA of 6596 Ninth Line. Pedestrian survey was conducted at
 five-metre intervals. A test pit survey was initiated at five-metre intervals and increased to 10metre intervals when met with disturbance. Site AjGw-560 was a findspot consisting of a single
 Late Archaic Crawford Knoll, and Findspot P2 consisting of two Onondaga flakes were
 encountered during survey. Due to their isolated nature, they were considered free of further
 archaeological concern. No further archaeological assessment was recommended. P046-01782016
- (ASI 2016c) conducted a Stage 1 AA of 6432 Ninth Line. The property inspection determined the footprint around the extant buildings, graved storage area and paths are free of further archaeological concern and recommended Stage 2 archaeological assessment for the agricultural or open fields and treed and scrub lands. P046-0118-2015
- (ASI 2016d) conducted a Stage 2 AA of 6432 Ninth Line. A test pit survey was conducted at five-metre intervals and increased to 10-metre intervals when disturbance was encountered. A pedestrian survey was conducted at five-metre intervals and was intensified to one-metre intervals where cultural material was recovered. Three one-metre-square test pits were excavated in areas positive test pits were identified. The Douglas site (AjGw-559) was identified during pedestrian survey along the northeast edge of the agricultural field, west of Ninth Line. Test pit survey adjacent the agricultural field recovered artifacts from disturbed secondary contexts. A total of 103 artifacts were recovered during pedestrian survey, and 157 artifacts from Layer 5 from Units 1 and 2 for a total of 260 artifacts. The assemblage included undecorated ironstone, hand painted late palette refined white earthenware, decalcomania semi-porcelain, banded factory slip yellowware, machine cut nails, window glass, a glass electrical fuse and mammal bones. The Douglas site (AjGw-559) was determined to be post-1870 construction and occupation., and to not meet the criteria of possessing cultural heritage value or interest. No further archaeological assessment of the subject property was recommended. P046-0191-2016
- (ASI 2016e) conducted a Stage 1 AA of 6150 Ninth Line. The property inspection determined the footprints of the demolished buildings did not hold archaeological potential, and no further work was recommended. All agricultural and open fields as well as treed and scrub lands were determined to required Stage 2 archaeological assessment. P046-0120-2015
- (ASI 2016f) conducted a Stage 2 AA of 6150 Ninth Line. Pedestrian and test pit survey were conducted at five-metre intervals, and increased to 10-metre intervals when disturbance was observed during test pit survey. No archaeological resources were encountered, and no further archaeological assessment was recommended. P046-0197-2016



- (ASI 2018a) conducted a Stage 1 AA of 5170 and 5150 Ninth Line. The field review determined that a Stage 2 archaeological assessment would be required. P449-0246-2018
- (ASI 2018b) conducted a Stage 1 AA of 6168 Ninth Line. Field review determined that a Stage 2 archaeological assessment would be required. P449-0247-2018
- (ASI 2018c) conducted a Stage 1 AA of part of Lot 9, Concession 9 New Survey, located approximately between Berryman Trail and Doug Leavens Boulevard on the south side of Ninth Line. Field review determined a Stage 2 archaeological assessment would be required. P449-0244-2018
- (ASI 2018d) conducted a Stage 1 AA of part of Lot 8, Concession 9 New Survey, located approximately between Doug Leavens Boulevard and Saratoga Way, south of Ninth Line. Field review determined a Stage 2 archaeological assessment would be required. P449-0248-2018
- (ASI 2018e) conducted a Stage 1 AA of part of Lot 7, Concession 9 New Survey, located south
 of Ninth Line, across the street from Bentridge Road and the eastern segment of Saratoga Way.
 Field review determined a Stage 2 archaeological assessment would be required. P449-02452018
- (ASI 2018f) conducted a Stage 1 AA of 6314 and 6302 Ninth Line. Field review determined that
 much of the property had been disturbed by existing land use, but parts retained archaeological
 potential. A Stage 2 archaeological assessment was recommended. P449-0249-2018
- (ASI 2018g) conducted a Stage 1 AA of 6252 Ninth Line. Field review determined a Stage 2 archaeological assessment would be required. P449-0250-2018
- (ASI 2019) conducted a Stage 2 AA of 6314 and 6302 Ninth Line. A test pit survey was conducted at five metre intervals and increased to 10-metre intervals when disturbance was observed. No archaeological resources were encountered, and it was recommended that no further archaeological assessment be required. P449-0355-2019
- (ASI 2020b) conducted a Stage 2 AA of part of Lot 9, Concession 9 New Survey, located
 approximately between Berryman Trail and Doug Leavens Boulevard on the south side of Ninth
 Line. Test pit survey was conducted at five metre intervals and increased when met with
 disturbance. No archaeological resources were encountered, and it was recommended that no
 further archaeological assessment be required. P449-0382-2019
- (ASI 2020c) conducted a Stage 2 AA of part of Lot 7, Concession 9 New Survey, located south of Ninth Line, across the street from Bentridge Road and the eastern segment of Saratoga Way. Pedestrian survey and test pit survey were conducted at five metre intervals and test pit survey was increased to ten metre intervals when disturbance was observed. No archaeological resources were encountered, and it was recommended that no further archaeological assessment be required. P449-0386-2019
- (ASI 2020d) conducted a Stage 2 AA of 6252 Ninth Line. Pedestrian survey and test pit survey were conducted at five metre intervals. Test pit survey was increased to ten metre intervals when



- disturbance was observed. No archaeological resources were encountered, and it was recommended that no further archaeological assessment be required. P449-0354-2019
- (ASI 2020e) conducted a Stage 1 AA of the 407 Transitway from west of Hurontario Street in the City of Brampton, to West of Brant Street, including a part within the current Study Area located south of Ninth Line and west and east of Derry Road West. The property inspection determined a Stage 2 archaeological assessment to be required. P380-0055-2019
- (ASI 2020f) Stage 2 Archaeological Assessment of 6168 Ninth Line, Parts of Lots 6 and 7, Concession 9 New Survey, Geographic Township of Trafalgar, Halton County, City of Mississauga, Regional Municipality of Peel, Ontario P449-0317-2019
- ASI Stage 2 Archaeological Assessment of 5170 and 5150 Ninth Line, Part of Lot 1, Concession 9 New Survey, Geographic Township of Trafalgar, Halton County, City of Mississauga, Regional Municipality of Peel, Ontario (Currently under assessment by ASI: P449-0381-2019)
- ASI Stage 2 Archaeological Assessment of Part of Lot 8, Concession 9 New Survey, Geographic Township of Trafalgar, Halton County, City of Mississauga, Regional Municipality of Peel, Ontario (Currently under assessment by ASI: P449-0385-2019)
- (Golder Associates Ltd. 2014) conducted a Stage 1-2 AA of part of Lot 2, Concession 9, located across Ninth Line from Roadside Way. Test pit and pedestrian survey were conducted at fivemetre intervals. No archaeological resources were encountered, and no further archaeological assessment was recommended. P364-0057-2014
- (MHCI 1996) conducted a Stage 2-3 AA and Stage 4 mitigative excavation of the New Connection Methodist Church (AjGw-252) at the southeast corner of Derry Road West and Ninth Line. Pedestrian and test pit surveys were conducted at five-metre intervals. Cultural material was encountered on the surface and within two test pits, resulting in 27 Euro-Canadian domestic artifacts and one piece of pre-contact Indigenous debitage. Mechanical topsoil removal was conducted within a portion of the detour construction zone, monitored by an archaeologist. Foundations of two structures and several subsurface cultural features were found. The foundation of one structure had been impacted by previous widening of Derry Road. The foundation of the second structure extended beyond the southern construction limits of the proposed detour. The area was divided, and Area 1 is located within the current Study Area. The partial foundation of the first structure included a single interior wall oriented at right angles to the exterior long wall to divide the structure in two unequal sized rooms. No features were found in the west partition, and four features were found in the east partition. Features 1 and 2 were surface concentrations of decorated flat pane glass. Features 3 and 4 had concentrations of compacted mortar, brown-black topsoil and charcoal. The foundation was composed of flagstones. In addition, the excavation resulted in red brick fragments, cut nails milk glass, flat glass, ceramics, miscellaneous metal, and fragments of faunal including those belonging to a cat. The glass collection contained enamel patterned pane glass, and red and blue stained pane glass supporting the structure being a former church. No further archaeological assessment was recommended.
- (Museum of Ontario Archaeology 1997a) conducted a Stage 2 AA of the Churchill Meadows Secondary Plan Area, and the Stage 3 AA of Churchill Meadows 6 (AjGw-237). Churchill



Meadows 6 was a Euro-Canadian historic scatter with 162 artifacts surface collected. The Stage 3 involved another surface collection before installing a grid of 15 one-metre square units centred within the area surface collection had been conducted with positive results. The additional surface collection resulted in 14 artifacts, two decorated ceramic fragments, a slate fragment, a button and 10 white clay pipe fragments. The assemblage of 147 decorated sherds including 35 rim fragments was determined to hold a mean date of A.D. 1864. The assemblage included iron nails, bottle and window glass, and domestic animal bone typical of a nineteenth century site. Churchill Meadows 6 (AjGw-237) was determined not to be a significant site and possesses no further cultural heritage value or interest.

• (Museum of Ontario Archaeology 1997b) encountered the Muddysauga Site (AjGw-261) while conducting a Stage 2 AA for the proposed subdivision Draft Plan of 21T-95005M located northeast of the Britannia Road West and Ninth Line intersection. The Muddysauga Site (AjGw-261), also written as Muddyssauga, was encountered while accidently surveying the ploughed field directly south of the proposed subdivision, located near the northwest corner of Lot 4, Concession 10 (New Survey) in the City of Mississauga. A pedestrian survey was conducted at five-metre intervals and reduced to one-metre upon discovery of Euro-Canadian artifacts. The scatter was marked and mapped with reference to the fences to the north, south and west of the site. Five prehistoric artifacts were recovered, consisting of one chert drill and four chert flakes. The Euro-Canadian component consisted of a roughly circular 50 metre diffuse scatter. A representative sample was taken, emphasizing artifacts thought to prove diagnostic. The assemblage of 217 artifacts included decorated and plain ceramics, glass bottle fragments, white ball clay fragments and a slate pencil. A mean ceramic date was produced from 24 diagnostic rim sherds, indicating a date of 1851. It was recommended that Stage 3 archaeological assessment be conducted before future proposed impacts. 96-016-11a

Five reports were unavailable at time of writing, which may detail work within 50 metres of the Study Area.

- AMICK Consultants Limited Report on the 2001 Stage 1-2 A. A. of the Proposed Regal Craft Homes Subdivision (21T-M01007), West Half of Lot 4, Conc. 10 NS, City of Mississauga, R. M. of Peel 2001-012-041
- Museum of Ontario Archaeology A.A. of Draft Plan of Subdiv. 21T-89016M, Mississauga, Part Lot 7, Con. 10, New Survey, City of Mississauga, Region of Peel PIF-96-016-09-LIC-1996-016
- Museum of Ontario Archaeology A.A. of Draft Plat of Subdiv. 21T-93009M Part Lot 7, Con. 10, New Survey, City of Mississauga, R.M. of Peel PIF-96-016-10-LIC-1996-016
- Museum of Ontario Archaeology A.A. of Draft Plan of Subdiv. 21T-95005M Part Lot 5, Con. 10, New Survey, City of Mississauga, Region of Peel PIF-96-016-11-LIC-1996-016
- Museum of Ontario Archaeology Report on the 2002 Stage 1-2 Arch. Assess. of the Proposed Subdiv., Part of Lot 2, Con. 10 NS, City of Mississauga, RM of Peel 2001-012-066/2001-012-066-STG3



2.0 FIELD METHODS: PROPERTY INSPECTION

A Stage 1 property inspection must adhere to the S & G, Section 1.2, Standards 1-6, which are discussed below. The entire property and its periphery must be inspected. The inspection may be either systematic or random. Coverage must be sufficient to identify the presence or absence of any features of archaeological potential. The inspection must be conducted when weather conditions permit good visibility of land features. Natural landforms and watercourses are to be confirmed if previously identified. Additional features such as elevated topography, relic water channels, glacial shorelines, well-drained soils within heavy soils and slightly elevated areas within low and wet areas should be identified and documented, if present. Features affecting assessment strategies should be identified and documented such as woodlots, bogs or other permanently wet areas, areas of steeper grade than indicated on topographic mapping, areas of overgrown vegetation, areas of heavy soil, and recent land disturbance such as grading, fill deposits and vegetation clearing. The inspection should also identify and document structures and built features that will affect assessment strategies, such as heritage structures or landscapes, cairns, monuments or plaques, and cemeteries.

The Stage 1 archaeological assessment property inspection was conducted under the field direction of Jessica Lytle (P1066) of ASI on April 9, 2020, in order to gain first-hand knowledge of the geography, topography, and current conditions and to evaluate and map archaeological potential of the Study Area. It was a visual inspection from publicly accessible lands and right-of-ways (ROWs), only and did not include excavation or collection of archaeological resources. Fieldwork was conducted when weather conditions were deemed suitable and seasonally appropriate, per S & G Section 1.2., Standard 2. Previously identified features of archaeological potential were examined; additional features of archaeological potential not visible on mapping were identified and documented as well as any features that will affect assessment strategies. Field observations are compiled onto the existing conditions of the Study Area in Section 7.0 (Figures 10-13) and associated photographic plates are presented in Section 8.0 (Plates 1-24).

3.0 ANALYSIS AND CONCLUSIONS

The historical and archaeological contexts have been analyzed to help determine the archaeological potential of the Study Area. These data are presented below in Section 3.1. Results of the analysis of the Study Area property inspection are presented in Section 3.2.

3.1 Analysis of Archaeological Potential

The S & G, Section 1.3.1, lists criteria that are indicative of archaeological potential. The Study Area meets the following criteria indicative of archaeological potential:

- Previously identified archaeological sites (See Table 2);
- Water sources: primary, secondary, or past water source (tributary of Sixteen Mile creek, Loyalist Creek and Sawmill Creek);
- Early historic transportation routes (Ninth Line, Derry Road, Britannia Road, Eglinton Avenue);
- Well-drained soils (Oneida clay loam)



According to the S & G, Section 1.4 Standard 1e, no areas within a property containing locations listed or designated by a municipality can be recommended for exemption from further assessment unless the area can be documented as disturbed. The Municipal Heritage Register was consulted and no properties within the Study Area are Listed or Designated under the Ontario Heritage Act.

These criteria are indicative of potential for the identification of Indigenous and Euro-Canadian archaeological resources, depending on soil conditions and the degree to which soils have been subject to deep disturbance. Background research indicates that most of the Study Area consists of existing road ROWs, buried utilities, modern residential subdivisions, and commercial and industrial development.

3.2 Analysis of Property Inspection Results

The property inspection determined that the Study Area exhibits archaeological potential. These areas will require Stage 2 archaeological assessment prior to any development. According to the S & G Section 2.1.1, pedestrian survey is required in actively or recently cultivated fields (Plates 2,3, 4, 6, 14, 20, 24; Figures 11-13: areas highlighted in green). According to the S & G Section 2.1.2, test pit survey is required on terrain where ploughing is not viable, such as wooded areas, properties where existing landscaping or infrastructure would be damaged, overgrown farmland with heavy brush or rocky pasture, and narrow linear corridors up to 10 metres wide (Plates 8, 13, 17, 22; Figures 11-13: areas highlighted in orange).

The Study Area includes the St. Peters Catholic Cemetery (Plate 12; Figure 12: areas lined in blue). Cemetery property plans were not available to review at the time of writing, and the known limits of burial plots and the cemetery boundaries could not be verified. The cemetery lands should be avoided by the project design. Given the uncertainty of the historical cemetery limits, there is still potential for unmarked burials in the Study Area.

ASI recommends that a Stage 3 Cemetery Investigation be conducted in the grassed margin between the cemetery property and the paved Ninth Line ROW, within the proposed project designs, to confirm the presence or absence of human remains associated with this cemetery (Figure 12: areas highlighted in purple). A Stage 2 test-pit survey at five metre intervals should be conducted within the areas of impact to locate any near-surface finds, or as yet undocumented sites prior to the Stage 3 assessment.

If field conditions permit, the cemetery investigation would entail complete mechanical topsoil removal (MTR) in the grassed area adjacent to the cemetery fence, under the supervision of a licensed archaeologist. While MTR typically occurs for a minimum of 10-metres adjacent to a cemetery to confirm it's boundaries, much of the land within this 10-metre area has already been impacted by construction related to the road. As such, the MTR should start in the area of the ROW with low potential, working inward towards the cemetery's fence. Depending on the results of the assessment, additional fieldwork may be required (e.g. construction monitoring, or Stage 3 excavations for an archaeological site) within and beyond this grassed margin. If field conditions, such as deeply buried utility locates and/or road infrastructure in the ROW, do not permit MTR, then ASI recommends a program of archaeological construction monitoring to monitor for the recovery of unmarked burials in this area.

A Cemetery Investigation Authorization (CIA) issued by the Bereavement Authority of Ontario (BAO) will be required for any "invasive" (Stages 2-4) fieldwork because the boundaries of the cemetery are not clear. The Authorization will relieve the archaeologist of the prohibition and liability related to the



intentional disturbance of a human burial within a cemetery extending beyond the currently mapped boundaries.

If evidence of burials associated with this cemetery are encountered, all work must cease and MHSTCI and the Bereavement Authority of Ontario will need to be contacted for direction on next steps.

Part of the Study Area has been previously assessed and does not require further archaeological assessment (Figures 11-13: areas highlighted in red). Two properties within the Study Area are currently under assessment by ongoing ASI Stage 2 survey (P449-0381-2019, P449-0385-2019; Figure 11 and 13: areas highlighted in grey).

A part of the Study Area is located in low and wet conditions, and according to the S & G Section 2.1 does not retain potential (Plate 1; Figure 11: area highlighted in blue). The remainder of the Study Area has been subjected to deep soil disturbance events and according to the S & G Section 1.3.2 do not retain archaeological potential (Plates 1-5, 7, 9-11, 13-16, 18-19, 21-24; Figures 11-13: areas highlighted in yellow). These areas do not require further survey.

3.3 Conclusions

The Stage 1 background study determined that 46 previously registered archaeological sites are located within one kilometre of the Study Area, four of which are within 50 metres but do not exhibit CHVI. The Study Area includes St. Peter's Catholic Cemetery. The property inspection determined that the Study Area exhibits archaeological potential and will require Stage 2 assessment.

4.0 RECOMMENDATIONS

In light of these results, the following recommendations are made:

- 1. The Study Area exhibits archaeological potential. If impacted, these lands require Stage 2 archaeological assessment by test pit/pedestrian survey at five metre intervals, where appropriate, prior to any proposed construction activities;
- 2. The Study Area includes the St. Peter's Catholic Cemetery, which should be avoided by the project design. However, there is potential for unmarked burials directly adjacent to the cemetery boundary. A Stage 3 Cemetery Investigation is required in the grassed margin along the cemetery property, prior to any proposed impacts, to confirm the presence or absence of unmarked graves in this area.
 - A Stage 2 test-pit survey at five metre intervals should be conducted within the areas of impact to locate any near-surface finds, prior to the Stage 3 assessment.
 - The Stage 3 entails the mechanical removal of topsoil in the narrow, grassed margin along the cemetery property, under the supervision of a licensed archaeologist. The exposed subsoil will then be shovel-shined and thoroughly examined for the presence of burial shafts. Depending on the results, additional fieldwork may be recommended within and beyond this margin.



- If field conditions such as buried utilities and/or road infrastructure, preclude the safe removal of topsoil in support of a Stage 3 investigation, then archaeological construction monitoring should be conducted.
- An Investigation Authorization issued by the Bereavement Authority of Ontario may be required for any Stage 2-4 archaeological fieldwork.
- 3. The remainder of the Study Area does not retain archaeological potential on account of deep and extensive land disturbance, low and wet conditions, or slopes in excess of 20 degrees. These lands do not require further archaeological assessment; and,
- 4. Should the proposed work extend beyond the current Study Area, further Stage 1 archaeological assessment should be conducted to determine the archaeological potential of the surrounding lands.

NOTWITHSTANDING the results and recommendations presented in this study, ASI notes that no archaeological assessment, no matter how thorough or carefully completed, can necessarily predict, account for, or identify every form of isolated or deeply buried archaeological deposit. In the event that archaeological remains are found during subsequent construction activities, the consultant archaeologist, approval authority, and the Cultural Programs Unit of the MHSTCI should be immediately notified.



5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

- ASI also advises compliance with the following legislation:
- This report is submitted to the Ministry of Heritage, Sport, Tourism and Culture Industries as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, RSO 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 field work and report recommendations ensure the conservation, preservation and protection 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 Heritage, Sport, Tourism and Culture Industries, 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 field work on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.
- Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the *Ontario Heritage Act*.
- The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.
- Archaeological sites recommended for further archaeological fieldwork 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.



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7.0 MAPS



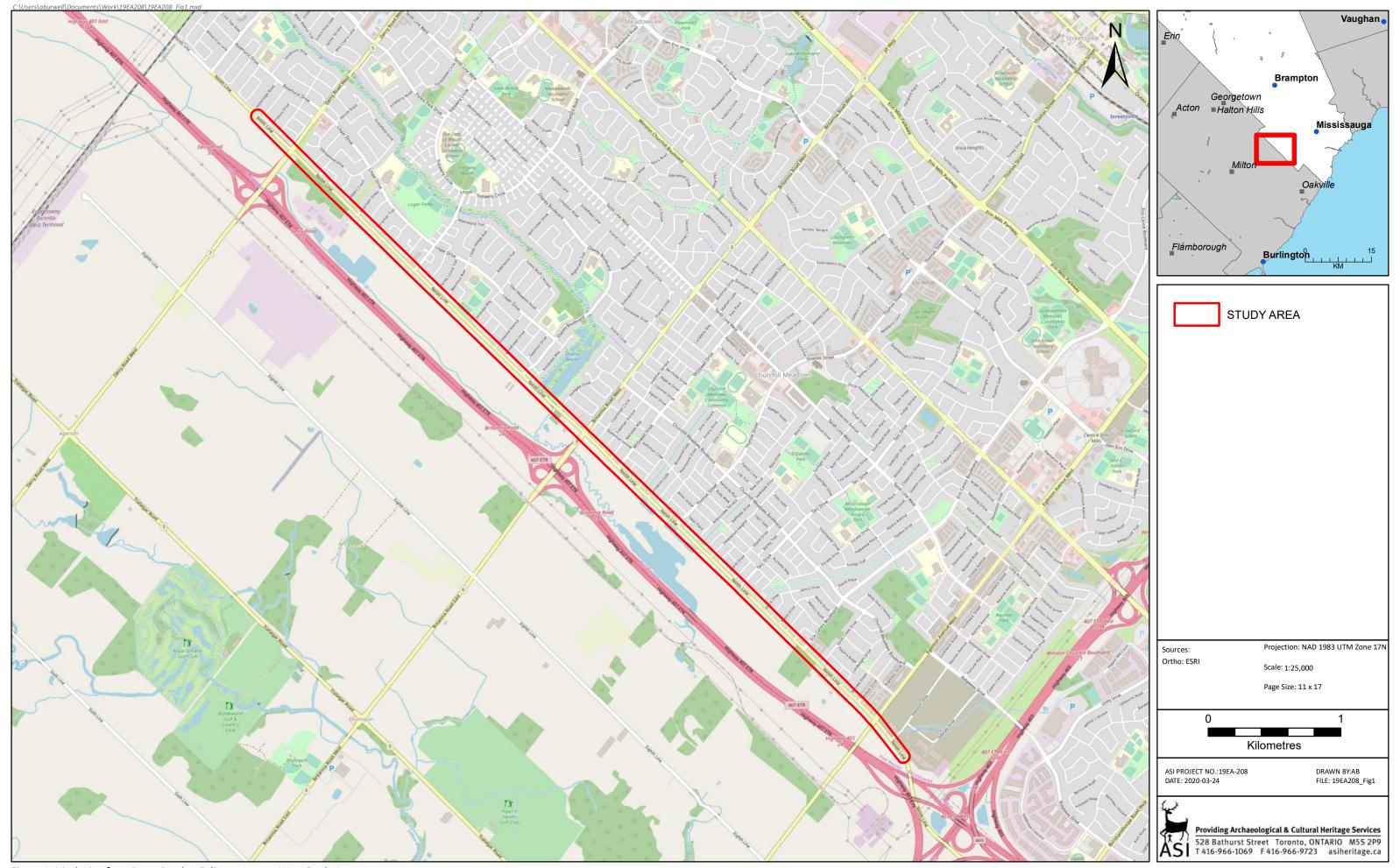


Figure 1: Ninth Line from Derry Road to Eglinton Avenue West Study Area



Figure 2: Study Area (Approximate Location) Overlaid on the 1858 Tremaine's Map of Trafalgar

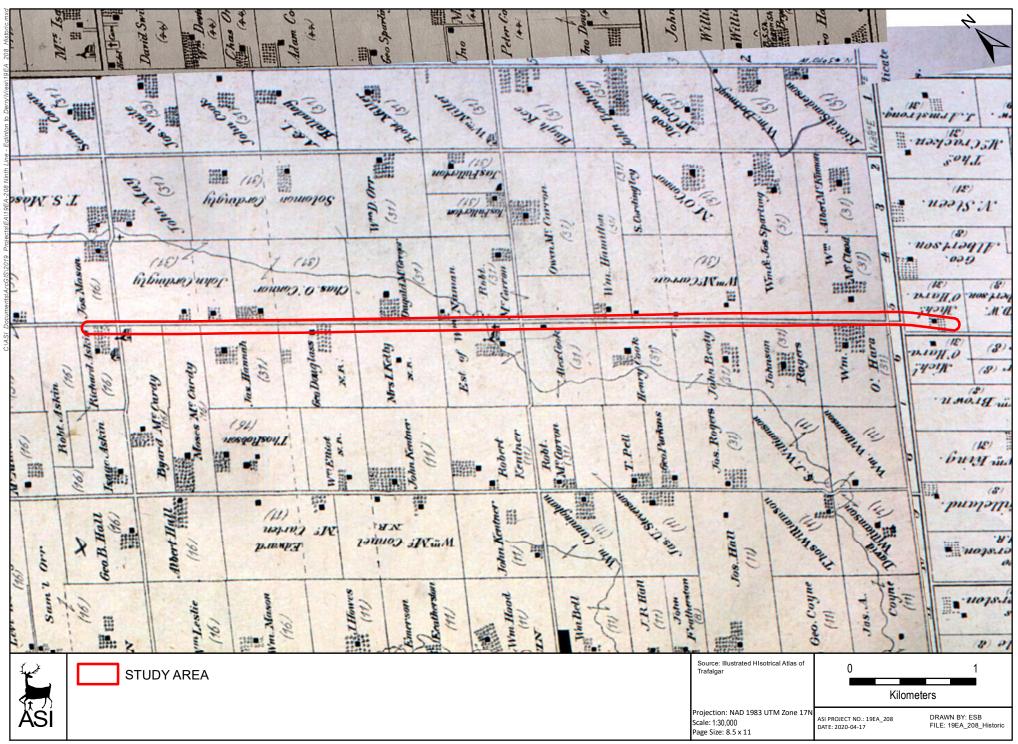


Figure 3: Study Area (Approximate Location) Overlaid on the 1877 Illustrated Historical Atlas of Trafalgar

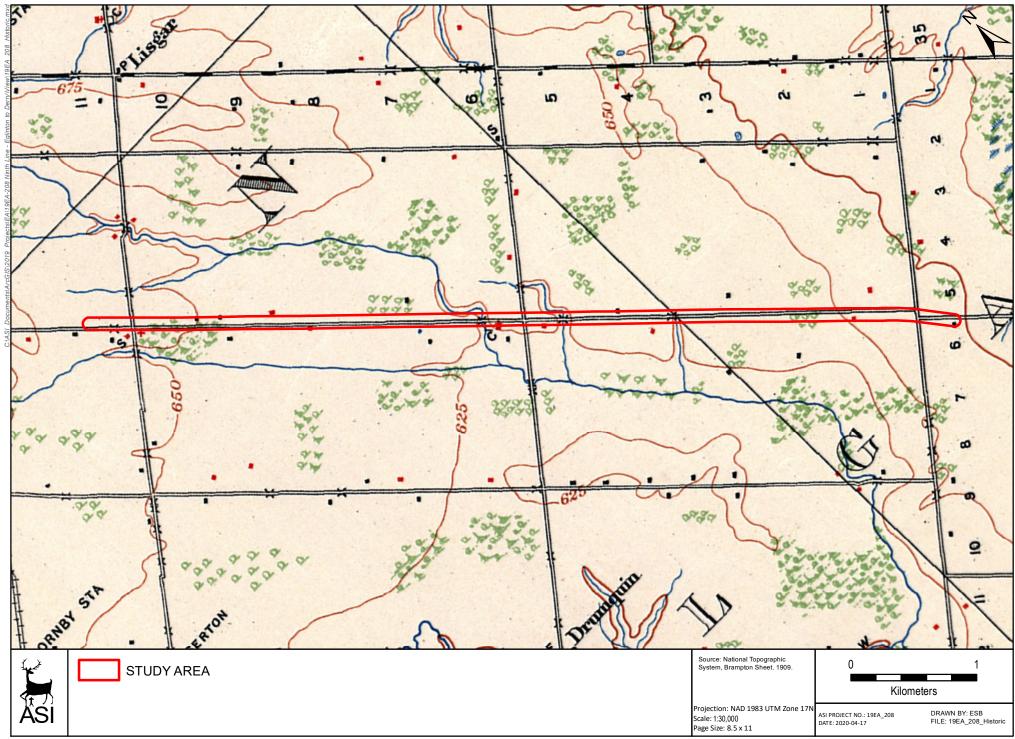


Figure 4: Study Area (Approximate Location) Overlaid on the 1909 National Topographic System Brampton sheet



Figure 5: Study Area (Approximate Location) Overlaid on the 1954 aerial photography

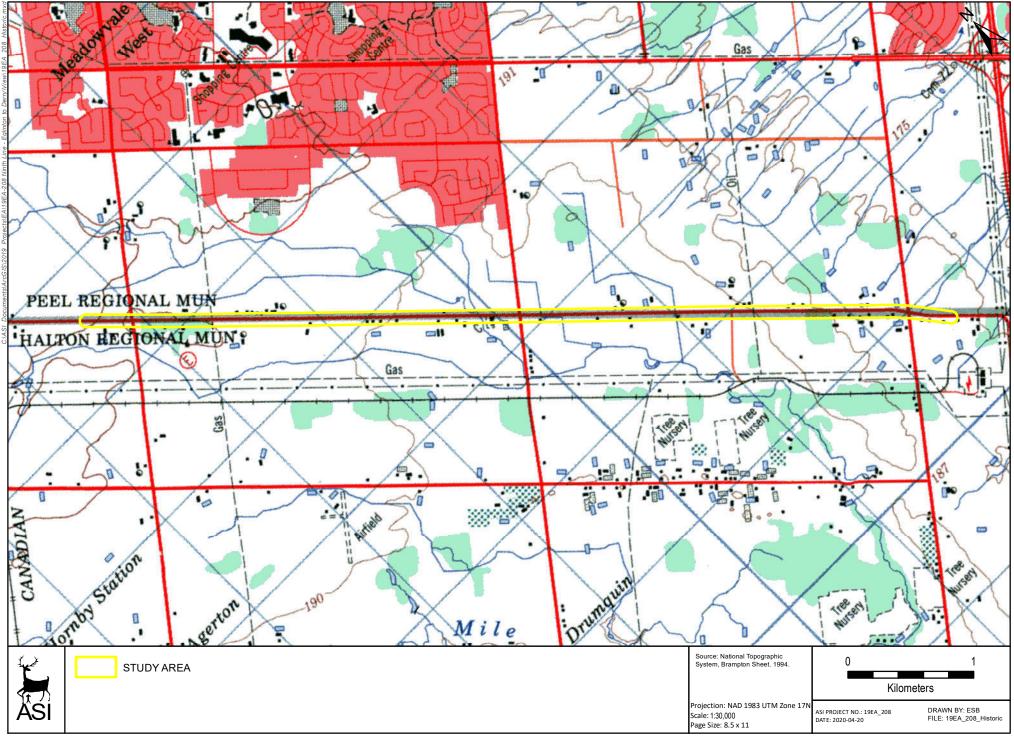


Figure 6: Study Area (Approximate Location) Overlaid on the 1994 National Topographic Series Brampton sheet

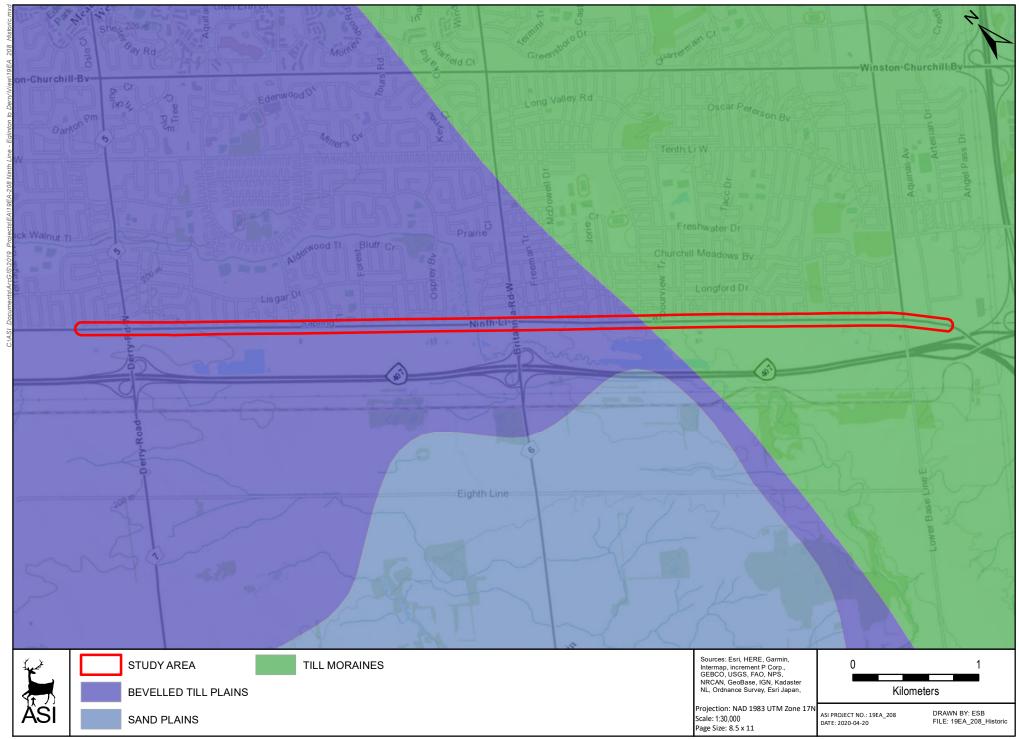


Figure 7: Study Area - Physiographic Regions

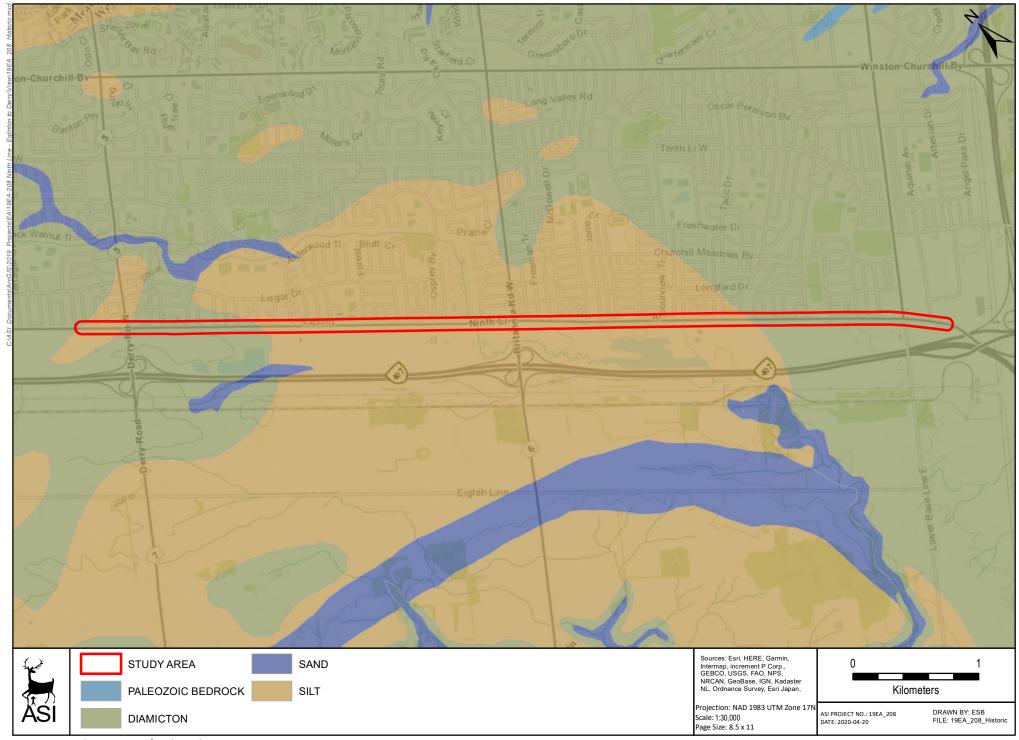


Figure 8: Study Area - Surficial Geology

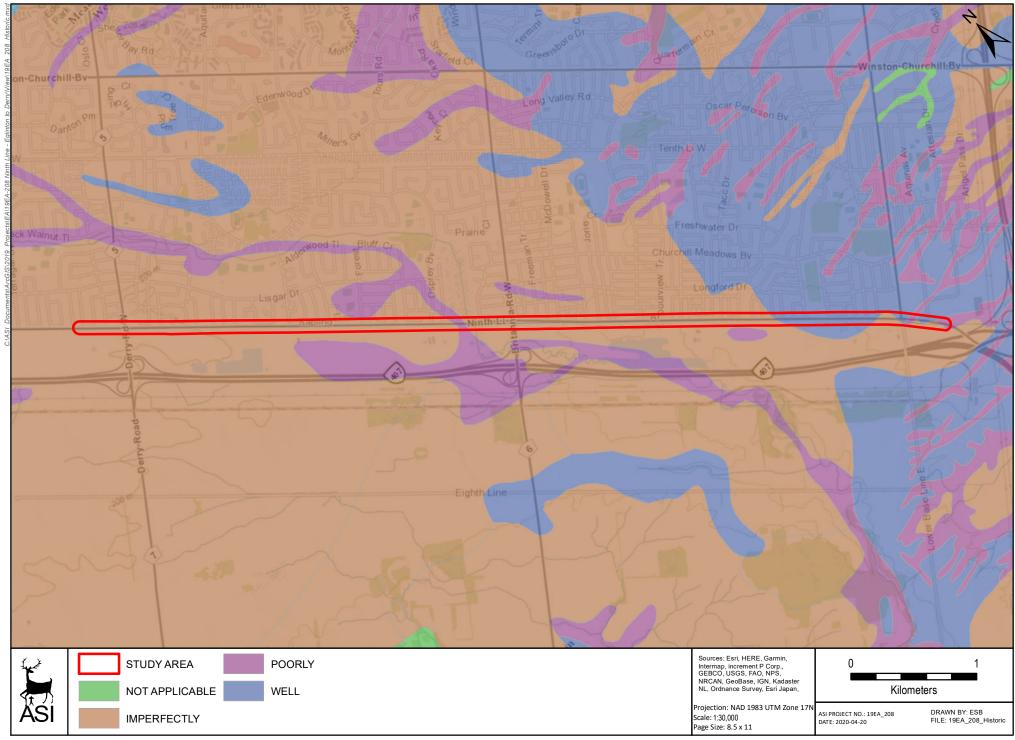


Figure 9: Study Area - Soil Drainage

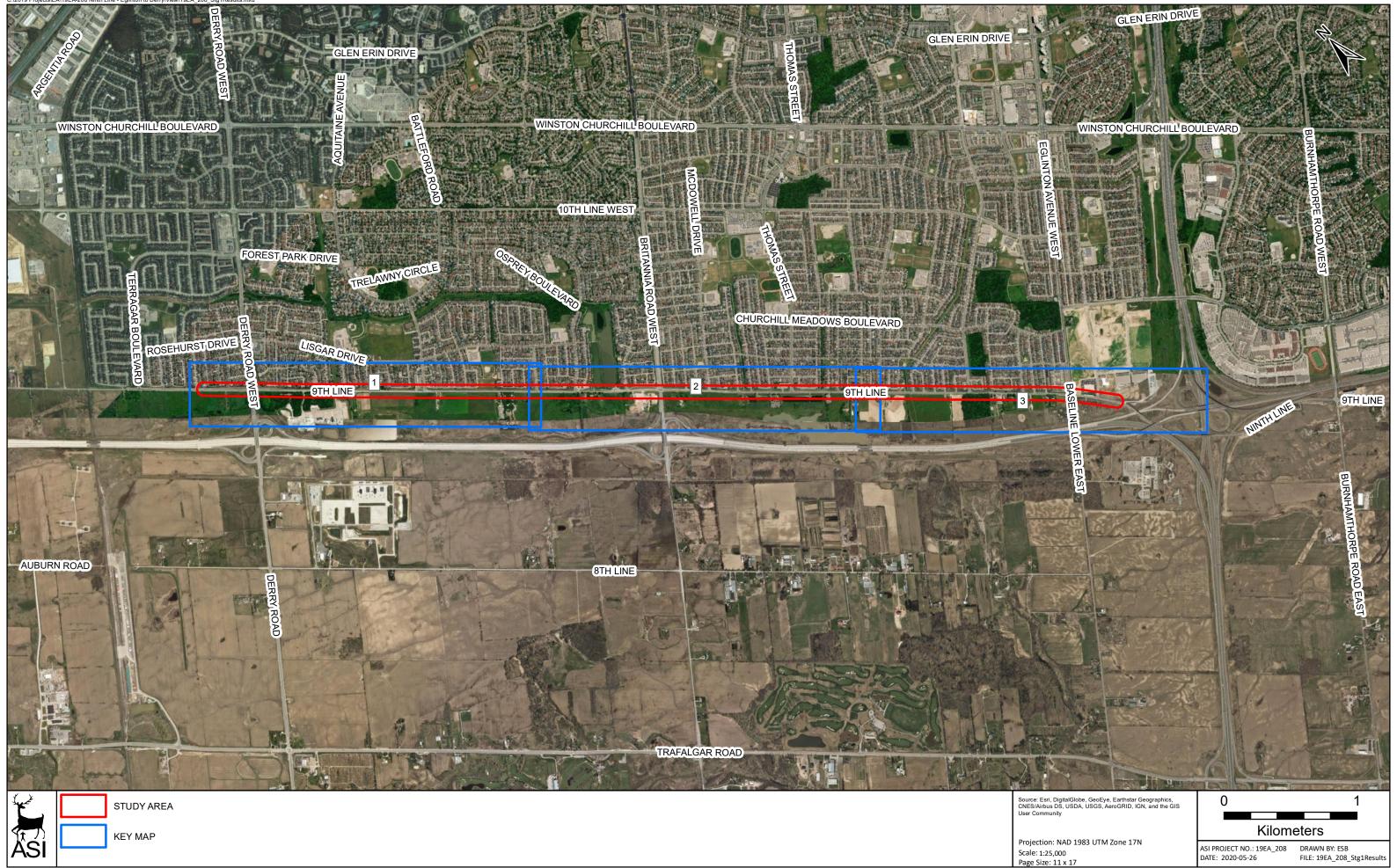


Figure 10: Ninth Line Improvements - Results of Stage 1 (Key Map)

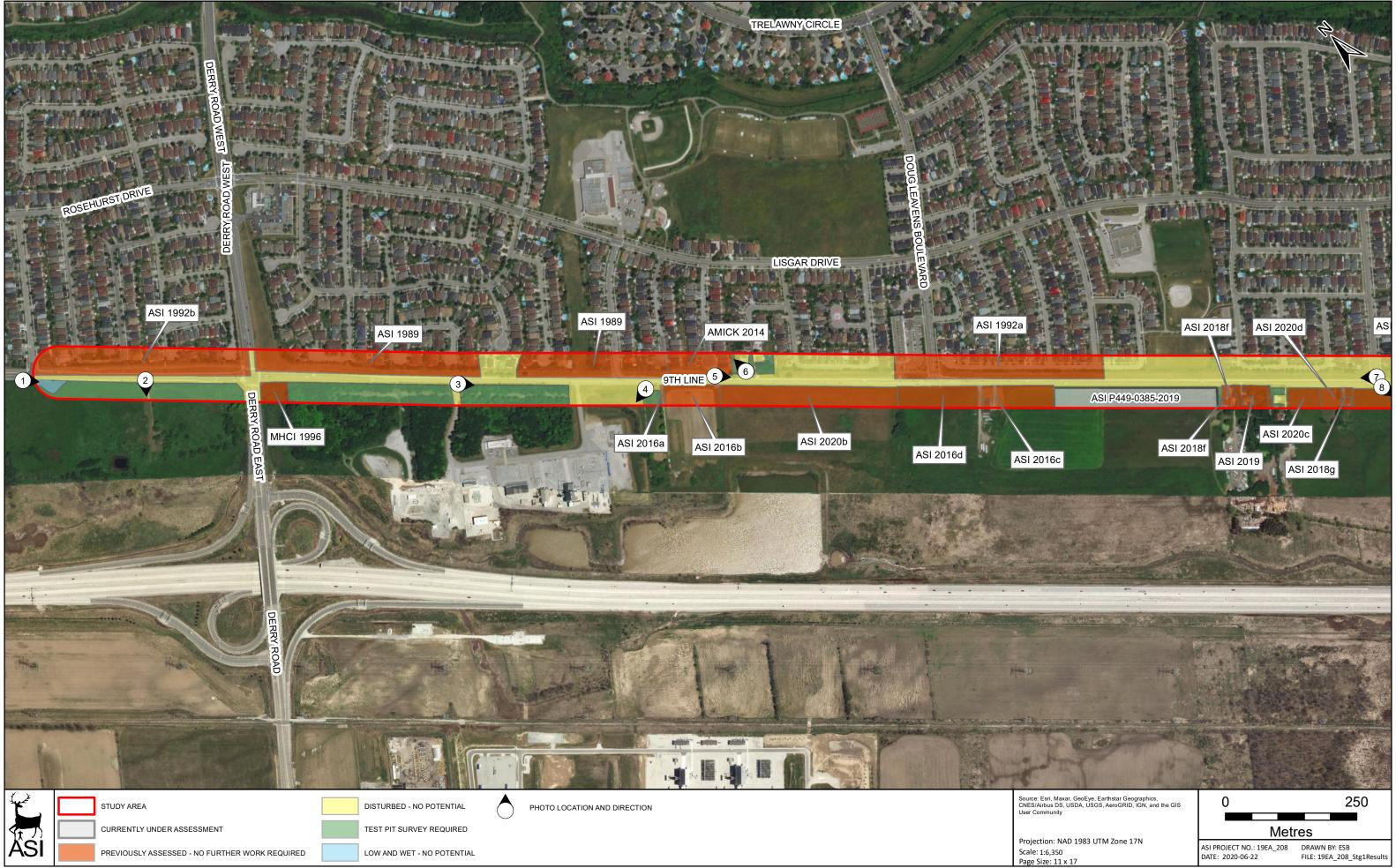


Figure 11: Ninth Line Improvements - Results of Stage 1 (Sheet 1)



Figure 12: Ninth Line Improvements - Results of Stage 1 (Sheet 2)



Figure 13: Ninth Line Improvements - Results of Stage 1 (Sheet 3)

8.0 IMAGES



Plate 1: Ninth Line at Hazelridge Rd; Area is disturbed and low and wet, no potential



Plate 2: Laneway off Ninth Line; Area beyond disturbed lane requires Stage 2 archaeological assessment



Plate 3: Ninth Line ROW; disturbed, no potential



Plate 4: Ninth Line; Field in foreground requires test pit survey



Plate 5: Ninth Line ROW; disturbed, no potential



Plate 6: Montessori school; Grassed areas require test pit survey



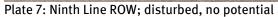




Plate 8: Ninth Line ROW; disturbed and previously assessed, no potential



Plate 9: Osprey Marsh; disturbed, no potential



Plate 10: Channelization and culvert; disturbed, no potential



Plate 11: Channelized creek; disturbed, no potential



Plate 12: St. Peter's Catholic Cemetery should be avoided by project designs; Area between cemetery fence and paved road edge requires Stage 2 and Stage 3 Cemetery Investigation



Plate 13: Ninth Line at Britannia Rd; Area beyond disturbed ROW requires pedestrian survey



Plate 14: Ninth Line; Grassed area beyond ROW requires test pit survey



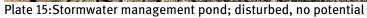




Plate 16: Ninth Line ROW; disturbed, no potential



Plate 17: Ninth Line ROW; open field requires pedestrian survey



Plate 18: Ninth Line at Roadside Way; disturbed, no potential



Plate 19: Ninth Line; Area is disturbed, no potential



Plate 20: Ninth Line; Area requires test pit survey







Plate 22: Ninth Line at Eglington Ave W; Area requires pedestrian survey



Plate 23: Ninth Line at Eglington Ave W; disturbed, no potential



Plate 24: Ninth Line; Area beyond disturbed ROW requires test pit survey