STAGE 1 ARCHAEOLOGICAL ASSESSMENT OF THE NORTHWEST WELLAND SECONDARY PLAN
PART OF LOTS 174, 175, 176, 226, 227, 228, 233, 234, 235 AND 236, GEOGRAPHIC TOWNSHIP OF THOROLD, WELLAND COUNTY CITY OF WELLAND, REGIONAL MUNICIPALITY OF NIAGARA

ORIGINAL REPORT

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Ministry of Tourism, Culture and Sport PIF P449-0207-2018
ASI File: 17PL-329

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STAGE 1 ARCHAEOLOGICAL ASSESSMENT OF
THE NORTHWEST WELLAND SECONDARY PLAN
PART OF LOTS 174, 175, 176, 226, 227, 228, 233, 234, 235 AND 236,
GEOGRAPHIC TOWNSHIP OF THOROLD, WELLAND COUNTY
CITY OF WELLAND, REGIONAL MUNICIPALITY OF NIAGARA

EXECUTIVE SUMMARY

ASI was contracted by SGL Planning & Design Inc. to undertake a Stage 1 Archaeological Assessment of the Northwest Welland Secondary Plan, part of Lots 174, 175, 176, 226, 227, 228, 233, 234, 235 and 236, in the Geographic Township of Thorold, Welland County, now in the City of Welland, Regional Municipality of Niagara. The study area is approximately 189 hectares in size. Permission to carry out all activities necessary for the completion of the assessment was granted by the proponent on February 5, 2018.

The Stage 1 background review entailed consideration of the proximity of previously registered archaeological sites and the original environmental setting of the property, along with nineteenth and twentieth-century settlement trends. The extent of previous archaeological assessments carried out in the vicinity of the study area was also reviewed. This research has led to the conclusion that there is potential for the presence of significant Indigenous and Euro-Canadian archaeological resources throughout the vast majority of the study area.

Based on the application of the modeling criteria, approximately 99% or 187.4 ha of the Northwest Welland Secondary Plan study area exhibits potential for the presence of Indigenous and/or Euro-Canadian archaeological resources.

In light of these results the following recommendations are made:

1. Any future developments within the study area must be preceded by Stage 2 Archaeological Assessment. Such assessment(s) must be conducted in accordance with the Ministry of Tourism, Culture and Sport's 2011 *Standards and Guidelines for Consultant Archaeologists*. All active or formerly worked agricultural lands must be assessed through pedestrian survey. Wood lots and other non-arable lands must be assessed by means of test pit survey. Areas deemed to be disturbed or of no potential due to factors of slope or drainage during the Stage 2 assessment process must be appropriately documented.

   This work is required prior to any land disturbing activities in order to identify any archaeological resources that may be present.

   It should be noted that the archaeological assessment of any proposed development (e.g., a draft plan of subdivision) must be carried out on **all** lands within that particular subject property, not simply those lands identified as exhibiting potential in this study.

PROJECT PERSONNEL

Project Managers:	Beverly Garner, Hons. BA Senior Archaeologist | Manager, Planning Assessment Division
	Jennifer Ley, Hons. BA (R376) Associate Archaeologist | Assistant Manager, Planning Assessment Division
Project Director:	Robb Bhardwaj, MA (P449) Associate Archaeologist | Field Director, Planning Assessment Division
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	Douglas Todd (RO55) Associate Archaeologist | Analyst, Laboratory and Fieldwork Services, Operations Division
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1.0 PROJECT CONTEXT

ASI was contracted by SGL Planning & Design Inc. to undertake a Stage 1 Archaeological Assessment of the Northwest Welland Secondary Plan, part of Lots 174, 175, 176, 226, 227, 228, 233, 234, 235 and 236, in the Geographic Township of Thorold, Welland County, now in the City of Welland, Regional Municipality of Niagara (Figure 1). The study area is approximately 189 hectares (ha) in size.

1.1 Development Context

This assessment was conducted under the project management of Ms. Beverly Garner and Ms. Jennifer Ley (R376), and under the project direction of Mr. Robb Bhardwaj (MTCS PIF P449-0207-2018). All activities carried out during this assessment conform to the requirements of the *Provincial Policy Statement* under the *Ontario Planning Act* and the *Places to Grow: Growth Plan for the Greater Golden Horseshoe* (Ministry of Municipal Affairs and Housing 1990, 2014, 2017). The Northwest Welland Secondary Plan study will help the City of Welland create a vision for related policies and/or directions that will ensure its successful implementation. This process will identify opportunities and constraints for development and the location, extent and sensitivity of the existing natural, social, cultural and economic environment in the study area.

All work was completed in accordance with the *Ontario Heritage Act* (Ministry of Culture 1990) and the *Standards and Guidelines for Consultant Archaeologists* (S & G) (Ministry of Tourism and Culture 2011; now administered by the Ministry of Tourism, Culture and Sport [MTCS]).

Permission to access the study area and to carry out all activities necessary for the completion of the assessment was granted by the proponent on February 5, 2018.

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.

The study area is located within part of Lots 174, 175, 176, 226, 227, 228, 233, 234, 235 and 236, in the Geographic Township of Thorold, Welland County. The study area currently comprises a mix of residential, educational and recreational lands within a predominately rural landscape within the northwest portion of the City of Welland. The Town of Pelham boarders the north and west limits of the study area.

1.2.1 Indigenous Overview

The City of Welland has a cultural history that begins approximately 11,000 years ago and continues to the present. Table 1 provides a general summary of the Indigenous settlement of the study area.

Table 1: Outline of Southern Ontario Prehistory

Period	Archaeological/ Material Culture	Date Range	Lifeways/ Attributes
PALEO-INDIAN			
Early	Gainey, Barnes, Crowfield	9000-8500 BC	Big game hunters
Late	Holcombe, Hi-Lo, Lanceolate	8500-7500 BC	Small nomadic groups
ARCHAIC			
Early	Nettling, Bifurcate-base	7800-6000 BC	Nomadic hunters and gatherers
Middle	Kirk, Stanly, Brewerton, Laurentian	6000-2000 BC	Transition to territorial settlements
Late	Lamoka, Genesee, Crawford Knoll, Innes	2500-500 BC	Polished/ground stone tools (small stemmed)
WOODLAND			
Early	Meadowood	800-400 BC	Introduction of pottery
Middle	Point Peninsula, Saugeen	400 BC-AD 800	Incipient horticulture
Late	Algonkian, Iroquoian	AD 800-1300	Transition to village life and agriculture
	Algonkian, Iroquoian	AD 1300-1400	Establishment of large palisaded villages
	Algonkian, Iroquoian	AD 1400-1600	Tribal differentiation and warfare
HISTORIC			
Early	Huron, Neutral, Petun, Odawa, Ojibwa	AD 1600-1650	Tribal displacements
Late	Six Nations Iroquois, Ojibwa	AD 1650-1800's	
	Euro-Canadian	AD 1800-present	European settlement

1.2.2 Historical Overview

Township of Thorold

The land that comprises the Township of Thorold was alienated by the British from the native Mississaugas by an "indenture" dated May 22, 1784. Through this purchase, the British obtained much of the land which now includes the Niagara Region, lying to the west of the reserved strip along the Niagara River which the Crown had possessed since 1763. The sale was officially ratified by Treaty number 3, dated at Navy Hall on December 7, 1792 (*Indian Treaties* vol. 1:5-7).

The first legal settlers in Thorold Township were United Empire Loyalists, who arrived during and after the American Revolutionary War. Many of these early settlers were part of Butler's Rangers, Loyalists who fought under Lt. Col. John Butler, arriving between 1784 and 1787. The first township survey was not undertaken until 1788. At that time, Thorold had not yet been named and it was simply known as "Township No. 9." A statement of expenses submitted to the Surveyor General's department for the work in Thorold showed the survey was done at least in part by Augustus Jones. Jones continued to be employed in "making out the Plans of the Townships of this Settlement" in the late autumn of 1791, which included a "List of reduced Provincial Troops" settled in the area, as well as reports on features "towards the public utility" such as waterfalls, minerals and/or quarries, and the quality of the timber (Fraser 1906:346, 388-389, 426-427; Mika and Mika 1983:506).

By the early 1800s roads had been constructed connecting many communities within the township and grist and saw mills were built to support the growing farming and lumbering activities. By 1817, the population was 830, and much of the land had been cleared. By 1846, approximately 49 percent of the privately-owned land in Thorold Township was under cultivation. The township was referred to as one of the "best settled townships in the Niagara District, containing a great number of excellent, well cleared farms." The land was described as "rolling," and well adapted to growing wheat, oats, barley, rye and other crops. At that time, the township contained eight grist mills and five saw mills. The population stood at 2,284 and the total assessment for property was £49,699. In 1879, the Niagara, St. Catharines and Toronto Railway was extended through the township (Mika and Mika 1983:505-506; Smith 1846:191).

Early Development of the City of Welland

Settlement throughout Welland was a result of the first Welland Canal being constructed in 1829. At this time, a wooden aqueduct was constructed to carry the Welland Canal over the Welland River. This development formed the settlement called Aqueduct or The Aqueduct. In 1844, after the wooden aqueduct was replaced by one of stone, the settlement name was changed to Merrittsville, in honour of William Hamilton Merritt, of the Welland Canal Company. Many who settled in the area were Irish immigrants and escaped slaves from the United States, employed in the construction of the canal. This settlement was incorporated as the Village of Welland on July 24, 1858 (Mika and Mika 1983:614, 616; The Corporation of the City of Welland 2018a).

The Village of Welland was located on the west side of Crowland Towship adjacent to the Welland River. A portion of the village was also located on the west side of the Welland River, situated in Thorold Township; a swing bridge across the river/canal connected the village. In 1876, the population was approximately 1,900. The village was the County Town for the County of Welland providing a number of amenities and services including several churches, fine brick stores, large mills, a court house, a jail, a registry office and a registrar surrogate office. Similar to other villages located along the Welland ship canal, in addition to the Canada Southern Railway, the village of Welland owed a great deal of its growth to that work, providing many facilities for travellers and shippers (Page 1876).

Welland was incorporated as a town on January 1, 1878, and later as a city on July 1, 1917 (The Corporation of the City of Welland 2018a).

The Niagara, St. Catharines and Toronto Electric Railway

The Niagara, St. Catharines and Toronto (NS&T) Electric Railway is located along the west boundary of the study area, now corresponding to the location of the present-day Steve Bauer Trail. From 1899 to 1959, this railway provided transport for people and goods across the Niagara Region; Port Dalhousie to Port Colborne, Welland to Niagara Falls, and from St. Catharines to Niagara-on-the-Lake. In 1929, the railway was at its peak, providing hourly passenger transport (The Corporation of the City of Welland 2018b).

Quaker Road

Quaker Road was originally situated on land owned by Hon. Robert Hamilton, a wealthy Queenston merchant who purchased 7900 acres in Welland County in 1799. The road's name stems from the number of Quakers who chose to settle in the southern part of Thorold Township and in nearby Pelham Corners, situated at the intersection of Quaker Road and Pelham Street. In 1926, the road became the first improved road in Thorold Township (Betti 1967).

1.2.3 Review of Historical Mapping

A review of nineteenth and early twentieth century mapping was completed in order to determine if these sources depict any nineteenth-century Euro-Canadian settlement features that may represent potential archaeological resources on the property (Figures 2-4) [1]. It should be noted that not all settlement features were depicted systematically in the compilation of these historical map sources, given that they were financed by subscription, and subscribers were given preference with regard to the level of detail provided. Moreover, not every feature of interest from the perspective of archaeological resource management would have been within the scope of these sources.

Historical mapping has confirmed that the study area was a rural, agricultural landscape in the mid-nineteenth century. In addition, historical map analysis indicates that the present-day roadways of Quaker Road, Line Avenue/Clare Avenue, Rice Road and First Avenue were surveyed prior to 1862. The mapping further records the names of landowners and/or occupants, as well as the location and arrangement of homesteads and associated orchards.

The 1862 *Tremaine Map of the Counties of Lincoln and Welland* indicates 13 land owners and/or occupants within the study area (Figure 2). Three of the individuals, J. H. E Page (Lot 236), Thomas Spencer (Lot 236) and Orin Bemmiss (Lot 228) have associated homesteads shown fronting present-day Quaker Road which bisects the study area east-west. However, prior to the landowners and/or occupants noted on this map, Robert Spencer purchased 400 acres on Lots 234, 235 and 236 around 1820. According to *The Globe*, Mr. Spencer's home became a frequent resting spot for American slaves on the Underground Railway (*The Globe* 1899). Table 2 below provides the names of all land owners and/or occupants within the study area in 1862.

The 1876 *Illustrated Historical Atlas of the Counties of Lincoln and Welland* indicates that several of the lots have been sold or passed down to family members; many of the lots have also been divided into smaller parcels (Figure 3). A total of 16 land owners and/or occupants are now indicated within the study area and a total of 14 homesteads are illustrated. The three homesteads identified on Lots 236 and 288 (referenced above) appear to have persisted into the late-nineteenth century. Table 2 provides the names of all land owners and/or occupants and associated homesteads within the study area in 1876.

[1] Use of historic 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 georeferenced 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. These include 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 2: Nineteenth-Century Property Owners and Historical Features within the Study Area

1862			1876	
Lot	**Owner(s)/Tenant(s)**	**Feature(s)**	**Owner(s)/Tenant(s)**	**Feature(s)**
176	Aaron Page (west half)		A. Page (west half)	Homestead, orchards
176	Ander Hill (east half)		A. Hill (east half)	Homestead, orchard
175	J. H. Smith		S. Dougherty	Homestead, orchards
174	Lewis Page (west half)		A. N. Page (west half)	Homestead, orchard
174	R. S. Garner (east half)		R. R. Garner (east half)	Homestead, orchard
228	Orin Bemiss	Homestead	Orin Bemis	Homestead, orchard
227	Joseph Goodwillie		Orin Bemis (west half)	Homestead, orchard
227	n/a		E. Early (west half)	Homestead, orchard
226	Jacob Gainer Jr. (west half)		J. Gainer Jr.	Homestead, orchards
226	Jacob Gainer		n/a	
236	J. H. E. Page (west half)	Homestead	J. H. E. Page (west half)	Homestead, orchard
236	Thomas Spencer (east half)	Homestead	G. A. Swayze (east half)	Homestead, orchard
235	A. Killman		G. A. Swayze (west quarter)	
235	n/a		E. Sisler (east three-quarters)	Homestead, orchard
234	William Spencer		D. Moore (west quarter)	
234	n/a		William Glinz (east three-quarters)	Homestead, orchard
233	A. Page & E. Lawson		O. B. (northwest corner)	Homestead, orchard
233	n/a		J. Seanton (west quarter)	
233	n/a		George Page (east three-quarters)	Orchard

It is also important to make note of settlement features adjacent to the subject property, given the degree of error on historical map sources. There are no features adjacent to the study area on the 1862 mapping, however, there are a number of features surrounding the study area limits on the 1876 mapping. These features and associated property owners are described in Table 3 below. Included within these features, is a schoolhouse identified within Lot 233 at the intersection of present-day Quaker Road and First Avenue. Currently, the schoolyard of the existing Quaker Road Public School is situated in this location. However, the first Quaker Road log schoolhouse was built ca. 1816 on the north side of Quaker Road within Lot 174 on R. S. Garner's farm. In 1861, a brick schoolhouse was built on Lot 233, and in 1893 a third schoolhouse was built of red brick (Betti 1967; Goodwillie 2005; Quaker Road Public School 2018). It is assumed that the schoolhouse adjacent to the study area on the 1876 mapping represents the second structure built in 1862.

Table 3: Nineteenth-Century Historical Features adjacent to Study Area

Lot	Owner(s)/Tenant(s)	Feature(s)
177	J. Wilson Estate	Orchard
226	J. Gainer Jr.	Orchard
237	William Vanderburg	Homestead, Orchard
234	D. Moore	Homestead, Orchards
233	George Page	Schoolhouse, Homestead, Orchards
232	Alex Page	Homesteads**, Orchard
231	H. Goodwillie	Homestead, Orchard
231	Owner unclear	Homestead, Orchard

** Two structures are shown and may represent an original dwelling and a replacement dwelling, or perhaps a dwelling and a barn.

A factor in evaluating the potential for the presence of historical features pre-dating the homesteads illustrated on the 1862 and 1876 mapping above is the likely construction of one-storey log or frame homes during the first half of the nineteenth century. Log houses were associated with earlier settlers as it reflected the use of a material which was the by-product of the forest clearing process. The original log house was then often replaced with an improved frame, brick or stone structure, which was frequently built close to the location of the original log house (MacDonald 1997). Therefore, there is the added potential of recovering discrete early nineteenth century log cabins within the study area.

Figure 4 illustrates the study are on the 1907 *Niagara Topographic Sheet* (Department of Militia and Defense). Land features such as waterways, woodlots and elevation are clearly illustrated, in addition to the early twentieth century road network and structure locations. The study area is predominately indicated as cleared for agriculture, with the exception of small wooded locales, which in many instances appear to correspond to the location of various orchards on the previous 1862 and 1876 mapping. A total of 10 structures is illustrated, all or most of which appear to correspond with previous homestead locations. Table 4 below provides a list of all structures and the corresponding land owners and/or occupants based on earlier mapping. Topographic information indicates that the west side of the study area is at a higher elevation, and that the property in general features a subtle negative slope to the east-southeast in the direction of the Welland River; multiple tributaries of the Welland River are found in the immediate vicinity, one of which flows through the east half of the study area. The Niagara St. Catharines and Toronto (NS&T) Electric Railway is also depicted on this map, forming the west limit of the study area (now the Steve Bauer Trail). Just beyond the west limit is the community of Pelham Corners at the intersection of Quaker Road and Pelham Road South.

Table 4: Features Identified within the Study Area on the 1907 *Niagara Topographic Sheet*

Lot	Features(s)	Owner(s)/Tenant(s) in 1862	Owner(s)/Tenant(s) in 1876
175	Homestead	n/a	S. Dougherty
174	Homestead	n/a	A. N. Page (west half)
174	Homestead	n/a	R. R. Garner (east half)
228	Homestead	Orin Bemiss	Orin Bemis
226	Homestead	n/a	J. Gainer Jr.
236	Homestead	J. H. E. Page (west half)	J. H. E. Page (west half)
236	Homestead	Thomas Spencer (east half)	G. A. Swayze (east half)
235	Homestead	n/a	E. Sisler (east three-quarters)
234	Homestead	n/a	D. Moore (west quarter)**
234	Homestead	n/a	William Glinz (east three-quarters)

** This structure may correspond to the homestead of D. Moore adjacent to the study area on the 1876 mapping, or it may be a more recent structure.

1.2.4 Review of Aerial Photography

In order to further assess the previous land use of the subject property, available aerial imagery from 1934 and 1954 was reviewed (Google Earth 2018; University of Toronto 2018). On the 1934 image, the study area comprises a rural landscape with numerous agricultural fields (Figure 5). A number of residences and/or farm complexes are also present, many fronting the east-west Quaker Road. The tributary of the Welland River, identified on the previous 1907 mapping, is faintly visible on the 1934 aerial image. On the 1954 image, the study area remains largely rural with the exception of a subdivision located near the northwest corner; this area corresponds to Montgomery Road, Crerar Avenue, Topham Boulevard and Summerlea Avenue (Figure 6). The tributary of the Welland River is even less discernible in this image.

1.2.5 Review of Modern Topographic Mapping

In order to understand more recent development within the study area, the modern 1996 *Niagara Topographic Sheet* was also reviewed (Department of Natural Resources). This map indicates that the study area has remained rural throughout the twentieth century; urban development is found to the south and northwest and commercial development is located to the east (Figure 7). The study area is dotted with various structures along all of the roadways, including Milkweed Trail, a more recently constructed roadway located parallel to Line Avenue. The tributary of the Welland River is illustrated flowing east-west through the study area, and two small, man-made, rectangular ponds are located near the watercourse.

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 MTCS through "Ontario's Past Portal"; published and unpublished documentary sources; and the files of ASI.

1.3.1 Registered Archaeological Sites

In order that an inventory of archaeological resources could be compiled for the study area, three sources of information were consulted: the site record forms for registered sites housed at the MTCS, published and unpublished documentary sources, and the files of ASI.

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database (OASD) which is maintained by the MTCS. This database contains archaeological sites registered within the Borden system. The Borden system was first proposed by Dr. Charles E. Borden and is based on a block of latitude and longitude. Each Borden block measures approximately 13 km east-west by 18.5 km north-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 within the AgGt Borden block.

Based on a search of the OASD, no archaeological sites have been registered within the study area, however, 34 sites have been registered within a one km radius (MTCS 2018). The nearest sites to the study area are AgGt-45, located approximately 695 metres to the west and AgGt-217, located approximately 875 metres to the north. All of the registered sites have been in summarized in Table 5 below. Refer to Table 1 for the cultural/temporal categories.

Table 5: Registered Archaeological Sites within 1 km of the Study Area

Borden No.	Name	Temporal/ Cultural Affiliation	Site Type	Researcher
AgGt-33	Bell	Late Archaic	Campsite	ASI 1984
AgGt-34	Goar	Late Archaic	Campsite	ASI 1984
AgGt-36	Quaker Park	Early Archaic	Campsite	MPPA 1984
AgGt-44	Milburn	Late Archaic	Campsite	ASI 1984
AgGt-45		Early Woodland, Meadowood	Findspot	ASI 1984
AgGt-51	Kunda Park Extension 2	Undermined Pre-contact	Unknown	MAS 1987
AgGt-147	River Realty 2	Late, Middle Archaic	Unknown	MHCI 2007
AgGt-148		Undetermined Pre-contact	Unknown	n/a 2007
AgGt-149		Late, Middle Archaic; Late Woodland	Campsite	MHCI 2007
AgGt-150		Euro-Canadian	Homestead	MHCI 2007
AgGt-151	Harkes	Undetermined Pre-contact	Unknown	MHCI 2007
AgGt-153	Fonthill 1	Euro-Canadian	Homestead	MHCI 2007
AgGt-155	Fonthill 3	Undetermined Pre-contact	Findspot	MHCI 2007
AgGt-156	Fonthill 4	Undetermined Pre-contact	Findspot	MHCI 2007
AgGt-162		Pre-contact; Euro Canadian	Unknown; Homestead	Archaeologix 2008
AgGt-163		Euro-Canadian	Homestead	Archaeologix 2008
AgGt-164		Undetermined Pre-contact	Unknown	Archaeologix 2008
AgGt-165		Undetermined Pre-contact	Unknown	Archaeologix 2008
AgGt-166		Undetermined Pre-contact	Unknown	Archaeologix 2008
AgGt-167		Woodland	Campsite	Archaeologix 2008
AgGt-168		Euro-Canadian	Homestead	Archaeologix 2008

Borden No.	Name	Temporal/ Cultural Affiliation	Site Type	Researcher
AgGt-169		Undetermined Pre-contact	Unknown	Archaeologix 2008
AgGt-170		Late Archaic	Findspot	Archaeologix 2008
AgGt-171		Undetermined Pre-contact	Unknown	Archaeologix 2008
AgGt-198	East Fonthill Lands Location 1	Late Archaic	Findspot	Golder Associates 2014
AgGt-199	East Fonthill Lands Location 2	Undetermined Pre-contact; Euro-Canadian	Unknown; Unknown	Golder Associates 2014
AgGt-200		Undetermined Pre-contact	Unknown	DCL 2014
AgGt-201		Undetermined Pre-contact	Campsite	DCL 2014
AgGt-203	P8	Paleo-Indian, Hi-Lo	Findspot	DCL 2014, 2015
AgGt-214		Euro-Canadian	Homestead	DCL 2015
AgGt-215		Undetermined Pre-contact	Campsite	DCL 2015
AgGt-216		Late Archaic	Campsite	DCL 2015, 2016
AgGt-217		Middle Archaic	Campsite	DCL 2015, 2016
AgGt-219	P1	Undetermined Pre-contact	Unknown	DCL 2014

MPPA = Mayer, Pihl, Poulton & Associates Inc., MAS = Michael Arch Services, MHCI = Mayer Heritage Consultants Inc., DCL = Detritus Consulting Ltd.

It is also important to acknowledge any known unregistered sites within the study area, and in this case, one such site is known. This find was brought to the attention of ASI during a public information session held as part of the Northwest Welland Secondary Plan study.

Mr. Douglas Todd of ASI met with the local resident who encountered the artifact within the northwest portion of the study area. The find was documented approximately 10 metres north of a rectangular manmade pond near a seasonal creek east of Montgomery Road. The find comprises a single biface fragment, possibly representing an Early Archaic or Early Woodland Meadowood blade; the Early Archaic period dates from 7800-6000 BC, while the Early Woodland period dates from 800-400 BC. The artifact is made from Onondaga chert and is 73.86 mm in length, 25.2 mm in width and 5.31 mm in thickness. Based on the information provided, this find has been entered into the OASD as a "site lead" and has been assigned the tracking number Lead-0053.

1.3.2 Previous Archaeological Assessments

No archaeological assessments are known to have been conducted within the limits of the Northwest Welland Secondary Plan study area. However, five archaeological assessments are known within 50 metres of the study area limits. These assessments are described below.

In 2000, Mayer Heritage Consultants Inc. (MHCI) conducted a Stage 1 and 2 Archaeological Assessment for the proposed Timber Creek Estates subdivision in the Town of Pelham under MTCS PIF 2000-001-091. The study area is estimated to be approximately 7.7 ha located on Lots 176 and 177, situated immediately north of the current Northwest Welland Secondary Plan study area. The assessment methodology and findings are unknown as a copy of this report was not available for review, although no sites appear to be registered in relation to this assessment (MTCS 2018).

In 2007, MHCI conducted a Stage 1 Archaeological Assessment for the Town of Pelham / East Fonthill Secondary Plan Study under MTCS P040-208-2007. The 187 ha study area was located on all of Lots 171 and 172 and on part of Lots 166, 167, 175 and 176, situated immediately north of the current Northwest Welland Secondary Plan study area. The findings of the assessment determined that the study area exhibited the potential of encountering both Indigenous and Euro-Canadian archaeological resources. As such, it was recommended that a Stage 2 Archaeological Assessment was warranted for any properties within the study area to be developed or in any way disturbed, except those properties which had already been assessed (MHCI 2007).

In 2010, MHCI conducted a Stage 1 Archaeological Assessment for the Clare Avenue road extension under MTCS PIF P040-350-2010. The precise location of the study area is unknown, as the report was unavailable for review, but the study area may have been located along the western boundary of the current Northwest Welland Secondary Plan study area (MTCS 2018). It does not appear that any related Stage 2 Archaeological Assessment was completed for this project.

In 2014, Detritus Consulting Ltd. (DCL) conducted a Stage 1 and 2 Archaeological Assessment of the proposed Rosewood Estates subdivision in the Town of Pelham under MTCS PIF P230-0013-2014. The 12.804 ha study area was located within Lot 175, situated immediately north of the current Northwest Welland Secondary Plan study area. The assessment was completed by means of a pedestrian survey and test pit survey at five metre intervals; a large area of the study area was not subject to any assessment as it was exempt from development under By-Law 3494. During the course of the assessment, six isolated Euro-Canadian locations and one isolated Indigenous location were documented. None of these locations were recommended for further archeological assessment (DCL 2014).

In 2017, DCL conducted a Stage 1 and 2 Archaeological Assessment of 1011 Clare Road and 703 Quaker Road in the Town of Pelham under MTCS PIF P017-0543-2016. The 0.567 ha study area was located within Lot 237, situated immediately west of the current Northwest Welland Secondary Plan study area. The assessment was completed by means of a test pit survey at five metre intervals. No archaeological materials were documented during the course of this work (DCL 2017).

1.3.3 Geography

The subject property is situated within the Haldimand Clay Plain physiographic region (Chapman and Putnam 1984:156-159), which is among the largest of the 53 defined physiographic regions in southern Ontario, comprising approximately 3,500 square km. Extending from the Niagara Escarpment to Lake Erie, the clay plain was submerged by glacial Lake Warren around 12,500 B.P. Generally, this region is flat and poorly drained, although it includes several distinctive landforms including dunes, cobble, clay, and sand beaches, limestone pavements, and back-shore wetland basins (MacDonald 1980).

Soil drainage for the study area is presented in Figure 8. Soils within the study area are primarily imperfectly drained and poorly drained; a very small pocket of well drained soil is located within the northwest corner of the study area (Kingston and Presant 1989).

Surficial geology information for the study area is presented in Figure 9. With the exception of sand within northwest corner and a small area within the southwest corner, the majority of the study area comprises clay (OGS 2010).

The study area is situated within the central Welland River watershed, and more specifically within the Tow Path Drain subwatershed. Tow Path Drain is a tributary of the Welland River and flows through the northern and central portions of study area (Figures 1, 10); this watercourse was illustrated but unnamed on previously reviewed mapping (e.g. Figure 4). The Tow Path Drain covers an area of 17 square km, draining into the Welland Recreational Canal, which is the former alignment of the Welland Canal located immediately west of the Welland River (NPCA 2010). Further, based on additional water data obtained as part of this study, a second tributary of the Welland River is located within the southeast portion of the study area (Figure 10). The Welland River flows approximately 1.4 km east of the study area.

In terms of pre-contact subsistence and economy, perhaps the most significant environmental factor influencing resource extraction schedules and thus pre-contact settlement locations in this general region

is the bedrock geology and the relative accessibility of chert-bearing deposits (Parkins 1974; 1977). Indeed, the nearby outcroppings of Onondaga formation cherts provided one of the most widely used materials for stone tool manufacture throughout the pre-contact history of southern Ontario. The material is a finely crystalline, medium to massive bedded, medium to dark grey coloured, cherty limestone. Its most distinctive feature is the abundance of light to medium grey mottled chert, constituting 40-70% of the whole mass. The chert occurs in bedded, nodular, and lenticular masses and outcrops extensively on most of the north shore of Lake Erie from Fort Erie to Nanticoke. In these locations, Onondaga chert would have been available in abundance to Indigenous peoples. Quarrying was unnecessary, as rectanguloid chert cobbles still litter the local beaches. Wave action would have fractured and reduced the chert nodules then deposited them on the beach to be collected. According to Parkins (1977:86), Onondaga chert today accounts for 35-65% of the cobbles found on north shore beaches. The amount of Onondaga chert on a particular beach may have varied annually, but this material was always abundant locally. The deposition of chert by wave action ensured that it was a continually replenished, renewable resource.

1.3.4 Existing Conditions

The study area is irregular in shape and is approximately 189 ha in size. The study area is located within the northwest portion of the City of Welland and is generally bounded by Steve Bauer Trail along the west, various commercial and industrial lots fronting Niagara Street to the east, recent residential developments, agricultural and wooded lands to the north, and residential development and the campus of Niagara College to the south (Figure 10). The Town of Pelham boarders the north and west limits of the study area.

The study area is largely rural in terms of current land use and is dominated by existing and former agricultural fields. The area also includes residential and educational lands, in addition to a sports complex with a series of soccer fields. The study area features a subtle slope from west to east and varies between 191 and 180 metres above sea level; the highest lands are along the west boundary, particularly within the northwest corner.

2.0 ANALYSIS AND CONCLUSION

The optional field review was not required as part of this assessment, as per the S & G, Section 1.2. The historical and archaeological contexts have been analyzed to help determine the archaeological potential of the study area and these data are presented below. Archaeological potential mapping is presented in Figures 11-13.

2.1 Indigenous Archaeological Resource Potential

The S & G, Section 1.3.1 stipulates that undisturbed lands within 300 metres of 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. As mentioned above, tributaries of the Welland River flow through the study area.

Other geographic characteristics that can indicate archaeological potential include: elevated topography (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. 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, prairie) and scarce raw materials (quartz, copper, ochre, or outcrops of chert) are also considered characteristics that indicate archaeological potential. Based on a review of the geography, pockets of sandy soil are found within the northwest and southwest corners of the study area; the remainder of the study area is heavy clay soils.

Indigenous archaeological potential zones within the study area, encompassing approximately 99% or 187.2 ha of the land mass (Figure 11), have been defined based on the factors/features indicative of Indigenous archaeological site potential identified in the S & G (MTC 2011). All known water sources have been buffered by 300 metres, as have areas known to comprise sandy soils.

2.2 Euro-Canadian Archaeological Resource Potential

The S & G *(*MTC 2011:18) stipulates that areas of early Euro-Canadian settlement, including places of early military pioneer settlement (pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries, are considered to have archaeological potential. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks. 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, and properties that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations are also considered to have archaeological potential. As mentioned above, a number of settlement features have been identified on the reviewed historical mapping. No designated or listed properties are known to be located within the limits of the Northwest Welland Secondary Plan study area.

For the Euro-Canadian period, the majority of early nineteenth century farmsteads (i.e., those which are arguably the most potentially significant resources and whose locations are rarely recorded on nineteenth century maps) are likely to be captured by the basic proximity to the water model, since these occupations were subject to similar environmental constraints. An added factor, however, is the development of the network of concession roads and railroads through the course of the nineteenth century. These transportation routes frequently influenced the siting of farmsteads and businesses. Accordingly, undisturbed lands within 100 metres of an early settlement road are also considered to have potential for the presence of Euro-Canadian archaeological sites. As mentioned above, a number of early settlement roads are within or adjacent to the study area.

Euro-Canadian archaeological potential zones within the study area, encompassing approximately 48% or 90 ha of the land mass (Figure 12), have been defined based on the factors/features indicative of Euro-Canadian archaeological site potential identified in the S & G (MTC 2011). All early roads identified on historical mapping have been buffered by 100 metres, as have the locations of all mapped 1862 and 1878 historical structures.

2.3 Composite Archaeological Potential

Combining the Indigenous and Euro-Canadian potential layers results in approximately 99% or 187.4 ha of the study area land mass being identified as exhibiting archaeological potential (Figure 13).

Aside from areas of localized disturbance surrounding existing buildings, there are no apparent factors related to integrity that negate potential within these generally defined zones.

2.4 Summary

ASI was contracted by SGL Planning & Design Inc. to undertake a Stage 1 Archaeological Assessment of the Northwest Welland Secondary Plan, part of Lots 174, 175, 176, 226, 227, 228, 233, 234, 235 and 236, in the Geographic Township of Thorold, Welland County, now in the City of Welland, Regional Municipality of Niagara. The study area is approximately 189 ha in size.

The Stage 1 background review entailed consideration of the proximity of previously registered archaeological sites and the original environmental setting of the property, along with nineteenth and twentieth-century settlement trends. The extent of previous archaeological assessments carried out in the vicinity of the study area was also reviewed. This research has led to the conclusion that there is potential for the presence of significant Indigenous and Euro-Canadian archaeological resources throughout the vast majority of the study area.

Based on the application of the modeling criteria, approximately 99% or 187.4 ha of the Northwest Welland Secondary Plan study area exhibits potential for the presence of Indigenous and/or Euro-Canadian archaeological resources.

3.0 RECOMMENDATIONS

Given the findings of the Stage 1 Archaeological Assessment research, the following recommendations are made:

1. Any future developments within the study area must be preceded by Stage 2 Archaeological Assessment. Such assessment(s) must be conducted in accordance with the Ministry of Tourism, Culture and Sport's 2011 *Standards and Guidelines for Consultant Archaeologists*. All active or formerly worked agricultural lands must be assessed through pedestrian survey. Wood lots and other non-arable lands must be assessed by means of test pit survey. Areas deemed to be disturbed or of no potential due to factors of slope or drainage during the Stage 2 assessment process must be appropriately documented.

   This work is required prior to any land disturbing activities in order to identify any archaeological resources that may be present.

   It should be noted that the archaeological assessment of any proposed development (e.g., a draft plan of subdivision) must be carried out on **all** lands within that particular subject property, not simply those lands identified as exhibiting potential in this study.

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 Ministry of Tourism Culture should be immediately notified.

The documentation and materials related to this project will be curated by ASI until such a time that

arrangements for their ultimate transfer to Her Majesty the Queen in right of Ontario, or other public institution, can be made to the satisfaction of the project owner(s), the Ontario Ministry of Tourism, Culture and Sport, and any other legitimate interest groups.

4.0 ADVICE ON COMPLIANCE WITH LEGISLATION

- 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, 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 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 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 Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33, requires that any person discovering or having knowledge of a burial site shall immediately notify the police or coroner. It is recommended that the Registrar of Cemeteries at the Ministry of Consumer Services is also immediately notified.

- 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, or have artifacts removed from them, except by a person holding an archaeological licence.

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6.0 MAPS

See the following pages for detailed assessment maps and figures.

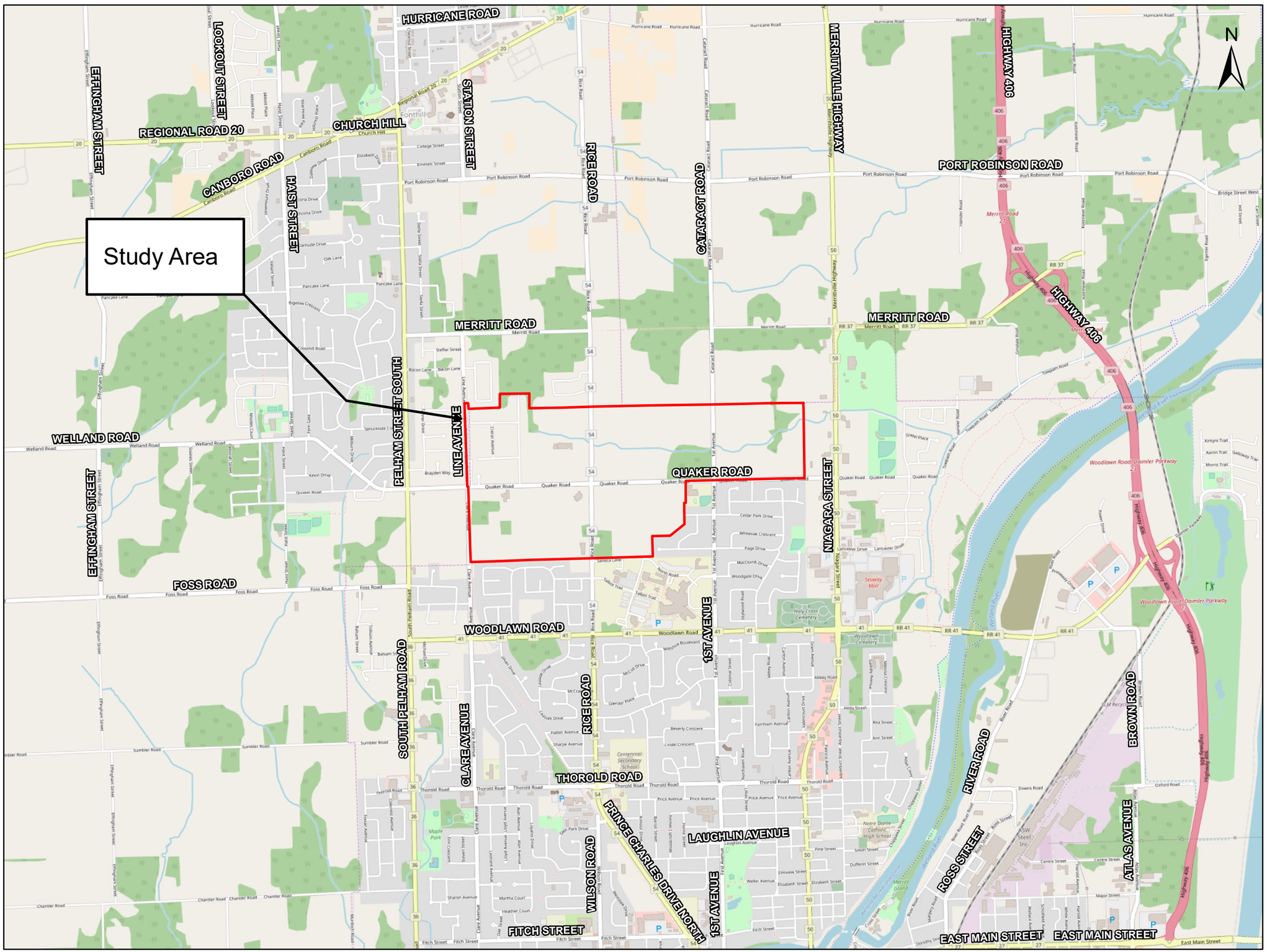

Figure 1: Location of the Study Area.

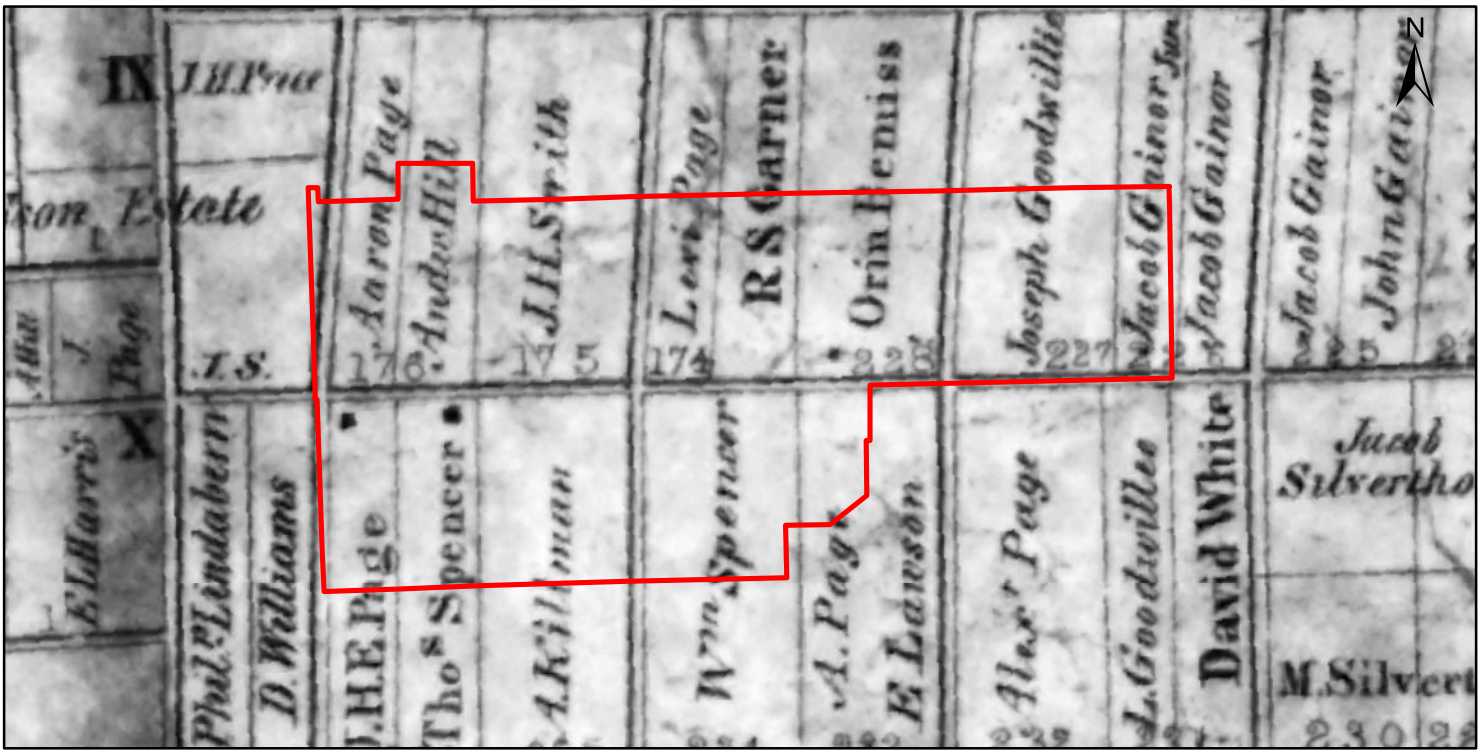

Figure 2: Study Area located on the 1862 Tremaine Map of the Counties of Lincoln and Welland.

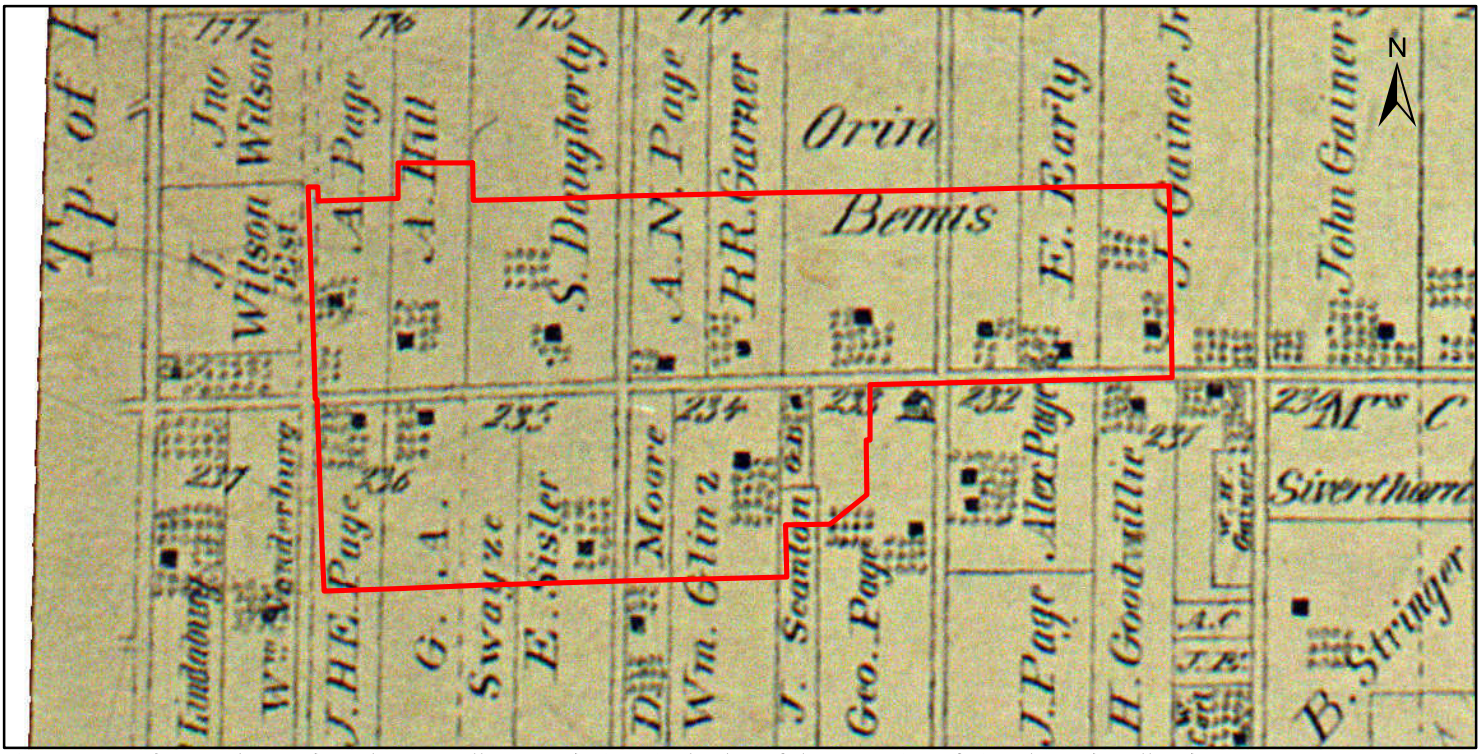

Figure 3: Study Area located on the 1876 Illustrated Historical Atlas of the Counties of Lincoln and Welland.

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STUDY AREA

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Metres

ASI PROJECT NO.: 17PL-329
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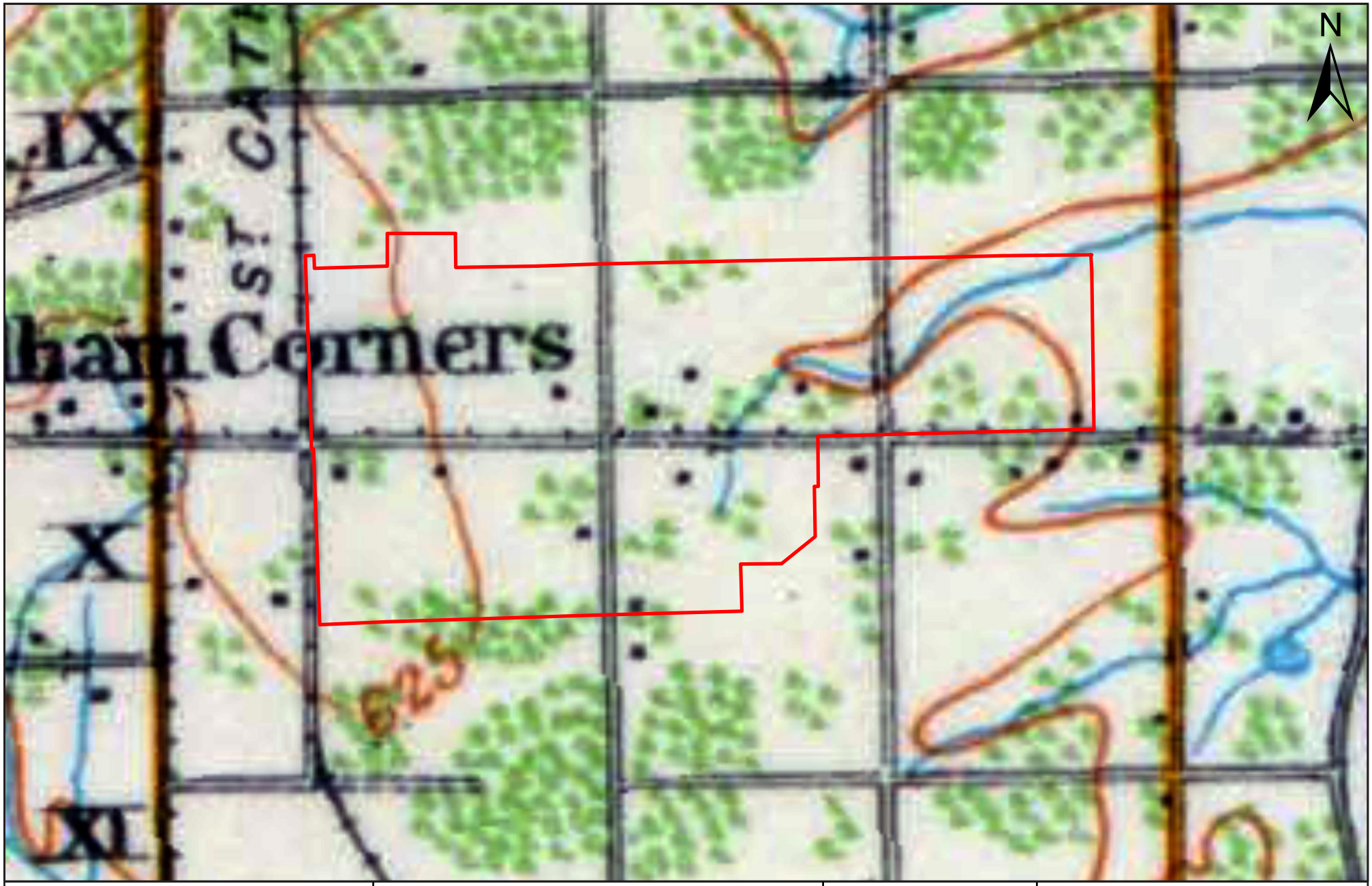

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Figure 4: Study Area located on the 1907 topographic map, Niagara Sheet

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Figure 5: Study Area located on 1934 aerial imagery

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STUDY AREA

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Metres

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Figure 6: Study Area located on 1954 aerial imagery

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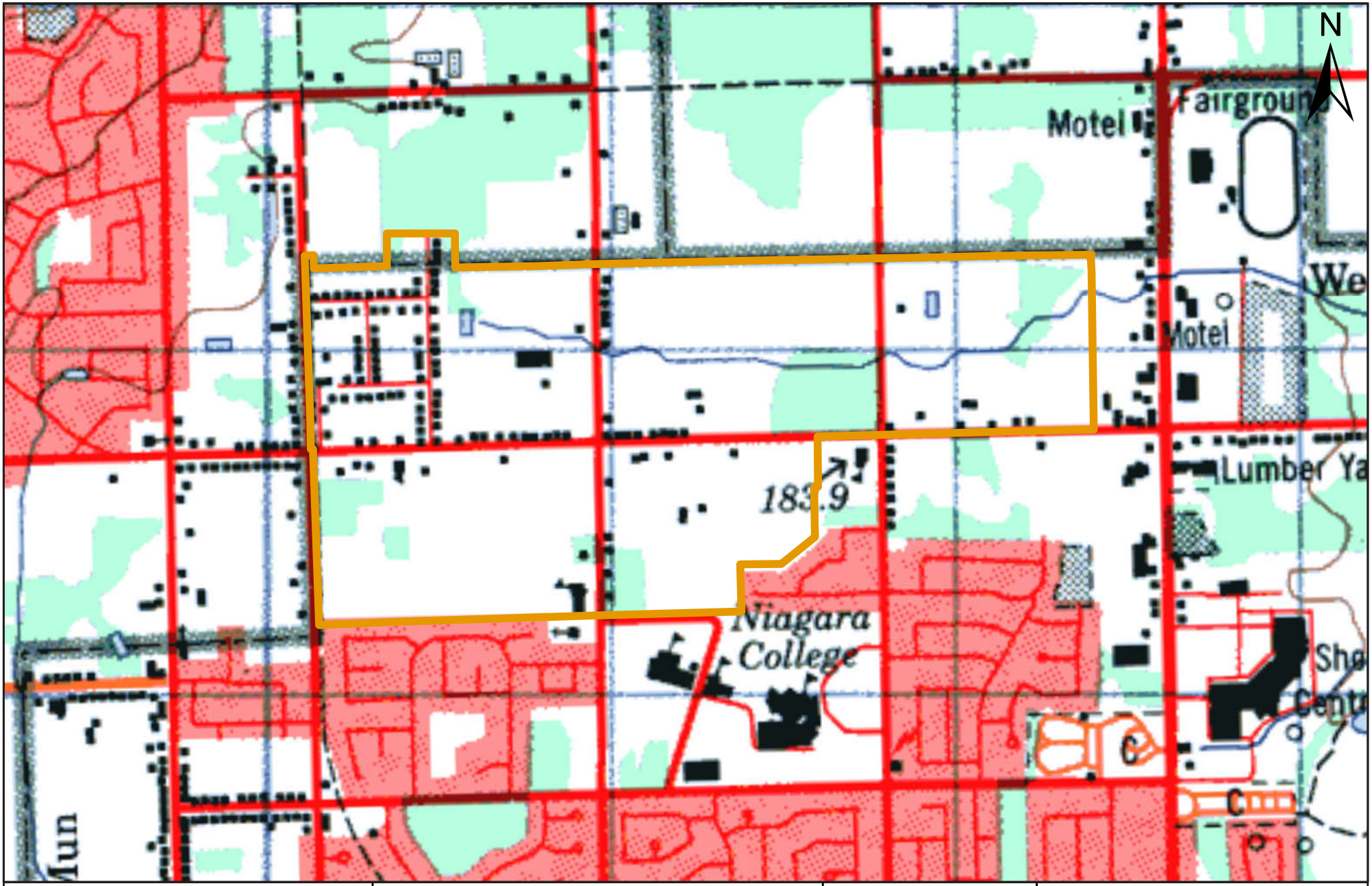

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Figure 7: Study Area located on 1996 topographic map, Niagara Sheet.

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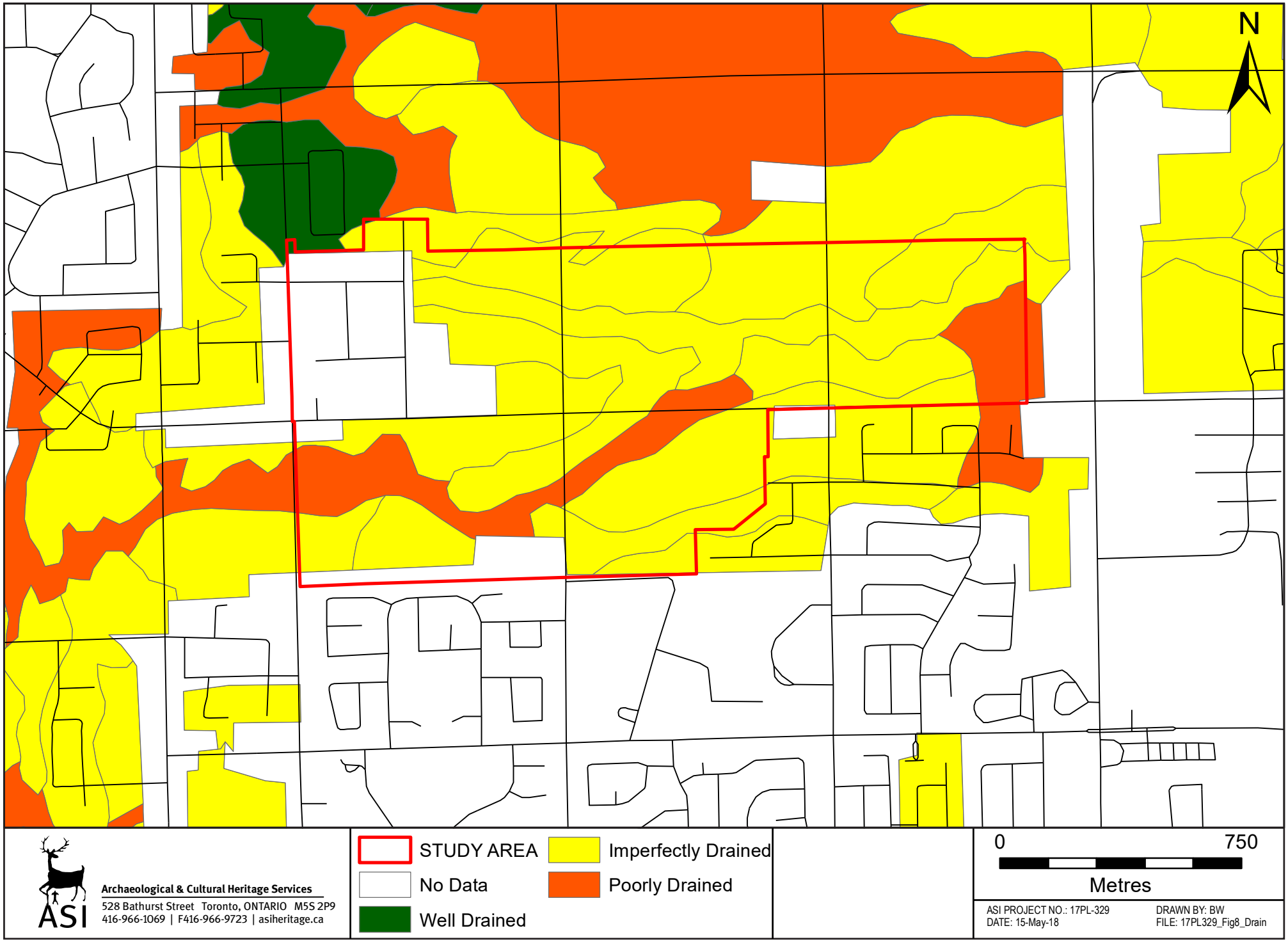

Figure 8: Soil drainage within the Study Area

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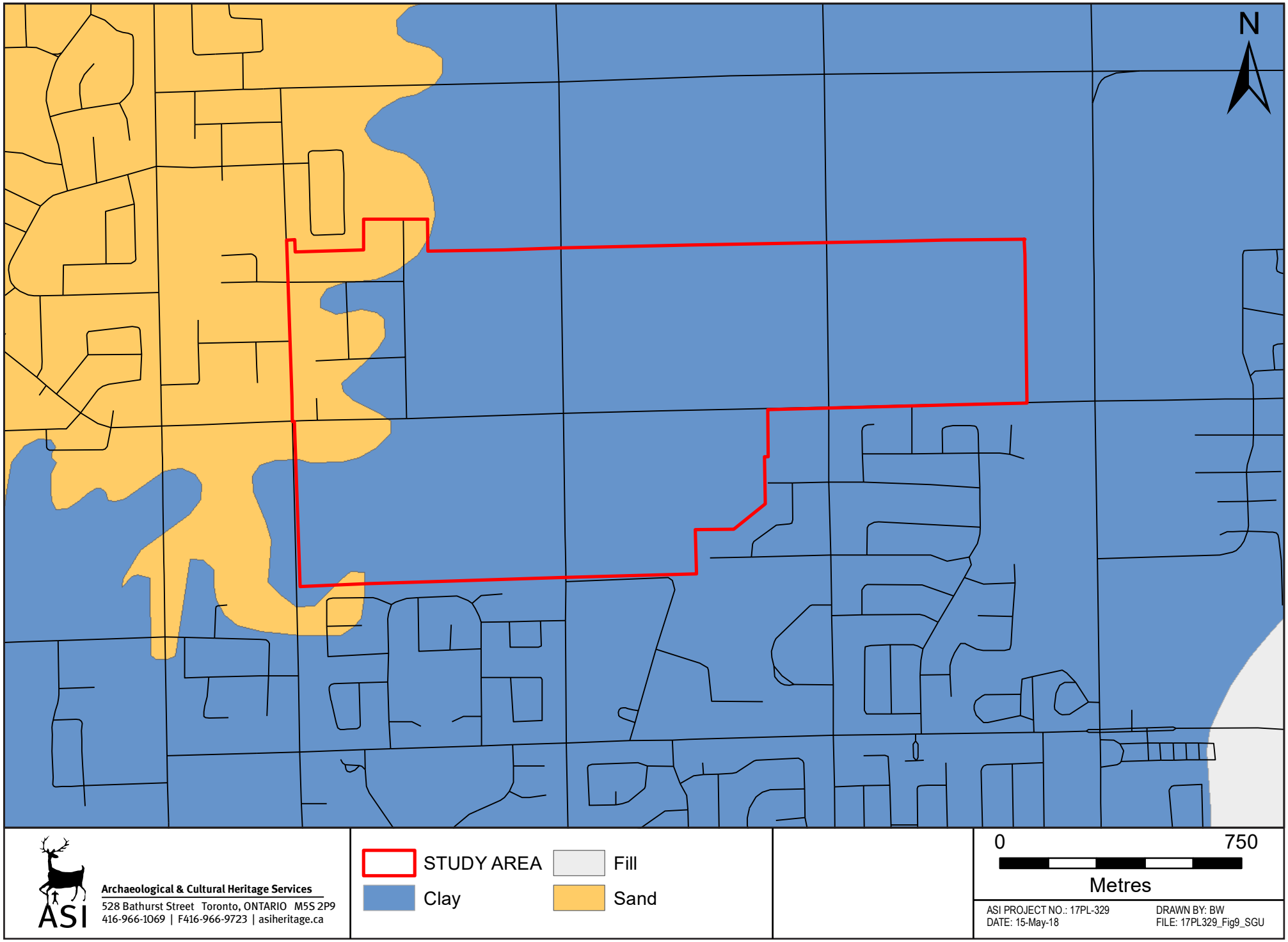

Figure 9: Surficial Geology within the Study Area

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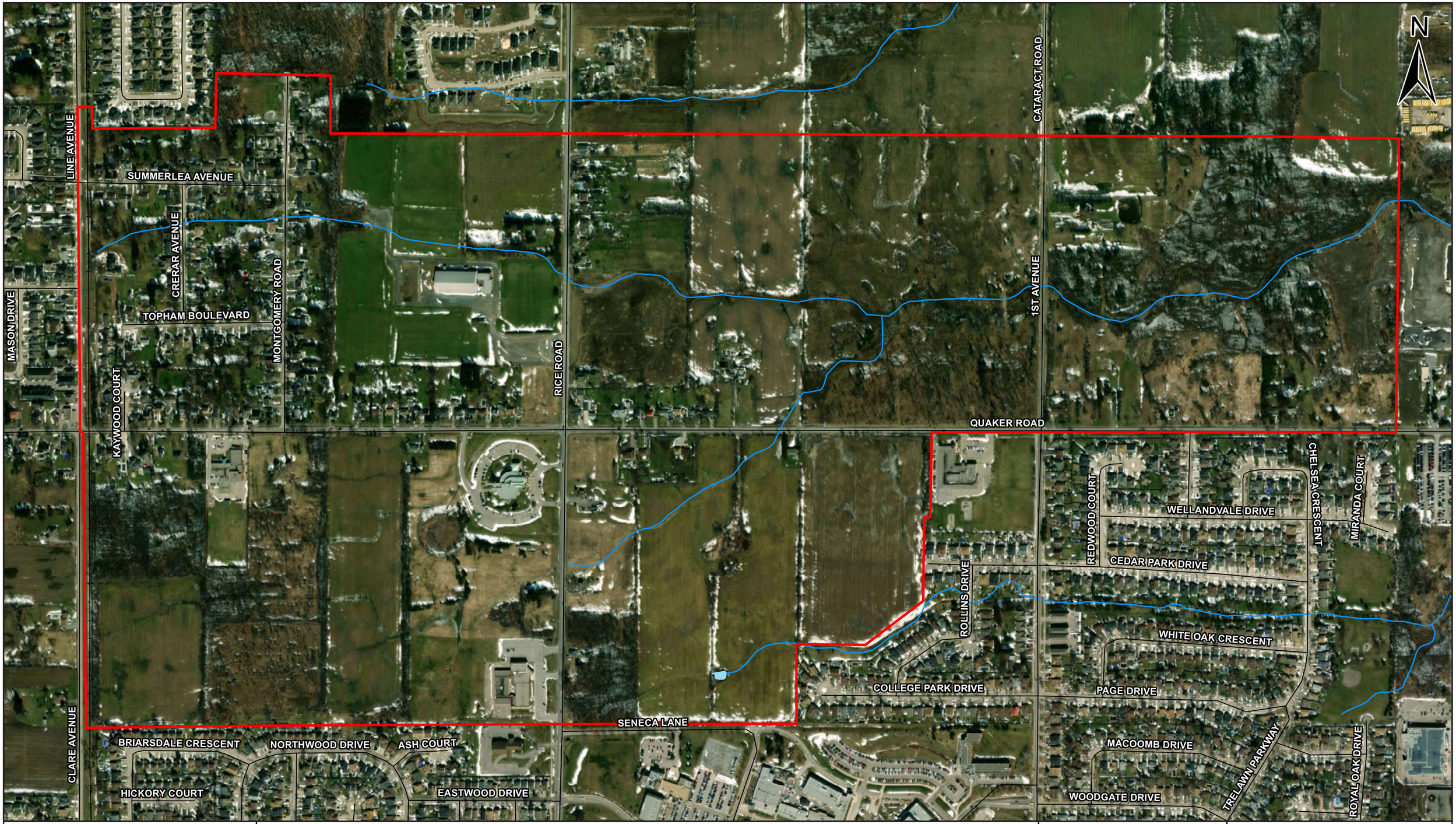

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STUDY AREA — ROAD — WATER
RAIL

BASE:
Ortho
Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

0 300
Metres

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Figure 10: Existing conditions of the Study Area

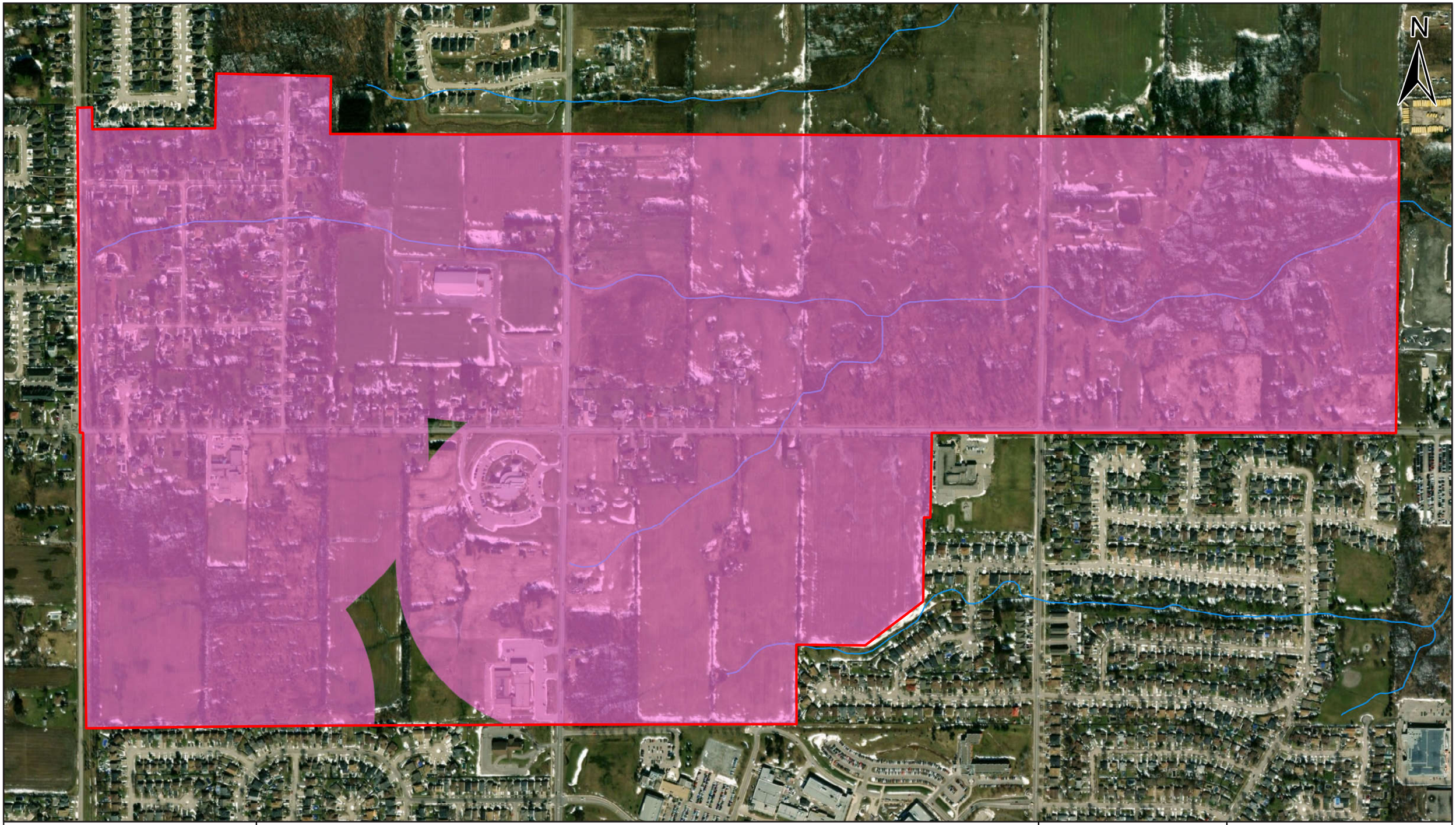

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Figure 11: Northwest Welland Secondary Plan Indigenous Archaeological Potential

N

STUDY AREA

HISTORICAL ARCHAEOLOGICAL POTENTIAL

HISTORICAL ROAD

HISTORICAL BUILDING

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BASE:
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Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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ASI PROJECT NO.: 17PL-329
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Figure 12: Northwest Welland Secondary Plan Historical Archaeological Potential

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STUDY AREA

COMPOSITE ARCHAEOLOGICAL POTENTIAL

BASE:
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Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Figure 13: Northwest Welland Secondary Plan Composite Archaeological Potential