

**Schedule 'C' Municipal Class Environmental Assessment for Merritt Road (Regional Road 37) and Rice Road (Regional Road 54) in the Town of Pelham, the City of Thorold and the City of Welland**

# **APPENDIX**

## **D**

### **Stage 2 Archaeological Assessment Report**

**If technical reports are required in an alternative format for accessibility needs, please contact:**

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Jan 11, 2023

Henry Cary (P327)  
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**RE: Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "ORIGINAL REPORT: STAGE 2 ARCHAEOLOGICAL ASSESSMENT REGIONAL ROAD 37 (MERRITT ROAD) IMPROVEMENTS SCHEDULE C MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT AND DETAILED TRANSPORTATION ASSESSMENT, ROAD RIGHT-OF-WAY AND PART OF LOTS 169, 170, 174 AND 228, THOROLD TOWNSHIP, WELLAND COUNTY, NOW TOWN OF PELHAM AND CITY OF THOROLD, REGIONAL MUNICIPALITY OF NIAGARA, ONTARIO", Dated Jan 6, 2023, Filed with MCM Toronto Office on N/A, MCM Project Information Form Number P327-0026-2022, MCM File Number 0013564**

Dear Dr. Cary:

The above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18, has been entered into the Ontario Public Register of Archaeological Reports without technical review.<sup>1</sup>

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Should you require further information, please do not hesitate to send your inquiry to [Archaeology@Ontario.ca](mailto:Archaeology@Ontario.ca)

cc. Archaeology Licensing Officer  
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REGIONAL MUNICIPALITY OF NIAGARA

# STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Regional Road 37 (Merritt Road) Improvements Schedule C Municipal Class Environmental Assessment and Detailed Transportation Assessment, Right-of-Way and Part of Lots 169, 170, 174 and 228, Thorold Township, Welland County, now Town of Pelham and City of Thorold, Regional Municipality of Niagara, Ontario

JANUARY 06, 2023





# ORIGINAL REPORT: STAGE 2 ARCHAEOLOGICAL ASSESSMENT

REGIONAL ROAD 37 (MERRITT ROAD)  
IMPROVEMENTS SCHEDULE C  
MUNICIPAL CLASS ENVIRONMENTAL  
ASSESSMENT AND DETAILED  
TRANSPORTATION ASSESSMENT,  
ROAD RIGHT-OF-WAY AND PART OF  
LOTS 169, 170, 174 AND 228,  
THOROLD TOWNSHIP, WELLAND  
COUNTY, NOW TOWN OF PELHAM  
AND CITY OF THOROLD, REGIONAL  
MUNICIPALITY OF NIAGARA,  
ONTARIO

REGIONAL MUNICIPALITY OF NIAGARA

ORIGINAL REPORT

PROJECT NO.:IM20103036.6.1  
DATE: JANUARY 06, 2023

**LICENSEE: HENRY CARY (P327)**  
**PIF#: P327-0026-2022**

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EFFECTIVE SEPTEMBER 21, 2022, WOOD ENVIRONMENT &  
INFRASTRUCTURE SOLUTIONS CANADA LIMITED IS NOW  
OPERATING AS WSP E&I CANADA LIMITED. NO OTHER  
ASPECTS OF OUR LEGAL ENTITY, CONTRACTUAL TERMS OR  
CAPABILITIES HAVE CHANGED IN RELATION TO THIS REPORT  
SUBMISSION



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# SIGNATURES AND DISCLAIMERS

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# EXECUTIVE SUMMARY

WSP E&I Canada Limited (WSP; formerly Wood Environment & Infrastructure Solutions Canada Limited) was retained by the Regional Municipality of Niagara (the Region) to conduct a Stage 2 archaeological assessment as part of a Schedule C Municipal Class Environmental Assessment of proposed improvements to four segments of Regional Road 37 (Merritt Road) (the Project) in the Town of Pelham and the City of Thorold, Regional Municipality of Niagara, Ontario. The Study Area defined for this Stage 2 archaeological assessment is 800 metres (m) long and includes an unassumed section of the Merritt Road right-of-way (ROW) between Rice Road and Cataract Road (Segment 1), and variably from approximately 8-31 m on either side of the existing ROW centreline. Overall, the Study Area covers 1.98 hectares (ha). Historically, the Study Area was located within part of Lots 169, 170, 174, and 228 in the Township of Thorold, County of Welland (Appendix A: Figures 1-3). A development plan is provided in Appendix A: Figure 4.

Archaeological assessment for the Project was triggered by the *Environmental Assessment Act*, with Stage 2 archaeological assessment of the Study Area recommended in Wood's Stage 1 archaeological assessment for all four segments of the Project (Wood 2022). The Stage 2 archaeological assessment was conducted in accordance with the Ontario Ministry of Citizenship and Multiculturalism (MCM) 2011 *Standards and Guidelines for Consultant Archaeologists* (MCM 2011) under Project Information Form (PIF) number P327-0026-2022 (Stage 2) and reviewed by the Region prior to submission to the MCM (Supplementary Documentation, Section 1). In keeping with the Region's Indigenous engagement policies, representatives of the Mississaugas of the Credit First Nation (MCFN), Six Nations of the Grand River First Elected Council (SNGREC), and Haudenosaunee Development Institute (HDI) of the Haudenosaunee Confederacy of Chiefs Council (HCCC) were invited to participate in the field work and review the draft Stage 2 report (Supplementary Documentation, Section 2).

Fieldwork for the Stage 2 archaeological assessment between 20 June 2022 and 03 October 2022 determined that approximately 0.17 ha (8%) of the Study Area was exempt from Stage 2 test pit survey as it is permanently wet with no or low archaeological potential. Additionally, 0.06 ha (3%) was exempt from Stage 2 test pit survey due to disturbance caused by deep land alterations that would have severely damaged the integrity of any archaeological resources. A further 0.02 ha (1%) of the Study Area investigated with Stage 2 test pits placed at 10-m intervals also had evidence extensive and deep land alterations that would have severely damaged the integrity of any archaeological resources. No archaeological resources were found during Stage 2 test-pit survey at 5-m intervals in the remaining 1.73 ha (87%) of the Study Area (Appendix A: Figure 10).

Based on the results of the Stage 2 archaeological assessment of the Study Area, the following recommendation is made, subject to the conditions outlined below and in Section 6:

- 1 The Study Area requires no further archaeological assessment.

**The recommendation above is subject to review by the Ministry of Citizenship and Multiculturalism. No grading or other activities that may result in the destruction or disturbance of the Study Area is permitted until the Ministry of Citizenship and Multiculturalism has issued a letter indicating that this archaeological assessment is deemed compliant, and this report has been accepted into the *Ontario Public Register of Archaeological Reports*.**

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# 1 PROJECT CONTEXT

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## 1.1 DEVELOPMENT CONTEXT

WSP E&I Canada Limited (WSP; formerly Wood Environment & Infrastructure Solutions Canada Limited) was retained by the Regional Municipality of Niagara (the Region) to conduct a Stage 2 archaeological assessment as part of a Schedule C Municipal Class Environmental Assessment of proposed improvements to four segments of Regional Road 37 (Merritt Road) (the Project) in the Town of Pelham and the City of Thorold, Regional Municipality of Niagara, Ontario. The Study Area defined for this Stage 2 archaeological assessment is 800 metres (m) long and includes an unassumed section of the Merritt Road right-of-way (ROW) between Rice Road and Cataract Road (Segment 1), and variably from approximately 8-31 m on either side of the existing ROW centreline. Overall, the Study Area covers 1.98 hectares (ha). Historically, the Study Area was located within part of Lots 169, 170, 174, and 228 in the Township of Thorold, County of Welland (Appendix A: Figures 1-3). A development plan is provided in Appendix A: Figure 4.

Archaeological assessment for the Project was triggered by the *Environmental Assessment Act*, with Stage 2 archaeological assessment of the Study Area recommended in Wood's Stage 1 archaeological assessment for all four segments of the Project (Wood 2022). The Stage 2 archaeological assessment was conducted in accordance with the Ontario Ministry of Citizenship and Multiculturalism (MCM) 2011 *Standards and Guidelines for Consultant Archaeologists* (MCM 2011) under Project Information Form (PIF) number P327-0026-2022 and reviewed by the Region prior to submission to the MCM (Supplementary Documentation, Section 1). In keeping with the Region's Indigenous engagement policies, representatives of the Mississaugas of the Credit First Nation (MCFN), Six Nations of the Grand River First Elected Council (SNGREC), and Haudenosaunee Development Institute (HDI) of the Haudenosaunee Confederacy of Chiefs Council (HCCC) were invited to participate in the field work and review the draft Stage 2 report (Supplementary Documentation, Section 2).

This report presents the historical and archaeological context of the Study Area, results of the Stage 2 fieldwork, and recommendations for further assessment, where appropriate.

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## 1.2 SCOPE OF WORK

As defined in the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011:127), a Stage 2 archaeological assessment is a qualitative study that systematically documents and inventories all archaeological resources in a Study Area. Depending on the physical characteristics of a Study Area—such as nature and extent of ground cover, depth of potential archaeological resources, and degree of past land alterations—a Stage 2 archaeological assessment is conducted through pedestrian survey (systematic walking of ploughed fields) or test pit survey (hand excavating small pits at regular intervals).

The objectives of a Stage 2 archaeological assessment are to: 1) document all archaeological resources within a Study Area; 2) determine whether the Study Area contains archaeological resources requiring further assessment; and 3) recommend appropriate Stage 3 archaeological assessment strategies for any identified archaeological sites (MCM 2011:27).

For this Stage 2 archaeological assessment, WSP:

- Searched the *Ontario Archaeological Sites Database* for all registered archaeological sites within a 1-kilometre (km) radius of the Study Area;
- Searched the MCM *Ontario Public Register of Archaeological Reports* for reports that detail archaeological assessments conducted within a 50-metre (m) radius of the Study Area;
- Reviewed the results of the Stage 1 archaeological assessment (Wood 2022) and traced the Study Area's land use and occupation history;
- Engaged MCFN, SNGREC, and HDI to participate in the fieldwork and review the recommendations made in the Stage 2 archaeological assessment report;

- Conducted a property survey of the entire Study Area to identify areas that may be exempt from further Stage 2 assessment per Section 2.1 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011:127);
- Conducted test pit survey at standard 5-m intervals and judgemental 10-m intervals of areas of archaeological potential in the Study Area where ploughing is not possible or feasible per Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011:127);
- Mapped and photographed the Study Area and produced other graphics to support Stage 2 archaeological assessment of the Study Area;
- Processed and analysed the recovered artifacts, if any; and,
- Prepared a Stage 2 report of findings with recommendations regarding the need for further archaeological work, if deemed necessary.

Sites discovered during a Stage 2 assessment that are determined to have cultural heritage value or interest (CHVI) may be recommended for a Stage 3 archaeological assessment.



## 2 HISTORICAL CONTEXT

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### 2.1 A CULTURAL HISTORY FOR SOUTHERN ONTARIO

The following is a brief summary of southern Ontario's cultural history as understood by archaeologists (see Table 2.1).

The cultural history of southern Ontario began approximately 11,000 years ago when the glaciers had melted, and the land was re-exposed. The land was quickly settled by bands of hunters and gatherers who are thought to have been large game hunters. These people used large spear points that are distinctively shaped with long central grooves, called "flutes". Archaeologists have defined a number of point types that date to this time, including Gainey, Barnes, Crowfield, and Hi-Lo types. This period is referred to as the Paleo Period and it is thought to have lasted until approximately 9,000 years ago (Storck 2004).

After 9,500 years ago, there was a long period when the climate was variable and the bare lands left by the glaciers were becoming re-forested, resulting in patchier, more diverse ecozones. During this time, which lasted until 3,000 years ago, people were adapting to diverse environmental settings. There appears to have been more reliance on local stone for making tools and more variable tool manufacturing technologies. The adoption of a spear-throwing board, known as an atlatl, was an important innovation, resulting in the ability to throw smaller darts with more force. Projectile points from this period, called the Archaic Period, are commonly side or corner-notched and are smaller than those of the preceding period. The Archaic adaptation is generally thought to have centered on localized resources, often forest resources, and groups of people are thought to have been less mobile, an adaptation that continued to develop until the arrival of Europeans (Ellis *et al.* 2009).

In southern Ontario, the Archaic Period is divided into the Early, Middle and Late Archaic. Early point types include serrated Nettling and Bifurcate Base points. Middle types include Brewerton Corner Notched and Otter Creek, and Late types include Lamoka, Genesee, Crawford Knoll, and Innes. Most of these point types are named after archaeological sites where they were first identified (Ellis *et al.* 2009).

The Archaic Period is followed by the Woodland Period. The major technological change in the Early Woodland Period is the introduction of pottery. During this time, people are thought to have developed more community organization and the manufacture of clay pottery is thought to indicate less residential mobility. Burial sites dating to this time often display evidence of ceremonial activities. Projectile points made at this time include much smaller types, probably used as arrow tips. Point types include Meadowood and Kramer and early ceramics were rudimentary vessels with conoidal (pointed) bases. The Early Woodland Period transitioned into the Middle Woodland Period approximately 2,400 years ago (Ferris & Spence 1995).

During the Middle Woodland Period in southern Ontario community and kin identity became more deeply entrenched, and more sedentary communities developed. Point types made at this time include Saugeen, Vanport, and Snyders. Ceramic vessels were conoidal in shape but were decorated with stamped designs in the soft clay. The Middle Woodland Period transitioned into the Late Woodland Period A.D. 500–900 with the earliest direct evidence for agriculture (Ferris & Spence 1995).

The Late Woodland Period saw the development of recognizable Nadouek (Iroquoian) and Anishinaabeg (Algonquian) cultures in southern Ontario, characterized by the intensification of agriculture and the increased utilization of corn. Greater sedentism led to increasing settlement populations and greater complexity of settlement organization. Sites dating to this time are often found on terraces overlooking the floodplains of large rivers, though are also found near smaller watercourses. Nadouek villages tended to be small, palisaded compounds with longhouses occupied by families. As the Late Woodland Period progressed, more intercommunity communication and integration became necessary to maintain the sedentary agricultural way of life. Nadouek villages around Lake Ontario expanded and had thicker perimeter defences, while inside the walls the longhouses increased in length. In the far southwest of the province, people ancestral to the Anishnaabe and following the Western Basin way of life were more mobile, moving with seasonally available resources. However, at the borderlands of the Nadouek and Western Basin were agricultural communities living in small, palisaded villages with a mix of small and large houses, and who were both farming and seasonally mobile. Through the Late Woodland period the borderlands shifted further east, and Western Basin settlements became larger and more permanent (Sioui 1999; Ferris 2013:110-111).

When French explorers, missionaries, and fur traders arrived in southern Ontario in the early 17th century, they met diverse communities across the Great Lakes region, such as the nations of the Nadouek Wendat (Huron), Attawandaron (Neutral), Tionnontaté or Khionontateronon (Petun), and Haudenosaunee (Six Nations), and Anishnaabe Ojibwe, Odawa, Nipissing, and Algonquin. Contact with Europeans disrupted the traditional Indigenous political dynamics, allegiances, and ways of life at different times and to varying degrees throughout Ontario. Indigenous peoples first acquired European goods indirectly through existing exchange networks, then accessed a wide range of materials through direct trade as European influence expanded. Sites from this transitional period can be difficult to discern from later post-contact occupations, and the introduction of European goods may not have triggered significant social change in Indigenous communities. As European colonization has intensified from the 18th century onwards, Indigenous ways of life have adapted to change in complex and varied ways (Ferris 2009).

**Table 2.1 Simplified cultural chronology for southern Ontario**

PERIOD	COMPLEXES/ CULTURES & DIAGNOSTIC ARTIFACTS
<b>Early Paleo-Period (9000–8500 B.C.)</b>	Small nomadic hunter-gatherer bands. Early Paleo-Period rarely found in eastern Ontario. Gainey, Barnes, Crowfield fluted points.
<b>Late Paleo-Period (8500–7500 B.C.)</b>	Small nomadic hunter-gatherer bands. Hi-Lo, Holcombe points, Lanceolate Bifaces.
<b>Early Archaic (7500–6000/4500 B.C.)</b>	Small nomadic hunter-gatherer bands. Nettling, Stanley/Neville points.
<b>Middle Archaic (6000/4500–2500 B.C.)</b>	Transition to territorial settlements. Seasonal round of subsistence introduced. Thebes (6000–5000 B.C.), Otter Creek points (4500–3000 B.C.). <b>Brewerton Complex (3000–2500 B.C.)</b> . Brewerton points. <b>Laurentian Complex (6000–2500 B.C.)</b> (Eastern Ontario)
<b>Late Archaic (2500–1000 B.C.)</b>	More numerous territorial hunter-gatherer bands, increasing use of exotic materials and artistic items for grave offerings, regional trade networks. <b>Narrowpoint Complex (2500–1850 B.C.)</b> . Lamoka points. <b>Broadpoint Complex (1850–1650 B.C.)</b> . Adder Orchard, Genesee points. <b>Smallpoint Complex (1650–1000 B.C.)</b> . Crawford Knoll, Innes points. <b>Terminal Archaic (1100–1000 B.C.)</b> . Glacial Kame Complex. Hind points.
<b>Early Woodland (1000–400 B.C.)</b>	Pottery introduced. Meadowood Notched points, Meadowood Cache Blades, Kramer, Adena points. <b>Meadowood Complex (1000–400 B.C.)</b> . <b>Middlesex Complex (650–400 B.C.)</b> . Introduction of true cemeteries.
<b>Middle Woodland (400 B.C.–A.D. 500/900)</b>	Saugeen, Snyders, Vanport, Port Maitland points. <b>Point Peninsula Complex</b> (Southcentral and eastern Ontario) <b>Saugeen Complex</b> (Southeast of Lake Huron and the Bruce Peninsula, London area, and possibly as far east as the Grand River) <b>Couture Complex</b> (Lake St. Clair and the western end of Lake Erie). Burial ceremonialism.

PERIOD	COMPLEXES/ CULTURES & DIAGNOSTIC ARTIFACTS
<b>Transitional Woodland (A.D. 500–900)</b>	<p>Agriculture introduced. Levanna, Jacks Reef points.</p> <p><b>Princess Point Complex</b> (Eastern end of Lake Erie and the western end of Lake Ontario).</p> <p><b>Rivière au Vase Phase of the Younger / Western Basin Tradition</b> (Lake St. Clair and western end of Lake Erie)</p> <p><b>Sandbanks Complex</b> (Kingston area).</p>
<b>Late Woodland (A.D. 900–1650)</b>	<p>Tribal differentiation. Transition to settled village life. Dewaele, Glen Meyer Tanged, Triangular Nanticoke, Notched Nanticoke, Triangular Daniels/Madison points.</p> <p><b>Ontario Iroquoian and St. Lawrence Iroquoian Traditions</b> (Southcentral and eastern Ontario, respectively).</p> <p><b>Algonkian Western Basin Tradition</b> (Lake St. Clair and the western end of Lake Erie).</p>
<b>Early Post-Contact (A.D. 1650–1763)</b>	Iroquoian and Algonkian migrations and resettlement during the French colonial regime in New France.
<b>Late Post-Contact (A.D. 1763–1867)</b>	Iroquoian and Algonkian migrations and resettlement during the British colonial regime in British North America.

## 2.2 POST-CONTACT HISTORY

At contact with Europeans in the 16<sup>th</sup> century, the area was home to communities of Attawandaron (Neutral Confederacy) (Lennox & Fitzgerald 1990:411). With the dispersal of the Attawandaron in 1650, the area fell within the Haudenosaunee Confederacy (then Five Nations) hunting territories, then incorporated into the territories of the Mississauga Anishinaabe by the 1690s (MCFN n.d:3). In 1792, it was part of the Between the Lakes Purchase or Treaty No. 3, a massive land acquisition by the British Crown to compensate the Haudenosaunee Confederacy (Six Nations) and United Empire Loyalists (UEL) for their losses during the American War of Independence (MCFN 2017; Hill 2017:150).

The Township of Thorold in the County of Welland was formed in 1798 and the area was laid out in 100 acre lots by surveyor Augustus Jones. Originally called Township Number 9, in 1793 it was named for Sir John Thorold, Member of Parliament for Lincolnshire, England (Rayburn 1997:342). The first communities in the Township were located several kilometres north of the Study Area and included St. Johns, Beaverdams, and DeCew Falls. In 1829, after the opening of the First Welland Canal, the original settlements began to fall into decline as the new canal villages of Thorold, Allanburg, and Port Robinson became the preference (Jackson 1997). The community of Thorold soon became dominant in the area and was incorporated as a village in 1850 and as a Town in 1870. When the Regional Municipality of Niagara was formed in 1970, the Town of Thorold expanded to include the entire township. In 1975, Thorold achieved the status of City.

The Study Area is located along the road allowance for Merritt Road and includes small parts of Lots 169, 170, 174, and 228, Township of Thorold. Table 2.4 lists the features illustrated in each lot in the 1862 *Tremaine's Map of the Counties of Lincoln and Welland, Canada West* (G.R. & G.M. Tremaine 1862; Appendix A: Figure 6) and 1876 *Illustrated Historical Atlas of the Counties of Lincoln and Welland, Ontario* (H.R. Page & Co 1876; Appendix A: Figure 7). Neither map depicts structures or other features within the Study Area or within 50 m of the Study Area.

**Table 2.2 Overview of historic mapping relevant to the Study Area.**

LOT NO.	MAP YEAR AND FEATURES
169	<ul style="list-style-type: none"> <li>— 1862: Owned by Jacob Damude. No structures or other features are depicted within the lot. Merritt Road forms the south border of the lot.</li> <li>— 1876: Owned by Jacob Damude one structure and an orchard are depicted fronting the north side of the lot, while a second structure is depicted within the centre-north of the lot.</li> </ul>
170	<ul style="list-style-type: none"> <li>— 1862: Lot is divided into two with a small parcel at the northwest owned by G. Hill and the larger parcel adjacent to the Study Area owned by G.A. &amp; J.C. Hill. No structures or historic features are depicted within the lot.</li> <li>— 1876: West half is owned by G.A. Hill and east half by J.C. Hill. Several structures and an orchard are depicted on the northern section of the parcels.</li> </ul>
174	<ul style="list-style-type: none"> <li>— 1862: Lot is divided with the west half owned by Levi Page and the east half by R.S. Garner. No structures depicted in either lot.</li> <li>— 1876: West half is owned by A.N. Page and east half by R.R. Garner. A structure and orchard are depicted in the south portion of both parcels.</li> </ul>
228	<ul style="list-style-type: none"> <li>— 1862: Lot is owned by Orin Bemiss. No structures or other features are depicted within the lot.</li> <li>— 1876: Orin Bemiss is again listed as owner. A structure with orchard is depicted in the south portion of the lot.</li> </ul>

Although shown as an unmetalled road in the 1906 National Topographic System (NTS) mapping, the Study Area by 1938 is noted as a “wagon or unused” roadway (Appendix A: Figure 8). A small bridge is depicted on the 1906 map where where a culvert is located today. Like the 1938 NTS map, a 1934 aerial photograph indicates that except for wooded area in the centre of the Study Area, much of the surrounding land was under cultivation (Appendix A: Figure 9). By 1965, however, vegetation had been allowed to expand to cover the east half of the Study Area. The 1979 NTS sheet shows a similar extent of vegetation as well as the presence of wetland in the central portion of the Study Area. An even greater extent of vegetation can be seen in a 1994 aerial photograph, conditions that are similar to those in the Study Area today.



## 3 ARCHAEOLOGICAL CONTEXT

### 3.1 ENVIRONMENTAL CONTEXT

The Study Area is situated in the Haldimand Clay Plain physiographic region of Ontario (Chapman and Putnam 1984:113, 156-159). Lying between the Niagara Escarpment and Lake Erie, the Haldimand Clay Plain covers approximately 3,496 square kilometres and made up of a series of parallel belts that were once submerged under Glacial Lake Warren. The main part of the former Welland County is characterized by level topography and poor drainage and several square miles are covered in peat bogs.

Located on the northern part of the Haldimand Clay Plain, on higher ground adjoining the Niagara Escarpment, where several recessional moraines extend north to south, the Study Area sits on the sand and gravel hill of the Fonthill vicinity, a large glacial kame feature that is associated with the Niagara Falls Moraine. The light soils of the area contrast with the heavy boulder clay of the moraine proper and the imperfectly drained clay loams to the south (Chapman and Putnam 1984:52, 157-159). The Study Area is comprised of Toledo–Loamy Phase soils; the Toledo soils are poorly-drained with near-surface level groundwater for the majority of the year, and the Loamy Phase is 15–40 cm of loamy sediments overlying clayey subsoil (Kingston and Presant 1989).

The Study Area is located within the Lower Welland River watershed and traverses the provincially significant Niagara Street–Cataract Road Woodlots Wetland Complex (Appendix A: Figure 3). The wetland includes several small ponds connected and drained by an unnamed intermittent stream that ultimately flows into the Welland Canal. Prior to the canal’s construction, the wetland complex would have drained into the Welland River.

### 3.2 REGISTERED ARCHAEOLOGICAL SITES

To register archaeological sites in the *Ontario Archaeological Sites Database*, the MCM uses the “Borden system” developed by University of British Columbia archaeologist Charles Borden in 1952 (Borden 1952). The Borden system divides Canada into grid blocks based on longitude and latitude, with each Borden block measuring approximately 13 km east-west by approximately 18.5 km north-south. Each Borden block is referenced with a four-letter designation, with sites found within each block numbered sequentially as they are registered. The Study Area is located within the *AgGt* Borden block.

A search of the *Ontario Archaeological Sites Database* (MCM 2022a) identified 21 sites that have been registered within 1 km of the Study Area. No sites are located within 300 m of the Study Area. Table 2.2 provides a summary of these registered sites and includes sites later determined to be more than one kilometer from the Study Area.

**Table 2.1. Registered archaeological sites within 1 km of the Study Area**

BORDEN NUMBER	SITE NAME	CULTURAL AFFILIATION	SITE TYPE	DISTANCE FROM STUDY AREA	DEVELOPMENT REVIEW STATUS
AgGt-83	Round	Post-Contact Euro-Canadian	Homestead	>1 km	-
AgGt-162	-	Post-Contact Euro-Canadian	House	>300 m	-
AgGt-163	-	Post-Contact	House / Scatter	>300 m	-
AgGt-164	-	Pre-Contact	Scatter	>300 m	-
AgGt-165	-	Pre-Contact	Scatter	>300 m	-
AgGt-166	-	Pre-Contact	Scatter	>300 m	-

BORDEN NUMBER	SITE NAME	CULTURAL AFFILIATION	SITE TYPE	DISTANCE FROM STUDY AREA	DEVELOPMENT REVIEW STATUS
AgGt-168	-	Euro-Canadian	House	>300 m	Further Cultural Heritage Value or Interest (CHVI)
AgGt-169	-	Pre-Contact	Scatter	>300 m	No Further CHVI
AgGt-170	-	Late Archaic (Adder Orchard)	Unknown	>300 m	No Further CHVI
AgGt-200	-	Pre-Contact	-	>300 m	-
AgGt-201	-	Pre-Contact Post-Contact	TBD, Campsite	>300 m	-
AgGt-203	P8	Paleo-Indian (Hi-Lo)	Findspot	>300 m	No Further CHVI
AgGt-214	-	Post-Contact Euro- Canadian	Agricultural	>300 m	No Further CHVI
AgGt-216	-	Late Archaic (Crawford Knoll)	Campsite	>300 m	No Further CHVI
AgGt-217	-	Middle Archaic (Brewerton)	Campsite	>300 m	No Further CHVI
AgGt-219	P1	Pre-Contact	Scatter	>300 m	No Further CHVI
AgGt-227	Location 1	Pre-Contact	Campsite	>1 km	No Further CHVI
AgGt-228	Location 2	Post-Contact Euro- Canadian	Homestead	>1 km	No Further CHVI
AgGt-229	Location 3	Pre-Contact	Scatter	>1 km	No Further CHVI
AgGt-230	Location 4	Post-Contact Euro- Canadian	Homestead	>300 m	Further CHVI
AgGt-249	-	Post-Contact Euro- Canadian	Homestead	>1 km	No Further CHVI
AgGt-256	-	Middle Archaic (Brewerton) Late Archaic (Crawford Knoll)	Campsite	>1 km	No Further CHVI
AgGt-257	-	Pre-Contact	Campsite	>1 km	No Further CHVI
AgGt-258	-	Lake Archaic (Broad Point)	Unknown	>1 km	No Further CHVI
AgGt-262	Rice 1	Pre-Contact	Unknown	>300 m	Further CHVI
AgGt-263	Rice 2	Pre-Contact	Unknown	>300 m	No Further CHVI
AgGt-269	-	Post-Contact Euro- Canadian	Residential	>1 km	No Further CHVI
AgGt-288	Location 1	Indigenous (Paleo- Indian; Early Archaic; Middle Archaic; Woodland); Post-Contact	Campsite; Scatter; Findspot; Dump	>300 m	Further CHVI
AgGt-289	Location 2	Indigenous; Euro- Canadian (19 <sup>th</sup> Century)	Scatter	>300 m	No Further CHVI

BORDEN NUMBER	SITE NAME	CULTURAL AFFILIATION	SITE TYPE	DISTANCE FROM STUDY AREA	DEVELOPMENT REVIEW STATUS
AgGt-290	Location 3	Indigenous	Findspot	>300 m	Further CHVI

### 3.3 PREVIOUS ARCHAEOLOGICAL ASSESSMENTS

WSP's search of the *Ontario Public Register of Archaeological Reports* administered by the MCM determined that one archaeological assessment has been conducted within the Study Area (MCM 2022b) (Table 2.3 and Appendix A: Figure 5). A description the report and its conclusions and recommendations are provided below.

**Table 2.2 Archaeological assessments detailing work conducted within the Study Area**

YEAR	TITLE	AUTHOR	PIF NO.
2022	Stage 1 Archaeological Assessment in Support of a Schedule C Municipal Class Environmental Assessment and Detailed Transportation Assessment for Portions of Regional Road 37 (Merritt Road) and Regional Road 54 (Rice Road), Lots 169 to 171, 174 and 175, 216 to 221, 223 to 228, and 234 and 235, in the Town of Pelham, the City of Thorold and the City of Welland, County of Welland, Regional Municipality of Niagara, Ontario.	Wood	P354-0062-2021

- Stage 1 Archaeological Assessment in Support of a Schedule C Municipal Class Environmental Assessment and Detailed Transportation Assessment for Portions of Regional Road 37 (Merritt Road) and Regional Road 54 (Rice Road), Lots 169 to 171, 174 and 175, 216 to 221, 223 to 228, and 234 and 235, in the Town of Pelham, the City of Thorold and the City of Welland, County of Welland, Regional Municipality of Niagara, Ontario. Prepared by Wood Environment and Infrastructure Solutions Canada Limited for The Regional Municipality of Niagara, 4 February 2022. Proj. No. IM20103036, PIF P354-0062-2021.

In 2021, Wood was retained by Niagara Region to conduct a Stage 1 archaeological assessment prior to proposed upgrades of Merritt Road and Regional Road 54 (Rice Road). Wood assessed four segments of Merritt Road ROW and a buffer of 50-m wide on both sides of the road centreline and concluded that these segments had general archaeological potential due to the proximity of several watercourses, early transportation corridors, and known archaeological sites. For Segment 1, which corresponds to the current Study Area, Wood recommended Stage 2 archaeological assessment through a combination of test pit survey at 5-m intervals and pedestrian survey at 5-m intervals (Wood 2022: 24). Based on these results, the area for Stage 2 archaeological assessment was later refined to remove the area recommended for pedestrian survey and only include the portion for Stage 2 test pit survey.

# 4 STAGE 2 PROPERTY ASSESSMENT

## 4.1 METHODS

Following Section 2.1 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011), Stage 2 property survey of the entire Study Area, including lands immediately adjacent to built structures and permanently wet areas, was conducted to systematically document and inventory all archaeological resources and identify areas that may be exempt from test pit survey. WSP Archaeology Project Manager Dr. Jordan Downey (P308) directed all fieldwork in the Study Area from 20-28 June 2022 and 03 October 2022. The Region provided advance permission-to-enter, which extended to the recovery and removal of artifacts as required.

In keeping with Niagara Region's ongoing Indigenous engagement process, on 16 June 2022, WSP invited the Indigenous Nations of MCFN, SNGREC, and HDI to participate in the Stage 2 fieldwork (Supplementary Documentation, Section 2). The MCFN and SNGREC provided field liaisons.

Weather during the fieldwork was optimal, with lighting conditions that permitted good visibility of land features, as required per Section 2.1 Standard 3 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011). A daily log for each day of fieldwork listing the supervising field director and weather conditions is provided in Table 4.1.

**Table 4.1 Weather conditions for each day of fieldwork**

DATE	WEATHER SUMMARY	FIELD DIRECTOR
20 June 2022	Cloudy, 24°C	Jordan Downey (P308)
22 June 2022	Clear, 31°C	Jordan Downey (P308)
23 June 2022	Clear, 28°C	Jordan Downey (P308)
24 June 2022	Clear, 28°C	Jordan Downey (P308)
27 June 2022	Clear, 22°C	Jordan Downey (P308)
28 June 2022	Clear, 23°C	Jordan Downey (P308)
3 October 2022	Clear, 16°C	Jordan Downey (P308)

The Stage 2 fieldwork complied with the general and specific standards for property survey and test pit survey outlined in Section 2.1 and 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011). Since the study area is terrain where ploughing is not possible or viable, the fieldwork involved shovel test pit survey. Test pits were a minimum of 30 centimetres (cm) in diameter and dug into the first 5 cm of subsoil. Soils and sediments excavated from each test pit were screened through a six-millimetre wire mesh screen to maximize the potential for artifact recovery; artifacts, if recovered, were retained and catalogued by their associated test pit. Test pit profiles were examined for cultural deposits prior to being backfilled to level grade, and any sod caps were replaced and tamped down by foot. Test pits were advanced to within 1 m of built structures, disturbances, or buried utilities.

Test-pit survey using professional judgement was also conducted after encountering evidence of extensive and deep land alteration. In these areas, the test-pit interval was increased to 10 m to confirm the extent of ground disturbance.

The supervising field director documented the fieldwork, archaeological findings, conditions that affected the field strategy or identification of artifacts or cultural features, and unusual or challenging situations through written notes and logs, maps, and photographs. Per Section 2.1 Standard 2 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011), portions of the study area evaluated to have no or low archaeological potential due to permanent water saturation, exposed bedrock, steep slopes, or extensive and deep land alterations were not subjected to Stage 2 survey but were photo-documented and mapped as per Section 7.8.1 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011).



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## 4.2 RECORD OF FINDS

The Study Area is primarily green lane bordered by heavy vegetation growth (Appendix B: Photographs 1-4). The eastern 525 m of the Study Area is situated within the Niagara Street–Cataract Road Woodlots Wetland Complex that consists of tall marsh grasses, trees, and ponds and saturated areas (Appendix B: Photographs 5-6).

Approximately 0.17 (8%) of the Study Area was observed to be permanently wet and evaluated to be exempt from Stage 2 test pit survey (Appendix A: Figure 10; Appendix B: Photographs 5-6, 11). A further 0.02 ha (1%) of the Study Area was determined through test pit survey at 10-m intervals to have been previously disturbed during construction of the green lane and associated accesses at Rice Road and Cataract Road (Appendix A: Figure 10; Appendix B: Photographs 3 and 14). Test pits within these portions of the Study Area encountered gravel surfacing over a fill of mottled sandy loam with gravel inclusions that extended to 15 cm below ground surface. Directly beneath this fill was a subsoil of buff-brown clay. Other evidence of recent ground disturbance include a hydro line that runs along the north side of the Study Area, and a long, shallow ditch runs through the centre and centre-east portions of Study Area; this ditch was evaluated as disturbed and comprised 0.06 ha or 3% of the Study Area (Appendix A: Figure 10; Appendix B: Photograph 7).

Stage 2 test pit survey at 5 m intervals in the remaining 1.73 ha (87%) of the Study Area exposed a medium-brown clay loam to sandy loam topsoil that varied in depth from 20 to 35 cm (Appendix B: Photograph 8 to 12). This capped subsoil that was buff brown clay except within the wetland complex, where it was yellow-brown, orange-brown, or grey in colour and had a higher sand content. In some cases, ground water was encountered at 20 cm below surface (Photograph 11).

No artifacts or other archaeological resources were recovered during the Stage 2 assessment.

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## 4.3 DOCUMENTARY RECORD

The inventory of documentary records compiled for this assessment is provided in Table 3.3.

**Table 3.2**      **Inventory of Documentary Record**

ARCHIVE LOCATION	MAP AND PHOTO(S)	FIELD NOTES
WSP E&I Canada Limited 3450 Harvester Road, Suite 100, Burlington, Ontario, L7N 3W5	Copies of five historical maps, three historical aerial images, and 64 Stage 2 photographs	Seven pages of Stage 2 field notes and photo log.

Documentation related to this archaeological assessment will be curated by WSP until such time that arrangements for their ultimate transfer to His Majesty the King in right of Ontario, or other public institution, can be made to the satisfaction of the project owner, the MCM and any other legitimate interest groups.

## 5 ANALYSIS AND CONCLUSIONS

Stage 1 archaeological assessment for the Project concluded that the Study Area had potential for Indigenous and post-contact archaeological resources due to its proximity to registered archaeological sites, water sources and historical transportation and recommended Stage 2 test pit survey (Wood 2022: 26).

Despite this general archaeological potential, Stage 2 archaeological assessment determined there are no archaeological resources within the 1.98 ha Study Area. Approximately 0.17 ha (8%) of the Study Area was evaluated as permanently wet with no archaeological potential while 0.06 ha (3%) of the Study Area was determined to have been subjected to extensive and deep land disturbance and an additional 0.02 ha (1%) was found to be disturbed during test pit survey and subjected to judgmental survey. No artifacts or other archaeological resources were found during test pit survey in the remaining 1.73 ha (87%) of the Study Area.

## 6 RECOMMENDATIONS

Based on the results of the Stage 2 archaeological assessment of the Study Area, the following recommendation is made, subject to the conditions outlined in Section 6:

- 1 The Study Area requires no further archaeological assessment.

**The recommendation above is subject to review by the Ministry of Citizenship and Multiculturalism. No grading or other activities that may result in the destruction or disturbance of the Study Area is permitted until the Ministry of Citizenship and Multiculturalism has issued a letter indicating that this archaeological assessment is deemed compliant, and this report has been accepted into the *Ontario Public Register of Archaeological Reports*.**

## 7 ADVICE ON COMPLIANCE WITH LEGISLATION

- a. This report is submitted to the Ministry of Citizenship and Multiculturalism as a condition of licensing in accordance with Part IV of the *Ontario Heritage Act*, R.S.O. 1990, c O.18 (Government of Ontario 1990). The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection, and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Citizenship and Multiculturalism, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.
- b. 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 a time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the *Ontario Public Register of Archaeological Reports* referred to in Section 65.1 of the *Ontario Heritage Act*.
- c. Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.
- d. The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the local police or coroner and the Registrar, *Funeral, Burial and Cremation Services Act* at the Ministry of Public and Business Service Delivery.

## 8 ASSESSOR QUALIFICATIONS

The qualifications of the assessors involved in the preparation of this report are provided in Appendix C.

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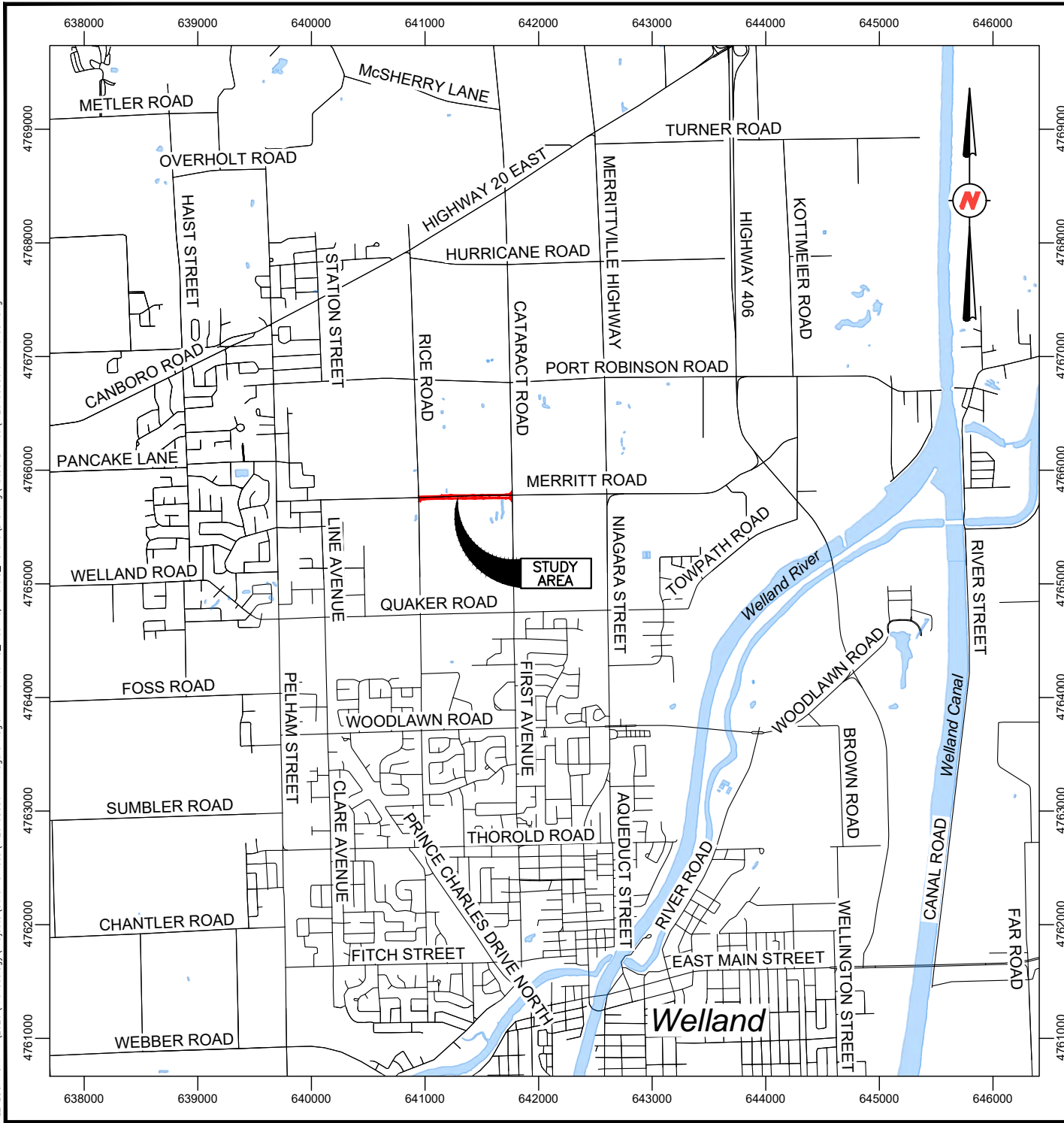


# APPENDIX

## A FIGURES



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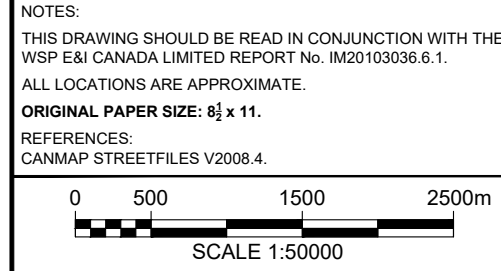


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AND DETAILED TRANSPORTATION ASSESSMENT  
RIGHT-OF-WAY AND PART OF LOTS 169, 170, 174 AND 228  
THOROLD TOWNSHIP, WELLAND COUNTY  
NOW TOWN OF PELHAM AND CITY OF THOROLD  
REGIONAL MUNICIPALITY OF NIAGARA, ONTARIO

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LOCATION OF THE STUDY AREA

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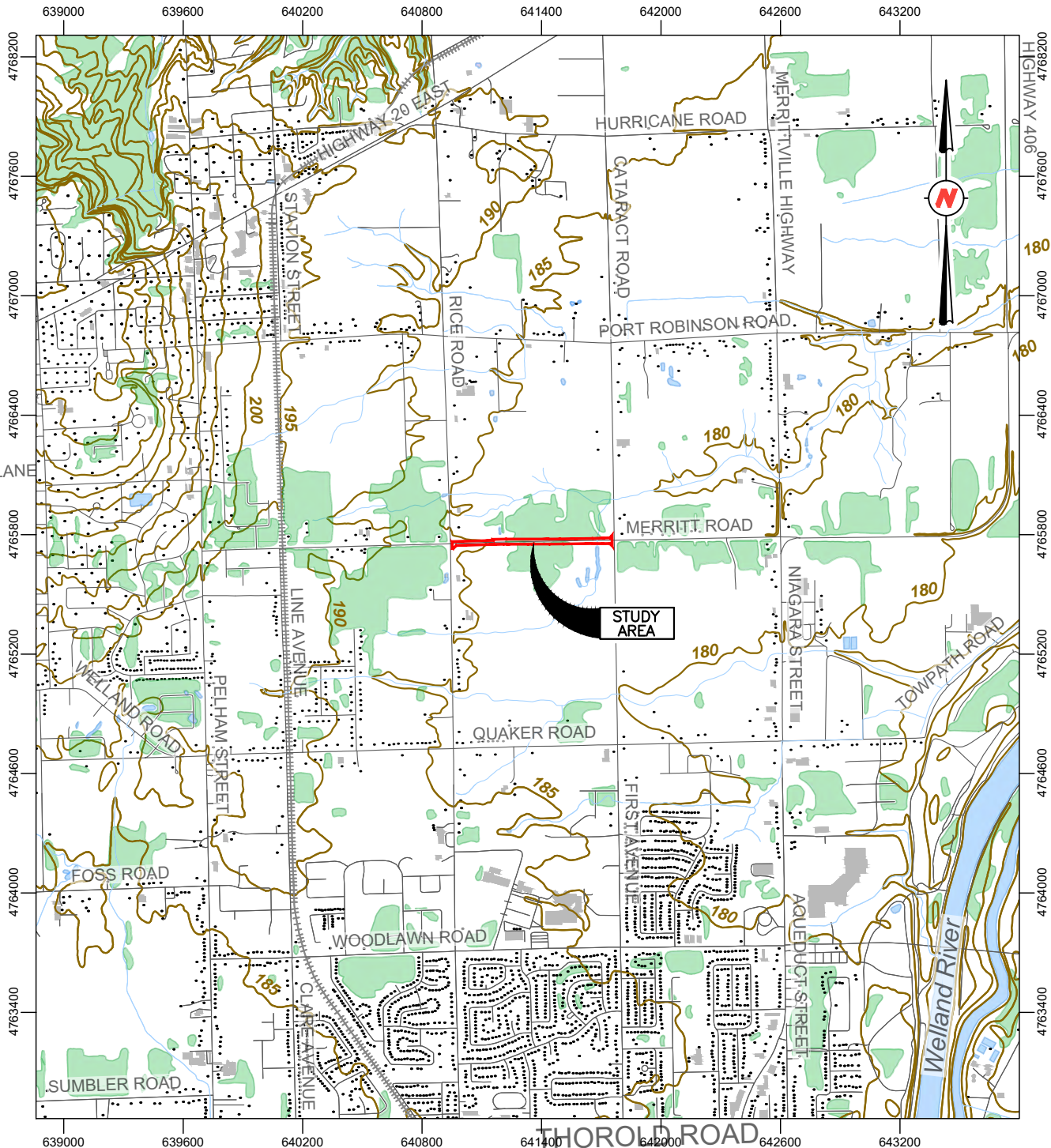
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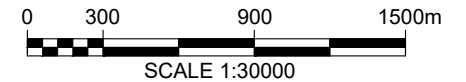
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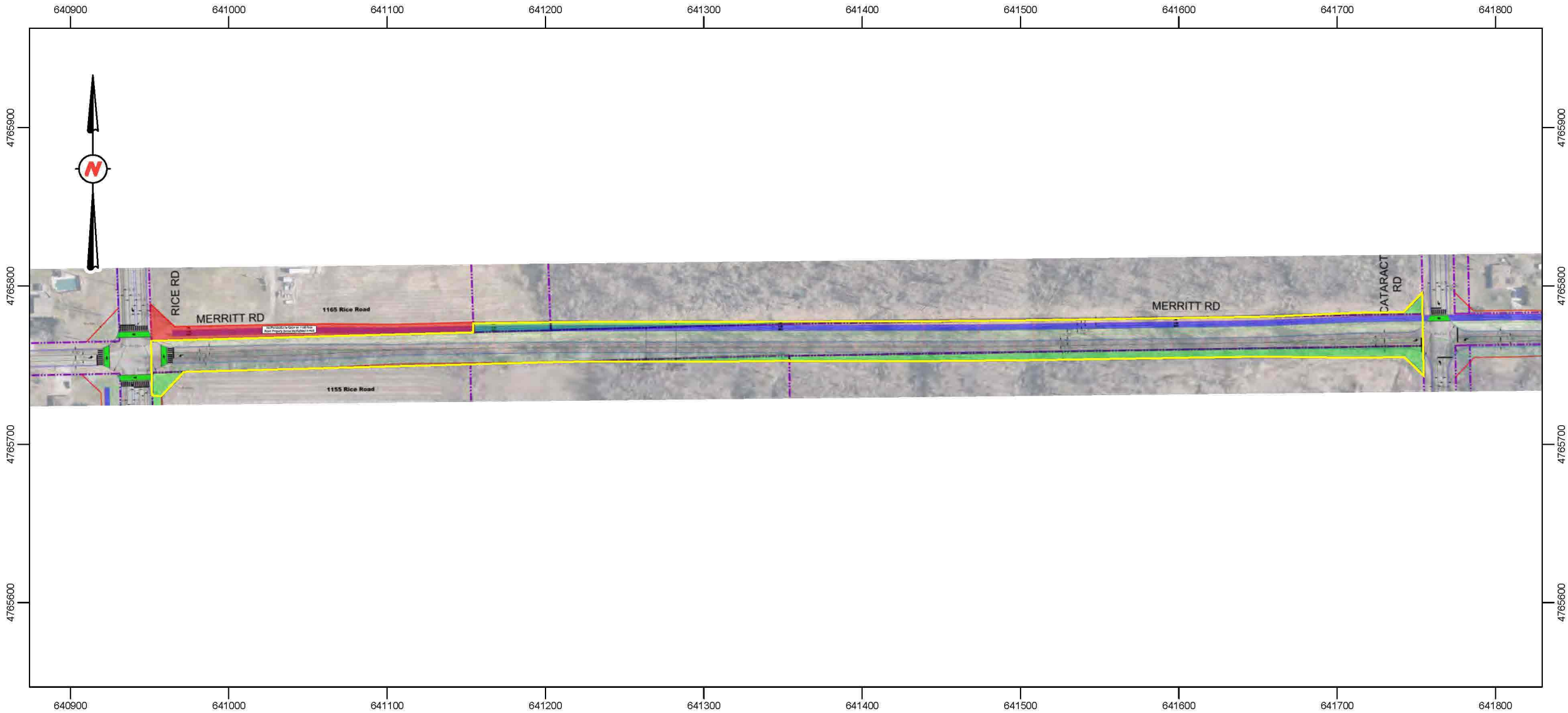


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REGIONAL ROAD 37 (MERRITT ROAD) IMPROVEMENTS  
SCHEDULE C MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT  
AND DETAILED TRANSPORTATION ASSESSMENT  
RIGHT-OF-WAY AND PART OF LOTS 169, 170, 174 AND 228  
THOROLD TOWNSHIP, WELLAND COUNTY  
NOW TOWN OF PELHAM AND CITY OF THOROLD  
REGIONAL MUNICIPALITY OF NIAGARA, ONTARIO

TITLE:  
**DEVELOPMENT PLAN SHOWING  
THE LOCATION OF THE STUDY AREA**

LEGEND:

- STUDY AREA
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- PROPERTY TAKING
- PROPOSED SIDEWALK
- PROPOSED BIKE PATH
- PROPOSED BUFFER STRIP
- PROPOSED GRASS
- PROPOSED ROAD
- PROPOSED MEDIAN
- EXISTING CENTERLINE OF ROAD
- PROPOSED CENTERLINE OF ROAD

NOTES:  
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE  
WSP E&I CANADA LIMITED REPORT No. IM20103036.6.1.  
ALL LOCATIONS ARE APPROXIMATE.  
**ORIGINAL PAPER SIZE: 11 x 17.**  
REFERENCES:  
WOOD, "MERRITT ROAD (SEGMENT 1), REGION OF NIAGARA,  
PLAN AND PROFILE", CONSULTANT FILE No. IM20103036,  
DRAWING No. 1, 2021-11-19; CANMAP STREETFILES V2008.4.

03090150m

SCALE 1:3000

**Niagara Region**  
1815 SIR ISAAC BROCK WAY, P.O. BOX 1042  
THOROLD, ONTARIO, L2V 4T7

**WSP**  
**E&I Canada Limited**  
3450 HARVESTER ROAD, SUITE 100  
BURLINGTON, ONTARIO, L7N 3W5  
905-335-2353

DWN BY: SJL	CHK'D BY: JD	DATE: NOV. 18, 2022
DATUM: NAD83	PROJECTION: UTM Zone 17	PROJECT No: IM20103036.6.1
REV No: 0		FIGURE No: 4



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PROJECT: STAGE 2 ARCHAEOLOGICAL ASSESSMENT  
REGIONAL ROAD 37 (MERRITT ROAD) IMPROVEMENTS  
SCHEDULE C MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT  
AND DETAILED TRANSPORTATION ASSESSMENT  
RIGHT-OF-WAY AND PART OF LOTS 169, 170, 174 AND 228  
THOROLD TOWNSHIP, WELLAND COUNTY  
NOW TOWN OF PELHAM AND CITY OF THOROLD  
REGIONAL MUNICIPALITY OF NIAGARA, ONTARIO

TITLE: PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS WITHIN THE STUDY AREA AND WITHIN 50m OF THE STUDY AREA

LEGEND:

- STUDY AREA
- STAGE 1 ARCHAEOLOGICAL ASSESSMENT (PIF P354-0062-2021; WOOD, 2022); STAGE 2 AA RECOMMENDED WITHIN THE CURRENT STUDY AREA

NOTES:

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE WSP E&I CANADA LIMITED REPORT No. IM20103036.6.1.

ALL LOCATIONS ARE APPROXIMATE.

ORIGINAL PAPER SIZE: 11 x 17.

REFERENCES:

2018 AERIAL PHOTOGRAPHS BY THE REGION OF NIAGARA;  
CANMAP STREETFILES V2008.4.

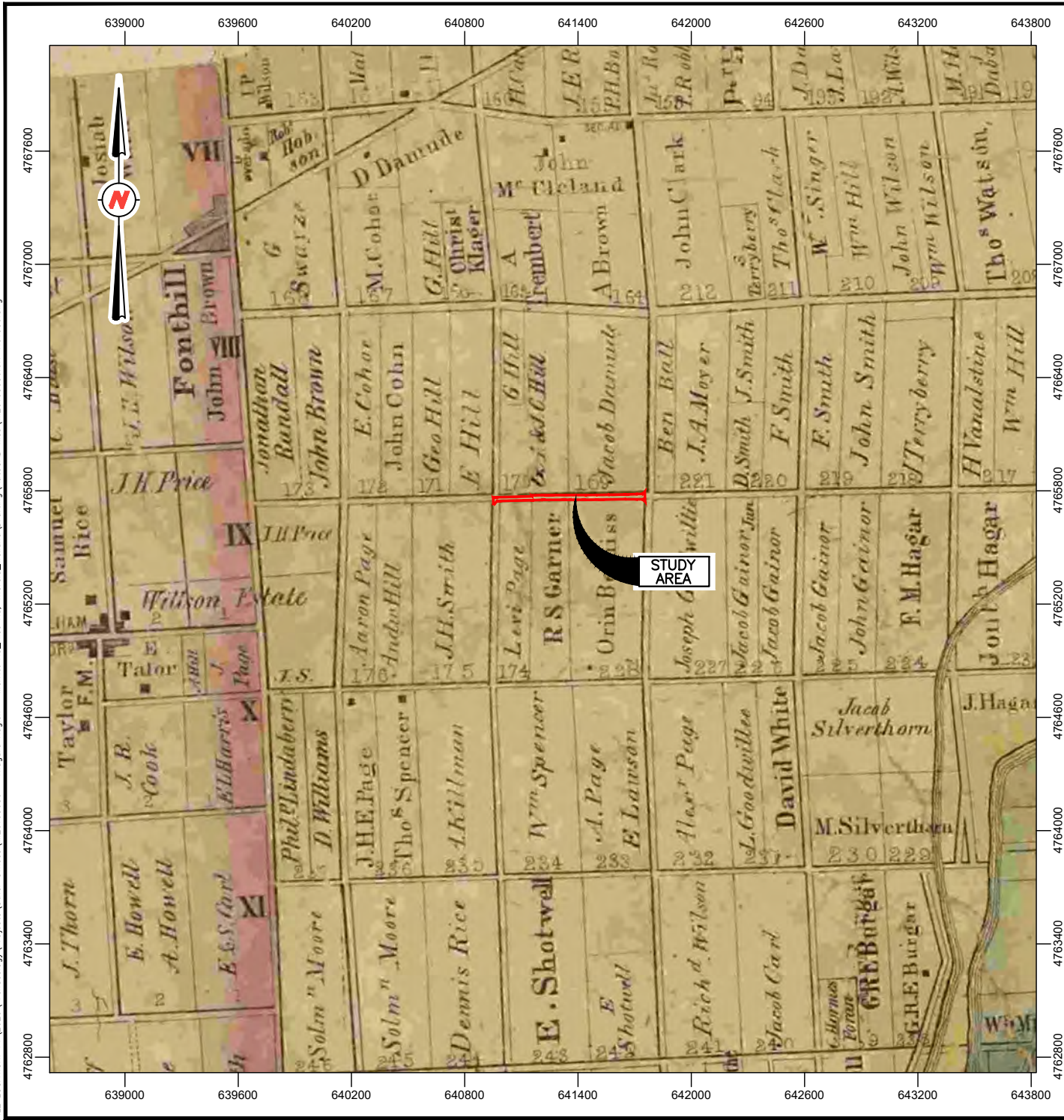
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Niagara Region  
1815 SIR ISAAC BROCK WAY, P.O. BOX 1042  
THOROLD, ONTARIO, L2V 4T7

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905-335-2353


DWN BY:	CHK'D BY:	DATE:
SJL	JD	NOV. 18, 2022
DATUM:	PROJECTION:	PROJECT No:
NAD83	UTM Zone 17	IM20103036.6.1
REV No:		FIGURE No:
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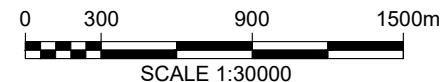


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REGIONAL ROAD 37 (MERRITT ROAD) IMPROVEMENTS  
SCHEDULE C MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT  
AND DETAILED TRANSPORTATION ASSESSMENT  
RIGHT-OF-WAY AND PART OF LOTS 169, 170, 174 AND 228  
THOROLD TOWNSHIP, WELLAND COUNTY  
NOW TOWN OF PELHAM AND CITY OF THOROLD  
REGIONAL MUNICIPALITY OF NIAGARA, ONTARIO

TITLE: 1862 TREMAINE'S MAP OF THE COUNTIES  
OF LINCOLN AND WELLAND, CANADA WEST  
SHOWING THE LOCATION OF THE STUDY AREA

LEGEND:  
 STUDY AREA

NOTES:  
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE  
WSP E&I CANADA LIMITED REPORT No. IM20103036.6.1.  
ALL LOCATIONS ARE APPROXIMATE.  
**ORIGINAL PAPER SIZE: 8½ x 11.**  
REFERENCES:  
G.R. & G.M. TREMAINE, 1862; CANMAP STREETFILES V2008.4.



Niagara Region  
1815 SIR ISAAC BROCK WAY, P.O. BOX 1042  
THOROLD, ONTARIO, L2V 4T7

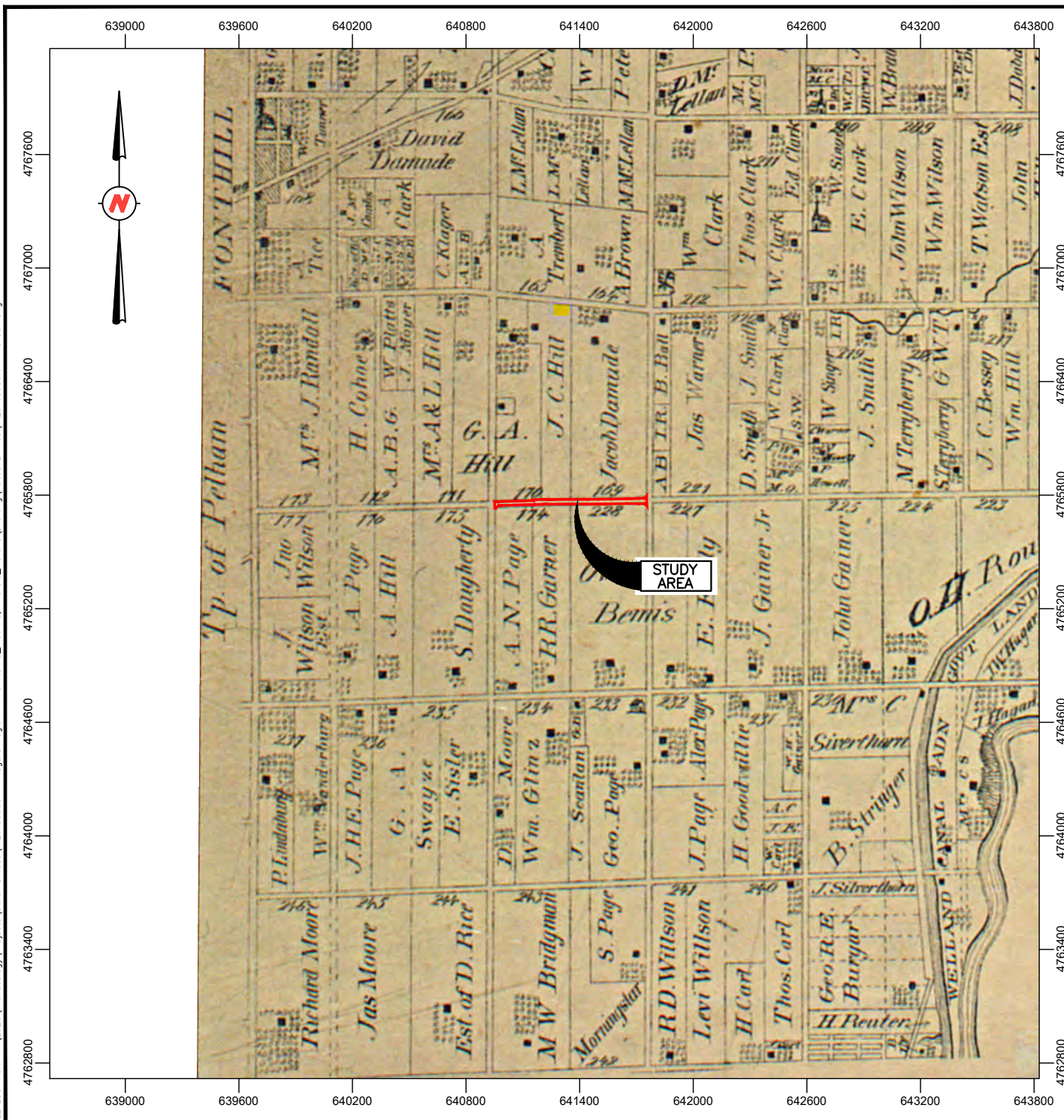


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BURLINGTON, ONTARIO, L7N 3W5  
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DWN BY:	CHK'D BY:	DATE:
SJL	JD	NOV. 18, 2022
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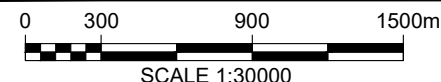


PROJECT: STAGE 2 ARCHAEOLOGICAL ASSESSMENT  
REGIONAL ROAD 37 (MERRITT ROAD) IMPROVEMENTS  
SCHEDULE C MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT  
AND DETAILED TRANSPORTATION ASSESSMENT  
RIGHT-OF-WAY AND PART OF LOTS 169, 170, 174 AND 228  
THOROLD TOWNSHIP, WELLAND COUNTY  
NOW TOWN OF PELHAM AND CITY OF THOROLD  
REGIONAL MUNICIPALITY OF NIAGARA, ONTARIO

TITLE: 1876 ILLUSTRATED HISTORICAL ATLAS MAP  
OF THE COUNTIES OF LINCOLN AND WELLAND  
SHOWING THE LOCATION OF THE STUDY AREA

LEGEND:  
 STUDY AREA

NOTES:  
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE  
WSP E&I CANADA LIMITED REPORT No. IM20103036.6.1.  
ALL LOCATIONS ARE APPROXIMATE.  
**ORIGINAL PAPER SIZE: 8½ x 11.**  
REFERENCES:  
H.R. PAGE & Co., 1876; CANMAP STREETFILES V2008.4.



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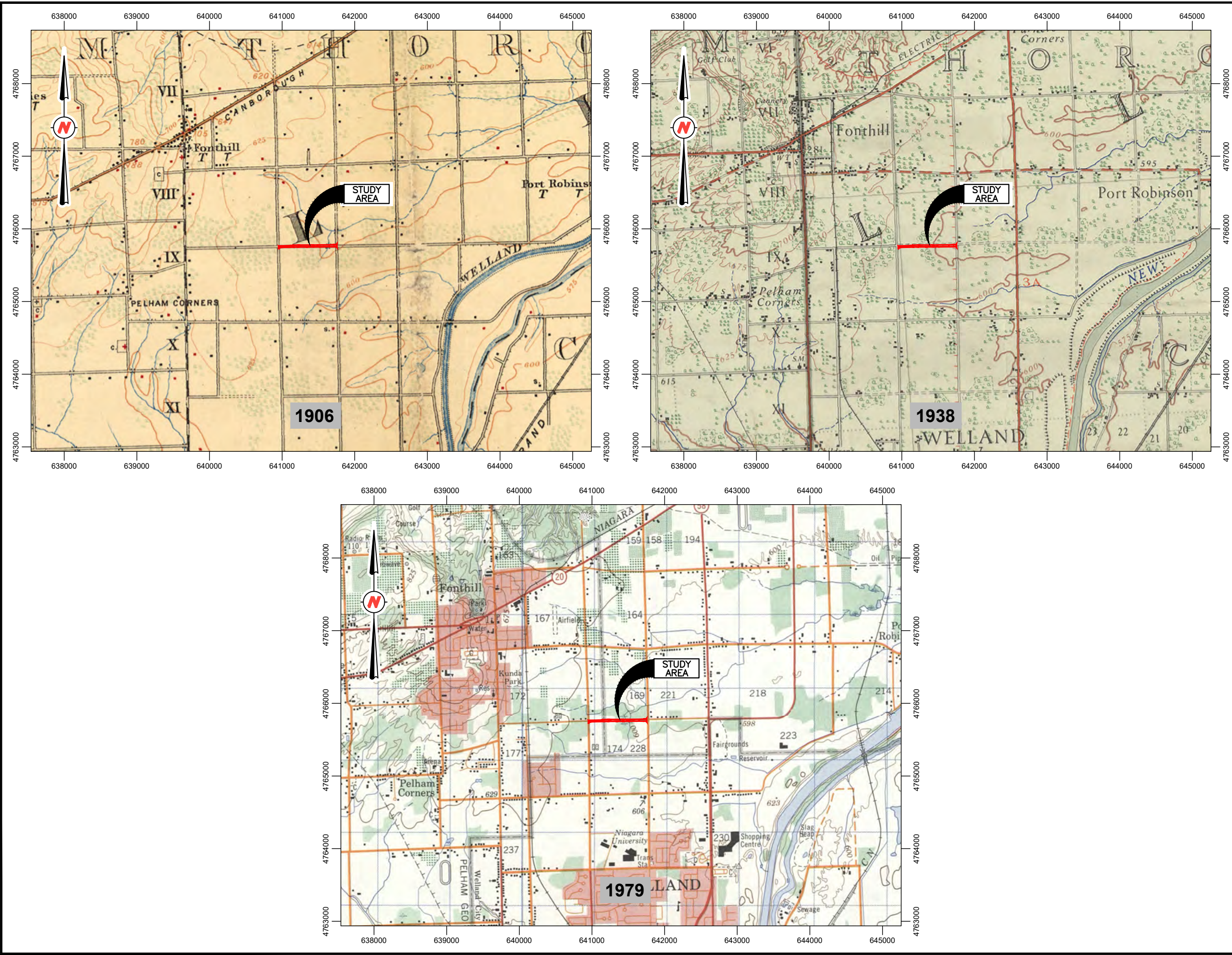
WSP  
E&I Canada Limited  
3450 HARVESTER ROAD, SUITE 100  
BURLINGTON, ONTARIO, L7N 3W5  
905-335-2353



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PROJECT: STAGE 2 ARCHAEOLOGICAL ASSESSMENT  
REGIONAL ROAD 37 (MERRITT ROAD) IMPROVEMENTS  
SCHEDULE C MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT  
AND DETAILED TRANSPORTATION ASSESSMENT  
RIGHT-OF-WAY AND PART OF LOTS 169, 170, 174 AND 228  
THOROLD TOWNSHIP, WELLAND COUNTY  
NOW TOWN OF PELHAM AND CITY OF THOROLD  
REGIONAL MUNICIPALITY OF NIAGARA, ONTARIO

TITLE:  
HISTORICAL TOPOGRAPHIC MAPS SHOWING  
THE LOCATION OF THE STUDY AREA


LEGEND:  
 STUDY AREA

NOTES:  
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE  
WSP E&I CANADA LIMITED REPORT No. IM20103036.6.1.  
ALL LOCATIONS ARE APPROXIMATE.  
**ORIGINAL PAPER SIZE: 11 x 17.**  
REFERENCES:  
DEPARTMENT OF MILITIA AND DEFENCE, 1906; DEPARTMENT  
OF NATIONAL DEFENCE, 1938; DEPARTMENT OF ENERGY,  
MINES AND RESOURCES, 1979; CANMAP STREETFILES V2008.4.


03009001500m

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Niagara Region  
1815 SIR ISAAC BROCK WAY, P.O. BOX 1042  
THOROLD, ONTARIO, L2V 4T7



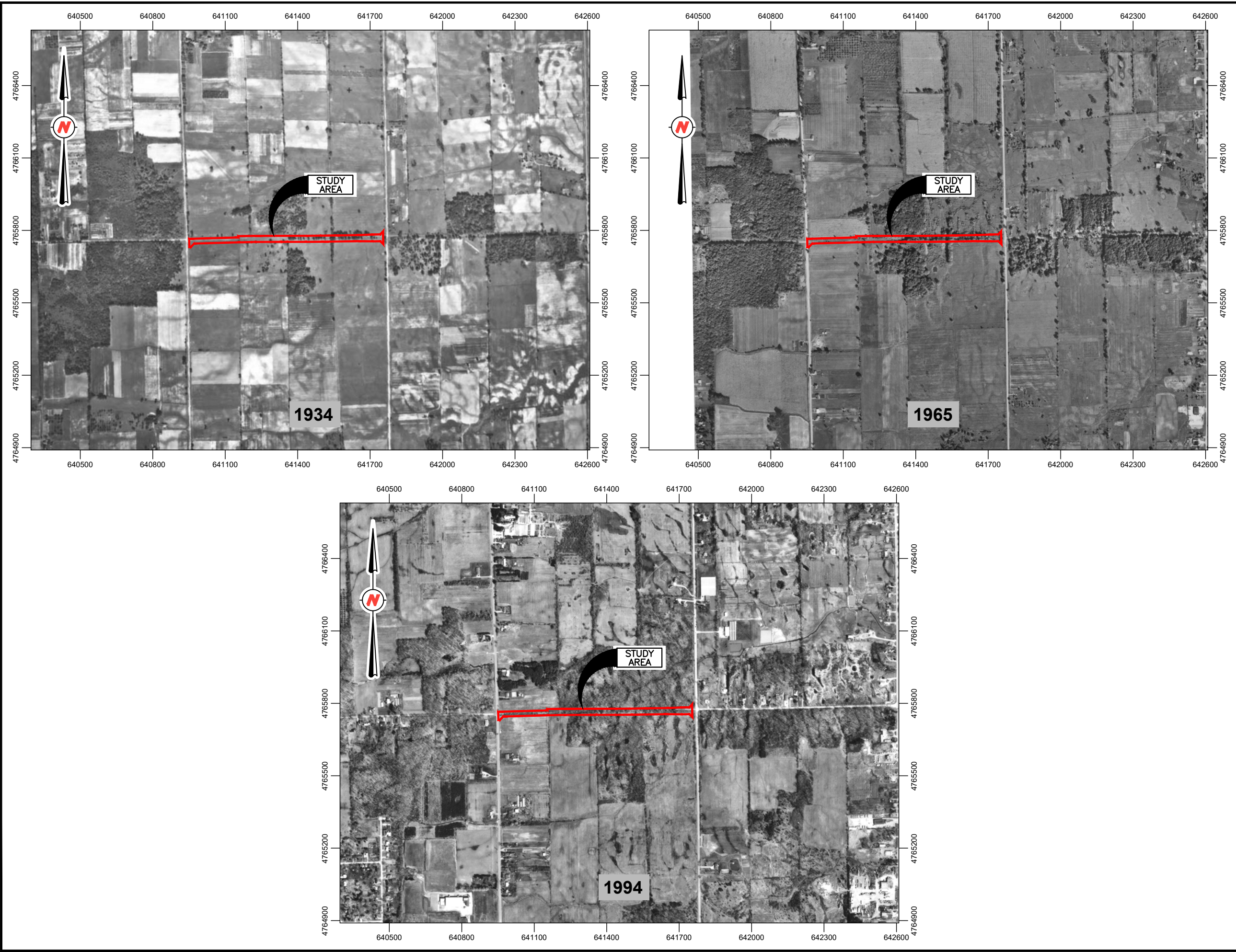
WSP  
E&I Canada Limited  
3450 HARVESTER ROAD, SUITE 100  
BURLINGTON, ONTARIO, L7N 3W5  
905-335-2353



DWN BY: SJL	CHK'D BY: JD	DATE: NOV. 18, 2022
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PROJECT: STAGE 2 ARCHAEOLOGICAL ASSESSMENT  
REGIONAL ROAD 37 (MERRITT ROAD) IMPROVEMENTS  
SCHEDULE C MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT  
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RIGHT-OF-WAY AND PART OF LOTS 169, 170, 174 AND 228  
THOROLD TOWNSHIP, WELLAND COUNTY  
NOW TOWN OF PELHAM AND CITY OF THOROLD  
REGIONAL MUNICIPALITY OF NIAGARA, ONTARIO


TITLE:  
HISTORICAL AERIAL PHOTOGRAPHS SHOWING  
THE LOCATION OF THE STUDY AREA

LEGEND:  
 STUDY AREA


NOTES:  
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE  
WSP E&I CANADA LIMITED REPORT No. IM20103036.6.1.  
ALL LOCATIONS ARE APPROXIMATE.  
**ORIGINAL PAPER SIZE: 11 x 17.**  
REFERENCES:  
MINISTRY OF NATURAL RESOURCES CANADA, A4764-60, 1934;  
ONTARIO MINISTRY OF NATURAL RESOURCES, 19346-016, 1965;  
REGIONAL MUNICIPALITY OF NIAGARA, LINE 9-95, 1994;  
CANMAP STREETFILES V2008.4.

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Niagara Region  
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DWN BY: SJL	CHK'D BY: JD	DATE: NOV. 18, 2022
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PROJECT: STAGE 2 ARCHAEOLOGICAL ASSESSMENT  
REGIONAL ROAD 37 (MERRITT ROAD) IMPROVEMENTS  
SCHEDULE C MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT  
AND DETAILED TRANSPORTATION ASSESSMENT  
RIGHT-OF-WAY AND PART OF LOTS 169, 170, 174 AND 228  
THOROLD TOWNSHIP, WELLAND COUNTY  
NOW TOWN OF PELHAM AND CITY OF THOROLD  
REGIONAL MUNICIPALITY OF NIAGARA, ONTARIO

TITLE:  
STAGE 2 ARCHAEOLOGICAL RESULTS WITH  
PHOTOGRAPH LOCATIONS AND DIRECTIONS

LEGEND:

STUDY AREA

PHOTOGRAPH LOCATION, VIEWING DIRECTION, AND IDENTIFICATION

AREA OF ARCHAEOLOGICAL POTENTIAL

UNPLOUGHABLE LAND - TEST PIT SURVEYED AT 5m INTERVALS: NO FURTHER ASSESSMENT REQUIRED

UNPLOUGHABLE LAND - JUDGMENTAL TEST PIT SURVEYED AT 10m INTERVALS TO DETERMINE EXTENT OF LAND DISTURBANCE: NO FURTHER ASSESSMENT REQUIRED

AREA OF NO/LOW ARCHAEOLOGICAL POTENTIAL

LOW AND WET: NO FURTHER ASSESSMENT REQUIRED

DISTURBED: NO FURTHER ASSESSMENT REQUIRED

NOTES:

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ALL LOCATIONS ARE APPROXIMATE.

ORIGINAL PAPER SIZE: 11 x 17.

REFERENCES:

2018 AERIAL PHOTOGRAPHS BY THE REGION OF NIAGARA;  
CANMAP STREETFILES V2008.4.

03090150m

SCALE 1:3000

Niagara Region

1815 SIR ISAAC BROCK WAY, P.O. BOX 1042  
THOROLD, ONTARIO, L2V 4T7

WSP

E&I Canada Limited

3450 HARVESTER ROAD, SUITE 100  
BURLINGTON, ONTARIO, L7N 3W5  
905-335-2353

DWN BY:	CHK'D BY:	DATE:
SJL	JD	NOV. 18, 2022
DATUM:	PROJECTION:	PROJECT No:
NAD83	UTM Zone 17	IM20103036.6.1
REV No:		FIGURE No:
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# APPENDIX

## B PHOTOGRAPHS







#### PHOTOGRAPH 1

View facing east from Rice Road along the Merritt Road unassumed ROW, now in use as a green lane or farm access.



#### PHOTOGRAPH 2

View facing east along the ROW within the Niagara Street–Cataract Road Woodlots Wetland Complex.





### PHOTOGRAPH 3

View facing west from Cataract Road along the ROW. Note the gravel surfacing in the foreground.



### PHOTOGRAPH 4

View facing west of the wooded area within the Niagara Street–Cataract Road Woodlots Wetland Complex.





#### PHOTOGRAPH 5

View facing east of a algae-covered pond within the Niagara Street–Cataract Road Woodlots Wetland Complex.



#### PHOTOGRAPH 6

#### PHOTOGRAPH 7

An example of a waterlogged test pit.





PHOTOGRAPH 8

Example test pit showing the soil profile of brown clay loam over buff brown subsoil.



PHOTOGRAPH 9

Example test pit showing soil profile of brown clay loam over buff brown subsoil



#### PHOTOGRAPH 10

Example of a test pit showing evidence of land disturbance. A brown sandy loam overlays a layers of gravel screenings.

# APPENDIX

## C ASSESSOR QUALIFICATIONS





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## ASSESSOR QUALIFICATIONS

**Peter Popkin, Ph.D., CAHP, MCIfA, Associate Archaeologist (P362)** – Dr. Popkin is an Associate Archaeologist at WSP. Peter has over 20 years of professional experience in both consulting and academic archaeology within Canada and internationally. In Ontario he has successfully undertaken consultant archaeology projects triggered by: the Planning Act (subdivisions, site plans, re-zoning, official plan amendments, consent), the Environmental Assessment Act (individual and Class EAs, provincial and federal EAs), the Environmental Protection Act (Renewable Energy Approvals O.Reg 359/09), as well as the Aggregates Resources Act (aggregate pit extensions), and has managed projects under the National Energy Board Act (now the Canadian Energy Regulator Act). Dr. Popkin has lectured in archaeology at York University, the University of Toronto and Wilfrid Laurier University in Ontario, as well as University College London, King's College London, and Birkbeck College, in the UK. Dr. Popkin holds a Professional Archaeology Licence (P362) from the Ontario MCM, is a Professional Member of the Canadian Association of Heritage Professionals (CAHP) and is a full Member of the Chartered Institute for Archaeologists (MCIfA). Dr. Popkin received his Ph.D. from the Institute of Archaeology, University College London, London, UK (2009).

**Henry Cary, Ph.D., CAHP, RPA, Senior Staff Archaeologist (P327)** - Dr. Henry Cary has over 20 years of public and private-sector experience directing archaeological and cultural heritage projects in urban, rural, Arctic and Sub-Arctic environments in Canada as well as the Republic of South Africa, Italy, and France. His career has included positions as project archaeologist and cultural resource management specialist for Parks Canada's Fort Henry National Historic Site Conservation Program and Western Arctic Field Unit, Heritage Manager for the Town of Lunenburg UNESCO World Heritage Site, and senior-level archaeologist and cultural heritage specialist for CH2M and Golder Associates. He currently holds a Professional Archaeology Licence (P327) issued by the Ontario MCM, is MTO RAQs certified in Archaeology/Heritage and is a member of the Canadian Association of Heritage Professionals (CAHP) and Register of Professional Archaeologists (RPA). His education includes a B.A. in Prehistoric Archaeology and Anthropology from Wilfrid Laurier University, a MA in Historical Archaeology from Memorial University, and a Ph.D. in War Studies from the Royal Military College of Canada. Currently, Henry also holds academic positions as Adjunct Professor of Anthropology at Saint Mary's University and lecturer in Visual & Material Culture at Mount Allison University.

**Barbara Slim, M.A., CAHP, Associate Archaeologist, Ontario Archaeology Discipline Lead** – Ms. Slim is a professionally licensed archaeologist with over 17 years of experience in the archaeology and environmental consulting industry. Ms. Slim has conducted all aspects of Stage 1 to 4 archaeological assessments for provincial agencies, municipalities, and land developers in support of infrastructure developments, financial real estate transactions, environmental remediation and private developments. As a founding member of the WSP Ontario archaeology team, Ms. Slim has performed every aspect of project execution, from client relations, project design to MCM clearance. Through her project experience, Ms. Slim has gained an in-depth understanding of the Heritage Act and legislations & standards associated with cultural heritage management. Ms. Slim holds a Master's Degree in Anthropology from Trent University and an Honours Bachelor's Degree in Environmental Studies and Anthropology from Trent University. Ms. Slim currently holds a Professional Archaeology Licence (P348) issued by the Ontario MCM, is Ministry of Transportation Ontario RAQs-approved in Archaeology/Heritage and is a member of the Ontario Association of Professional Archaeologists.

**Jordan Downey, Ph.D., Archaeology Project Manager (P308)** – Dr. Downey joins WSP as an Archaeology Project Manager with over 18 years experience. He is an experienced field archaeologist and researcher working on both Canadian and international projects, including extensive experience on all manner of archaeological projects throughout Southern Ontario and the Canadian Shield. He is particularly experienced in stage 1 – 2 projects triggered by planned road widenings, pipelines and power infrastructure, and subdivisions. He has also conducted numerous stage 3 and 4 excavations in agricultural fields, woodlots, and in areas of shallow bedrock. Dr. Downey is also experienced in field mapping, photogrammetry, and GIS for archaeological applications. Dr. Downey holds a Ph.D. from the University of Western Ontario (2015) as well as an M.A. from Trent University (2009) and a Hon. B.Sc. from the University of Toronto (2006). He has taught at St. Francis Xavier University, McMaster University, the University of Western Ontario, and Wilfrid Laurier University. Dr. Downey holds a Professional Archaeology License (P308) from the Ontario MCM. He also is an executive member of the Ontario Association of Professional Archaeologists and an Adjunct Research Assistant Professor in the Department of Anthropology at The University of Western Ontario.

# APPENDIX

## D LIMITATIONS



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# LIMITATIONS

1. The work performed in the preparation of this report and the conclusions presented are subject to the following:
  - a. The Standard Terms and Conditions which form a part of our Professional Services Contract;
  - b. The Scope of Services;
  - c. Time and Budgetary limitations as described in our Contract; and,
  - d. The Limitations stated herein.
2. No other warranties or representations, either expressed or implied, are made as to the professional services provided under the terms of our Contract, or the conclusions presented.
3. The conclusions presented in this report were based, in part, on visual observations of the Study Area. Our conclusions cannot and are not extended to include those portions of the Study Area which were not reasonably available, in WSP Environment & Infrastructure's opinion, for direct observation.
4. The potential for archaeological resources, and any actual archaeological resources encountered, at the Study Area were assessed, within the limitations set out above, having due regard for applicable heritage regulations as of the date of the inspection.
5. Services including a background study and fieldwork were performed. WSP Environment & Infrastructure's work, including archival studies and fieldwork, were completed in a professional manner and in accordance with the Ministry of Citizenship and Multiculturalism's guidelines. It is possible that unforeseen and undiscovered archaeological resources may be present at the Study Area.
6. The utilization of WSP Environment & Infrastructure's services during the implementation of any further archaeological work recommended will allow WSP Environment & Infrastructure to observe compliance with the conclusions and recommendations contained in the report. WSP Environment & Infrastructure's involvement will also allow for changes to be made as necessary to suit field conditions as they are encountered.
7. This report is for the sole use of the parties to whom it is addressed unless expressly stated otherwise in the report or contract. Any use which any third party makes of the report, in whole or in part, or any reliance thereon, or decisions made based on any information of conclusions in the report, is the sole responsibility of such third party. WSP Environment & Infrastructure accepts no responsibility whatsoever for damages or loss of any nature or kind suffered by any such third party as a result of actions taken or not taken or decisions made in reliance on the report or anything set out therein.
8. This report is not to be given over to any third-party other than a governmental entity, for any purpose whatsoever without the written permission of WSP Environment & Infrastructure, which shall not be unreasonably withheld.