



Stage 1 & 2 Archaeological Assessment

912 Birchview Road
Part of Lot 4, Registered Plan 33
Part of Lot 27, Concession 1
Geographic Township of Douro
Douro-Dummer Township
Peterborough County

Prepared for:
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PIF: P321-0282-2021
Original Report



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July 28, 2021

Executive Summary

Earthworks Archaeological Services Inc. was retained to conduct a Stage 1 & 2 archaeological assessment of a 0.21 hectare area located at 912 Birchview Road, legally described as part of Lot 4, Registered Plan 33, Township of Douro-Dummer, historically part of Lot 27, Concession 1, Geographic Township of Douro, Peterborough County, Ontario. The assessment was undertaken in support of Minor Variance Application for a new house addition, garage, and boathouse and was conducted as part of the requirements defined in Section 5.2.3.3 of *The County of Peterborough Official Plan*, which states that development and site alteration shall only be permitted on lands containing archaeological resources or areas of archaeological potential if the significant archaeological resources have been conserved by removal and documentation, or by preservation on site

The study area contains evidence of archaeological potential. The location of the study area at the edge of Clear Lake suggests there is potential for locating Pre-Contact Indigenous archaeological material. In summary, a Stage 2 archaeological assessment was determined to be required in order to identify and document any archaeological material that may be present. The residential nature and lack of recent cultivation of the study area precluded the possibility of ploughing for a pedestrian survey, and as a result, a test pitting survey was determined to be required.

The Stage 2 archaeological assessment of the study area was conducted on May 13th, 2021 under PIF #: P321-0282-2021, issued to Shane McCartney, M.A. (P321). The weather during the survey was sunny and mild. At no time were weather or lighting conditions detrimental to the observation or recovery of archaeological material.

Approximately 7% of the study area consisted of steep slope in excess of 20° and was not assessed, as per Section 2.1, Standard 2 (iii) of the *Standards and Guidelines for Consultant Archaeologists*. Approximately 68% of the study area was assessed through a test pit survey, with the remaining area not assessed due to the presence of a house and associated gravel driveway and shed, which represent evidence deep subsurface alteration that would remove any extant archaeological potential. Test pits were spaced at maximum intervals of 5 metres apart over the property, and to within one metre of standing structures. Each test pit was excavated by hand to 30 cm in diameter and were excavated into the first 5 centimetres of subsoil. Depth varied between 20 and 25 centimetres. Each test pit was examined for stratigraphy, cultural features, or evidence of fill, and all soil was screened through wire mesh of 6 millimetre width. All test pits were backfilled. The soil consisted of medium brown sandy loam topsoil horizon overlaying a medium orange sandy loam subsoil. No archaeological material was identified during the course of the survey.

The Ministry of Heritage, Sport, Tourism and Culture Industries is requested to review this report and provide a letter indicating their satisfaction that the fieldwork and reporting for this archaeological assessment are consistent with the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* and the terms and conditions for archaeological licences, and to enter this report into the Ontario Public Register of Archaeological Reports.



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Acknowledgements

Julie Kapyrka – Curve Lake First Nation
Jordon MacArthur – Curve Lake First Nation



1.0 Project Context

1.1 Development Context

Earthworks Archaeological Services Inc. (Earthworks) was retained by Brad & Carol Oates to conduct a Stage 1 & 2 archaeological assessment of a 0.21 hectare area located at 912 Birchview Road, legally described as part of Lot 4, Registered Plan 33, Township of Douro-Dummer, historically part of Lot 27, Concession 1, Geographic Township of Douro, Peterborough County, Ontario (Map 1). The assessment was undertaken in support of Minor Variance Application for a new house addition, garage, and boathouse (Map 2) and was conducted as part of the requirements defined in Section 5.2.3.3 of *The County of Peterborough Official Plan*, which states that development and site alteration shall only be permitted on lands containing archaeological resources or areas of archaeological potential if the significant archaeological resources have been conserved by removal and documentation, or by preservation on site (County of Peterborough 2019).

The objective of the Stage 1 & 2 archaeological assessment, as outlined by the Ministry of Heritage, Sport, Tourism and Culture Industries' (MHSTCI) *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), are as follows:

- To provide information about the property's geography, history, previous archaeological fieldwork and current land condition
- To evaluate the property's archaeological potential.
- To document archaeological resources located on the property
- To determine whether any identified archaeological resources require further assessment
- To recommend Stage 3 assessment strategies for any archaeological sites determined to require additional assessment.

As part of this assessment, background research was conducted in Earthworks corporate library, the Peterborough County Land Registry Office (LRO #45), and the Federal Canadian Census located online at Library and Archives Canada.

Permission to access the property was provided by Brad & Carol Oates.



1.2 Historic Context

1.2.1 Pre-Contact Indigenous History

Table 1 provides a breakdown of the general culture history of southern Ontario, as based on Ellis and Ferris (1990)

Table 1: Pre-Contact Indigenous Culture History of Southern Ontario

Culture Period	Diagnostic Artifacts	Time Span (Years B.P.)	Detail
Early Paleo-Indian	Fluted Projectile Points	11,000-10,400	Nomadic caribou hunters
Late Paleo-Indian	Hi-Lo, Holcombe, Plano Projectile Points	10,400-10,000	Gradual population increase
Early Archaic	Nettling and Bifurcate Points	10,000-8,000	More localized tool sources
Middle Archaic	Brewerton and Stanly-Neville Projectile Points	8,000-4,500	Re-purposed projectile points and greater amount of endscrapers
Narrow Point Late Archaic	Lamoka and Normanskill Projectile Points	4,000-3,800	Larger site size
Broad Point Late Archaic	Genessee, Adder Orchard Projectile Points	3,800-3,500	Large bifacial tools. First evidence of houses
Small Point Late Archaic	Crawford Knoll, Innes Projectile Points	3,500-3,100	Bow and Arrow Introduction
Terminal Archaic	Hind Projectile Points	3,100-2,950	First evidence of cemeteries
Early Woodland	Meadowood Points, Cache Blades, and pop-eyed birdstones	2,950-2,400	First evidence of Vinette I Pottery
Middle Woodland	Pseudo-scallop shell	2,450-1550	Burial Mounds
	Princess Point pottery	1550-1100	First evidence of corn horticulture
Late Woodland	Levanna Point	1,100-700	Early longhouses
	Saugeen Projectile Points	700-600	Agricultural villages
	Nanticoke Notched Points	600-450	Migrating villages, tribal warfare



1.2.2 Oral History

The following is an excerpt from a collated oral history of the region, as recounted by Gitiga Migizi, a respected Elder and Knowledge Keeper of the Michi Saagiig Nation and provided to Earthworks by Dr. Julie Kapyrka of Curve Lake First Nation:

The traditional homelands of the Michi Saagiig (Mississauga Anishinaabeg) encompass a vast area of what is now known as southern Ontario. The Michi Saagiig are known as “the people of the big river mouths” and were also known as the “Salmon People” who occupied and fished the north shore of Lake Ontario where the various tributaries emptied into the lake. Their territories extended north into and beyond the Kawarthas as winter hunting grounds on which they would break off into smaller social groups for the season, hunting and trapping on these lands, then returning to the lakeshore in spring for the summer months.

The Michi Saagiig were a highly mobile people, travelling vast distances to procure subsistence for their people. They were also known as the “Peacekeepers” among Indigenous nations. The Michi Saagiig homelands were located directly between two very powerful Confederacies: The Three Fires Confederacy to the north and the Haudenosaunee Confederacy to the south. The Michi Saagiig were the negotiators, the messengers, the diplomats, and they successfully mediated peace throughout this area of Ontario for countless generations.

Michi Saagiig oral histories speak to their people being in this area of Ontario for thousands of years. These stories recount the “Old Ones” who spoke an ancient Algonquian dialect. The histories explain that the current Ojibwa phonology is the 5th transformation of this language, demonstrating a linguistic connection that spans back into deep time. The Michi Saagiig of today are the descendants of the ancient peoples who lived in Ontario during the Archaic and Paleo-Indian periods. They are the original inhabitants of southern Ontario, and they are still here today.

The traditional territories of the Michi Saagiig span from Gananoque in the east, all along the north shore of Lake Ontario, west to the north shore of Lake Erie at Long Point. The territory spreads as far north as the tributaries that flow into these lakes, from Bancroft and north of the Haliburton highlands. This also includes all the tributaries that flow from the height of land north of Toronto like the Oak Ridges Moraine, and all of the rivers that flow into Lake Ontario (the Rideau, the Salmon, the Ganaraska, the Moira, the Trent, the Don, the Rouge, the Etobicoke, the Humber, and the Credit, as well as Wilmot and 16 Mile Creeks) through Burlington Bay and the Niagara region including the Welland and Niagara Rivers, and beyond.

Michi Saagiig oral histories also speak to the occurrence of people coming into their territories sometime between 500-1000 A.D. seeking to establish villages and a corn growing economy – these newcomers included peoples that would later be known as the Huron-Wendat, Neutral, Petun/Tobacco Nations. The Michi Saagiig made Treaties with



these newcomers and granted them permission to stay with the understanding that they were visitors in these lands. Wampum was made to record these contracts, ceremonies would have bound each nation to their respective responsibilities within the political relationship, and these contracts would have been renewed annually (see Gitiga Migizi and Kapyrka 2015). These visitors were extremely successful as their corn economy grew as well as their populations. However, it was understood by all nations involved that this area of Ontario were the homeland territories of the Michi Saagiig.

Problems arose for the Michi Saagiig in the 1600s when the European way of life was introduced into southern Ontario. Also, around the same time, the Haudenosaunee were given firearms by the colonial governments in New York and Albany which ultimately made an expansion possible for them into Michi Saagiig territories. There began skirmishes with the various nations living in Ontario at the time. The Haudenosaunee engaged in fighting with the Huron-Wendat and between that and the onslaught of European diseases, the Iroquoian speaking peoples in Ontario were decimated.

The onset of colonial settlement and missionary involvement severely disrupted the original relationships between these Indigenous nations. Disease and warfare had a devastating impact upon the Indigenous peoples of Ontario, especially the large sedentary villages, which mostly included Iroquoian speaking peoples. The Michi Saagiig were largely able to avoid the devastation caused by these processes by retreating to their wintering grounds to the north, essentially waiting for the smoke to clear.

Michi Saagiig Elder Gitiga Migizi (2017) recounts:

“We weren’t affected as much as the larger villages because we learned to paddle away for several years until everything settled down. And we came back and tried to bury the bones of the Huron but it was overwhelming, it was all over, there were bones all over – that is our story.

There is a misnomer here, that this area of Ontario is not our traditional territory and that we came in here after the Huron-Wendat left or were defeated, but that is not true. That is a big misconception of our history that needs to be corrected. We are the traditional people, we are the ones that signed treaties with the Crown. We are recognized as the ones who signed these treaties and we are the ones to be dealt with officially in any matters concerning territory in southern Ontario.

We had peacemakers go to the Haudenosaunee and live amongst them in order to change their ways. We had also diplomatically dealt with some of the strong chiefs to the north and tried to make peace as much as possible. So we are very important in terms of keeping the balance of relationships in harmony.



1.2.3 European Settlement History

The study area enters the historic record in 1615, where Samuel de Champlain travelled through the area with soldiers on the way to attack the Ononondaga tribe of the Five Nations Iroquois on the southern shore of Lake Ontario (Brunger 1985:95). Early accounts by European explorers suggest the study area was considered part of a loosely defined hunting territory associated with the Huron Confederacy (Trigger 1994). Contemporary oral histories indicate region was shared with the Huron by Anishinaabeg people who oversaw the territory through the Odawa-led Three Fires Confederacy (Williams 2018:36-37). European influence in the region was generally restricted to the beaver pelt trade, and Indigenous groups practiced a way of life that did not differ significantly from the Pre-Contact period. By the 1640's, the increasing scarcity of beaver pelts prompted the invasion of Huronia by the League of Five Nations Iroquois, and by 1649 five Huron villages were destroyed and the remainder abandoned, resulting in the complete disintegration of the Huron Confederacy and the migration of their members into the Petun, Neutral and other groups (Stone and Chaput 1978). The Michi Saagiig retreated to the upper Great Lakes region during this period until the outbreaks of disease and violence subsided (Williams 2018:41). The study area became part of a virtually unpopulated hunting territory for the succeeding fifty years, while the Iroquois established a series of villages along the north shore of Lake Ontario to take advantage of trade with Europeans (Robinson 1933). The Michi Saagiig returned to the region at then end of the seventeenth century, forcing the Iroquois to retreat to New York State following a short period of warfare (Williams 2018:42-44).

Following their defeat of the French at the Battle of the Plains of Abraham in 1759, the British began purchasing large tracts of land in Ontario through treaties with the Indigenous communities in the region. The Royal Proclamation of 1763 asserted British sovereignty over the region while declaring the land to be in possession of the Indigenous people who occupied it while establishing the policies for Crown purchase of these lands (Surtees 1994:93). These purchasing efforts were intensified following the conclusion of the American Revolutionary War in 1783 and the War of 1812 in 1814, which saw successive waves of migration of United Empire Loyalists and British settlers into Upper Canada. The current study area forms part of Treaty 20, also known as the Rice Lake Purchase, which ceded possession of nearly one million hectares of land from the Rice Lake Mississauga at Smith's Creek to the British Government in 1818 (Surtees 1994:113).

The current study area is located within the historic Geographic Township of Douro which was surveyed in 1823. European settlement in the area began with two farming settlements established by Robert Reid and Thomas A. Stewart in 1822, although the first patent holder was Zaccheus Burnham in 1830 (Middleton 1927). Settlement in Douro occurred after Peter Robinson, a Canadian politician who championed settlement in the area of Peterborough, arrived with a group four hundred and fifteen of Irish families in 1825. Many in this group were bound for different areas in the region but chose to stay in the area upon realizing the potential of the community (Mulvany and Ryan. 1884:251-252). The population of Douro in 1832 was 571 (W. H. Robertson & Co. 1876:88). The township remained as a low density cottage destination township, and the townships of Douro and Dummer were amalgamated into Douro-Dummer Township in 1998.



1.2.4 Land Use History of Study Area

The study area is located in the historic Lot 27, Concession 1 in the Geographic Township of Douro, which was granted to Zaccheus Burnham in 1850. Mr. Burnham was a prominent figure in early nineteenth century Upper Canada, serving in the War of 1812 as a captain and becoming a large landowner and Member of Parliament for Northumberland County (Ennals 1985). After his death in 1857, his children the Reverend Mark Burnham and Achsa Burnham sold Lot 27 the following year to Elan Stinson. It appears the property was uninhabited, as Mr. Stinson and Lot 27 do not appear in any mid-nineteenth century census documents, and no owners are listed in contemporary mapping (Map 3). The property was eventually seized due to tax arrears and granted to Roland Strickland in 1874, who sold it to George Singleton in 1877. Mr. Singleton is listed as an Irish Farmer in the 1881 census, and the increase in value of the land from \$100 to \$400 when it was sold to George Garbutt indicates at least a portion of the lot was improved through construction of a homestead and land clearing (Government of Canada 1881:32). The property was sold to Arthur Carreth in 1922, who registered Plan 33 in 1949. Lot 4 was sold to Edward Barry in 1950, and analysis of historic topographic maps indicates the study area remained as an undeveloped, wooded lot up to the late twentieth century before the construction of the current house (Map 4).

1.2.5 Historic Plaques

As per Section 1, Standard 1.1 of the *Standards and Guidelines for Consultant Archaeologists*, Earthworks consulted local historical plaques in order to inform archaeological potential and assessment strategies. No local plaques were found which related to the history of the current study area.

1.3 Archaeological Context

1.3.1 Current Conditions

The study area consists of a cottage lot and associated driveway and shed situated on a plateau overlooking Clear Lake to the northwest (Images 1 thru 8).

1.3.2 Natural Environment

The study area is situated within a till moraine (Map 5) of the Dummer Moraines physiographic region of Ontario. It is described as:

“...an area of rough stony land bordering the Canadian Shield from the Kawartha Lakes eastward...The moraines of this area are characterized by angular fragments and blocks of limestone with may Precambrian rocks also present. The surface is



extremely rough even though the morainic ridges are quite low. Bordering the escarpment, and here and there among the moraines area areas of shallow drift and even bare limestone.”

(Chapman and Putnam 1984:185).

Surficial geology mapping indicates the study area soils consists of silty sand till (Map 6), and the soil of the study area is mapped as Farmington Loam (Map 7), an Orthic Melanic Brunisol consisting of approximately 12 inches of loam underlain by limestone rock (Gillespie and Acton 1981:18).

The study area is located on the south shore of Clear Lake. Clear Lake is part of the Trent River system, an area that comprises 7,710 square kilometres that drains into the Bay of Quinte approximately 80 kilometres to the southeast (Chapman and Putnam 1984: 104).

The study area is located within the Havelock District of the Lake Simcoe – Rideau Ecoregion, which itself is situated within the Mixedwood Plains Eco-zone. This region encompasses 6,311,957 hectares, and contains a diverse array of flora and fauna. It is characterized by diverse hardwood forests dominated by sugar maple, American beech, white ash, eastern hemlock, and numerous other species are found where substrates are well developed on upland sites. Lowlands, including rich floodplain forests, contain green ash, silver maple, red maple, eastern white cedar, yellow birch, balsam fir, and black ash. Peatlands (some quite large) occur along the northern edge and in the eastern portion of the ecoregion, and these contain fens, and rarely bogs, with black spruce and tamarack

Characteristic mammals include white-tailed deer, Northern raccoon, striped skunk, and woodchuck. Wetland habitats are used by many species of water birds and shorebirds, including wood duck, great blue heron, and Wilson’s snipe. Open upland habitats are used by species such as field sparrow, grasshopper sparrow, and eastern meadowlark. Upland forests support populations of species such as hairy woodpecker, wood thrush, scarlet tanager, and rose-breasted grosbeak. Reptiles and amphibians found in this ecosystem include American bullfrog, northern leopard frog, spring peeper, red-spotted newt, snapping turtle, eastern gartersnake, and common watersnake. Characteristic fish species in the ecoregion include the white sucker, smallmouth bass, walleye, northern pike, yellow perch, rainbow darter, emerald shiner, and pearl dace.

(Crins et al. 2009:48-49).

1.3.3 Known Archaeological Sites

A search of registered archaeological sites within the MHSTC Archaeological Sites Database was conducted. No archaeological sites were located within one kilometre of the study area.

1.3.4 Adjacent Archaeological Assessments

No archaeological assessments conducted within 50 metres of the study area were identified.



1.4 Summary

As documented in Section 1.0 the study area contains evidence of archaeological potential. The location of the study area at the edge of Clear Lake suggests there is potential for locating Pre-Contact Indigenous archaeological material. In summary, a Stage 2 archaeological assessment was determined to be required in order to identify and document any archaeological material that may be present. The residential nature and lack of recent cultivation of the study area precluded the possibility of ploughing for a pedestrian survey, and as a result, a test pitting survey was determined to be required.



2.0 Field Methods

The Stage 2 archaeological assessment of the study area was conducted on May 13th, 2021 under PIF #: P321-0282-2021, issued to Shane McCartney, M.A. (P321). The weather during the survey was sunny and mild. At no time were weather or lighting conditions detrimental to the observation or recovery of archaeological material.

Approximately 7% of the study area consisted of steep slope in excess of 20° and was not assessed, as per Section 2.1, Standard 2 (iii) of the *Standards and Guidelines for Consultant Archaeologists*.

Approximately 68% of the study area was assessed through a test pit survey (Image 9), with the remaining area not assessed due to the presence of a house and associated gravel driveway and shed, which represent evidence deep subsurface alteration that would remove any extant archaeological potential.

Test pits were spaced at maximum intervals of 5 metres apart over the property, and to within one metre of standing structures. Each test pit was excavated by hand to 30 cm in diameter and were excavated into the first 5 centimetres of subsoil. Depth varied between 20 and 25 centimetres. Each test pit was examined for stratigraphy, cultural features, or evidence of fill, and all soil was screened through wire mesh of 6 millimetre width. All test pits were backfilled. The soil consisted of medium brown sandy loam topsoil horizon overlaying a medium orange sandy loam subsoil (Image 10). No archaeological material was identified during the course of the survey.

The results of the Stage 2 archaeological survey are presented in Map 8.



3.0 Record of Finds

Table 2 provides an inventory of the documentary record generated in the field

Table 2: Information Inventory of Documentation Record

Document	Location	Description
Field Notes	Earthworks Office Project File	1 page of notes
Photographs	Earthworks Office Project File	13 digital photographs,
Field Map	Earthworks Office Project File	1 page



4.0 Analysis and Conclusions

A Stage 1 & 2 Archaeological Assessment was conducted on a 0.21 hectare area located at 912 Birchview Road, legally described as part of Lot 4, Registered Plan 33, Township of Douro-Dummer, historically part of Lot 27, Concession 1, Geographic Township of Douro, Peterborough County, Ontario.

A Stage 2 test pit survey was conducted on May 13, 2021. The Stage 2 archaeological survey did not yield any evidence of archaeological material. As a result, no additional archaeological assessments are required



5.0 Recommendations

Based on the results of the Stage 1 background investigation and the subsequent Stage 2 test pit survey the study area is considered to be free of archaeological material, and no additional archaeological assessments are recommended.

The MHSTCI is requested to review this report and provide a letter indicating their satisfaction that the fieldwork and reporting for this archaeological assessment are consistent with the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* and the terms and conditions for archaeological licences, and to enter this report into the Ontario Public Register of Archaeological Reports



6.0 Advice on Compliance with Legislation

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

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*.

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.



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8.0 Images



Image 1: Study Area Conditions. Facing Southwest.

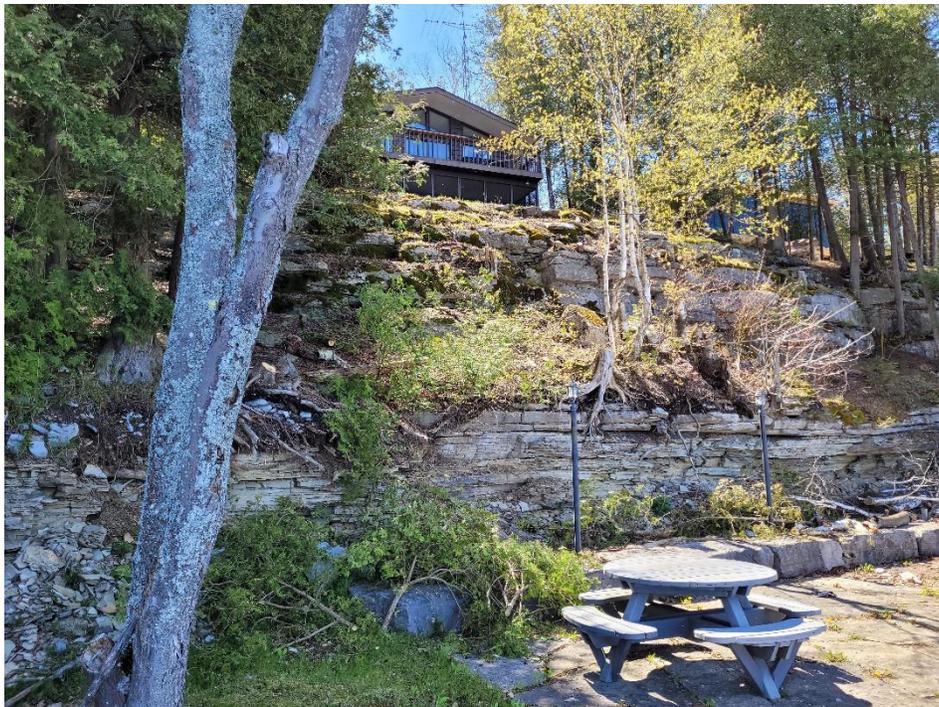


Image 2: Study Area Conditions. Facing Southeast.





Image 3: Study Area Conditions. Facing Northeast.



Image 4: Study Area Conditions. Facing Southwest.





Image 5: Study Area Conditions. Facing Northeast.



Image 6: Study Area Conditions. Facing Northwest.





Image 7: Study Area Conditions. Facing Northwest.



Image 8: Study Area Conditions. Facing Southwest.





Image 9: Test Pit Survey in Progress. Facing West.

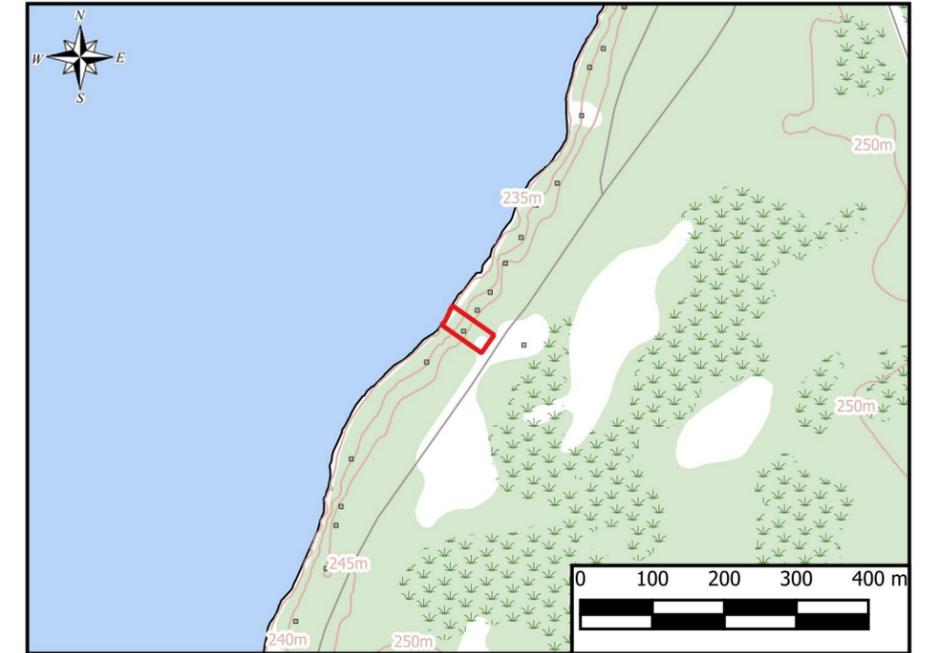
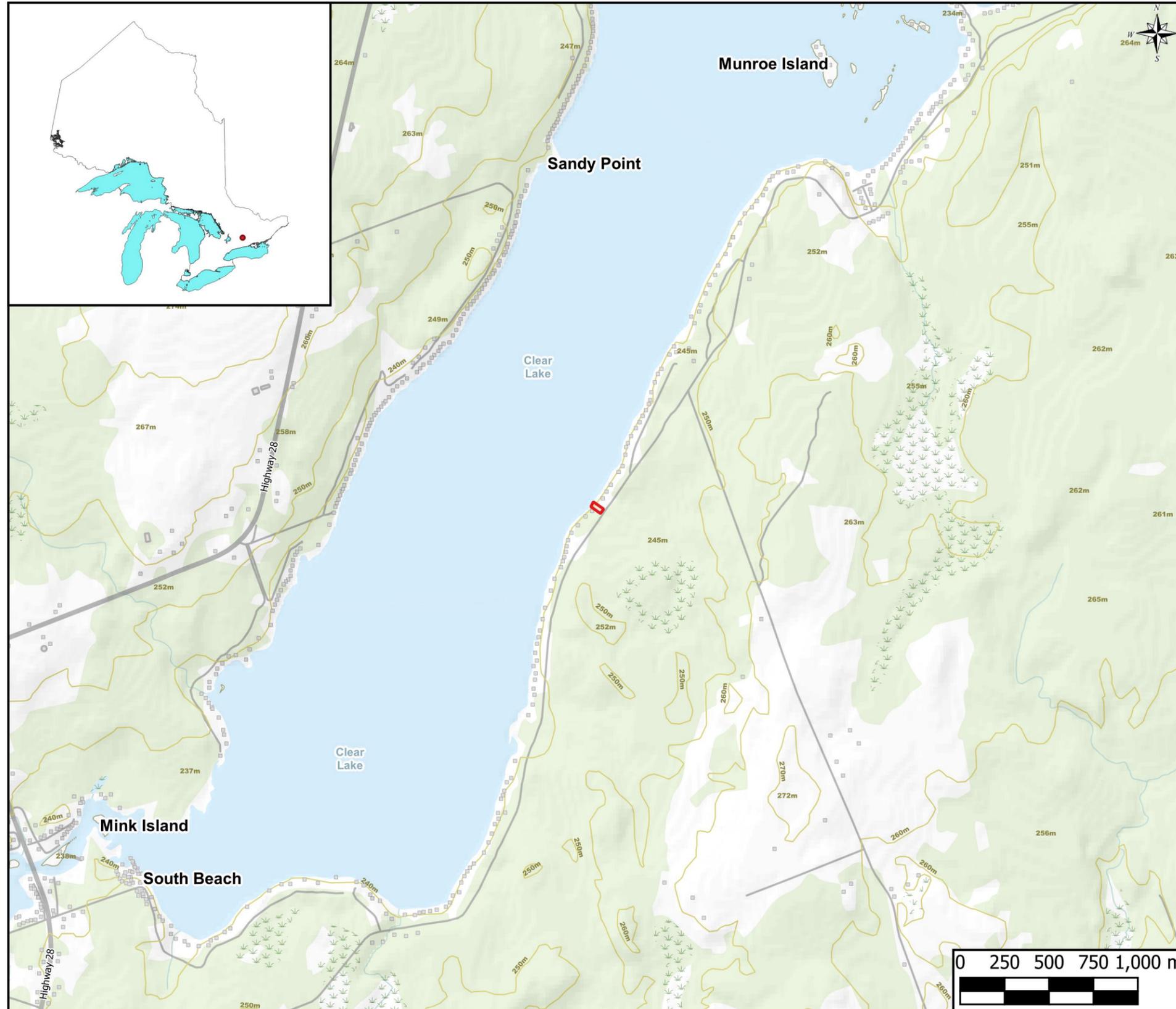


Image 10: Open Test Pit showing Subsurface Stratigraphy.



9.0 Maps



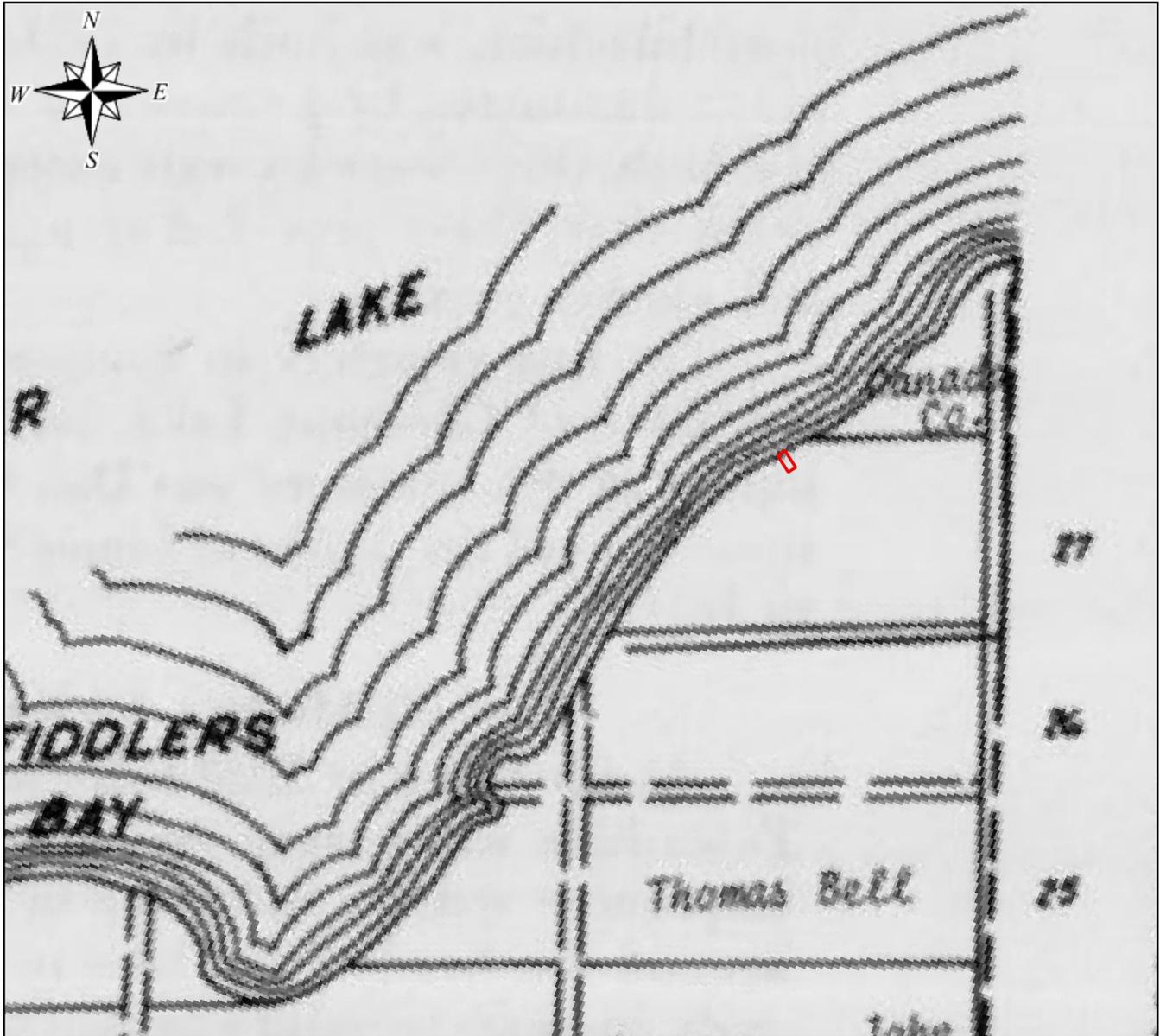


Legend

 Study Area

Reference:
Canvec Data. Scale 1:50000
Ontario Basic Mapping. Scale 1:10000
Peterborough County 2018 Aerial Imagery

Map 1: Regional Map



Legend

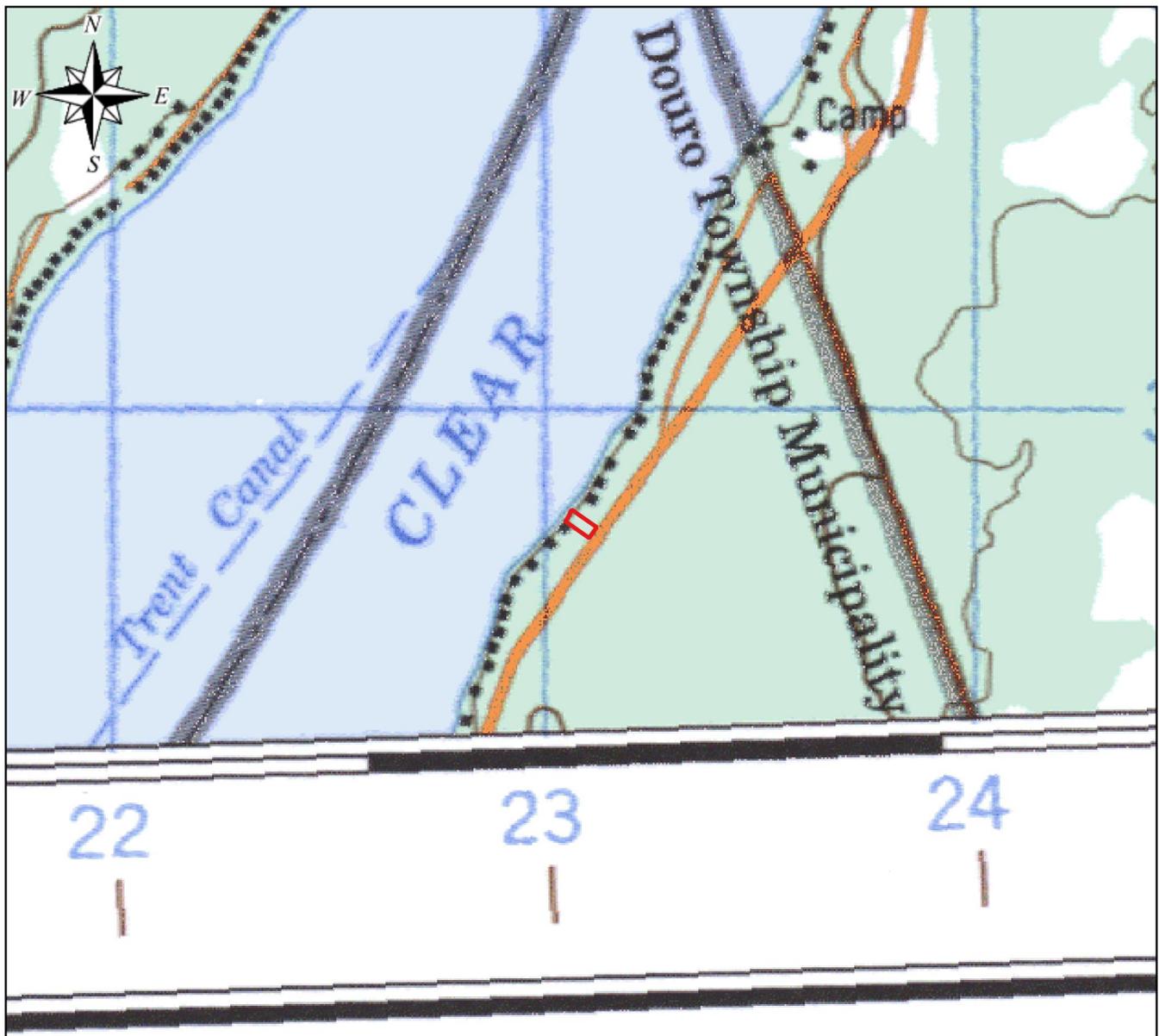
 Study Area

*Peterborough Town and
Ashburnham Village. Douro,
Lakefield, Ontario. Robert
Ramoine, 1875.*

Not to Scale

Map 3: 1875 Map of Douro Township





Legend

 Study Area

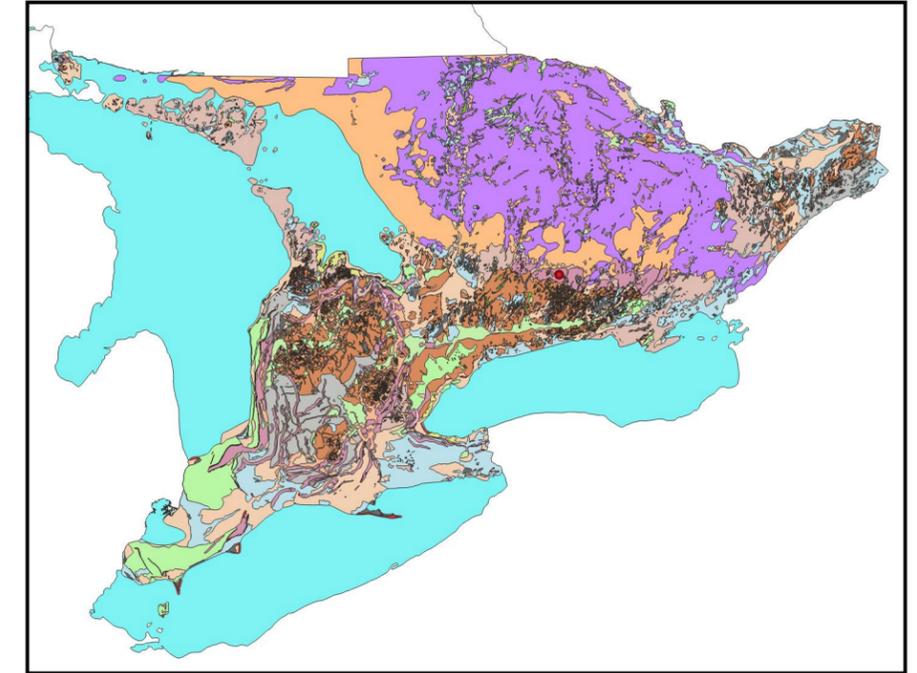
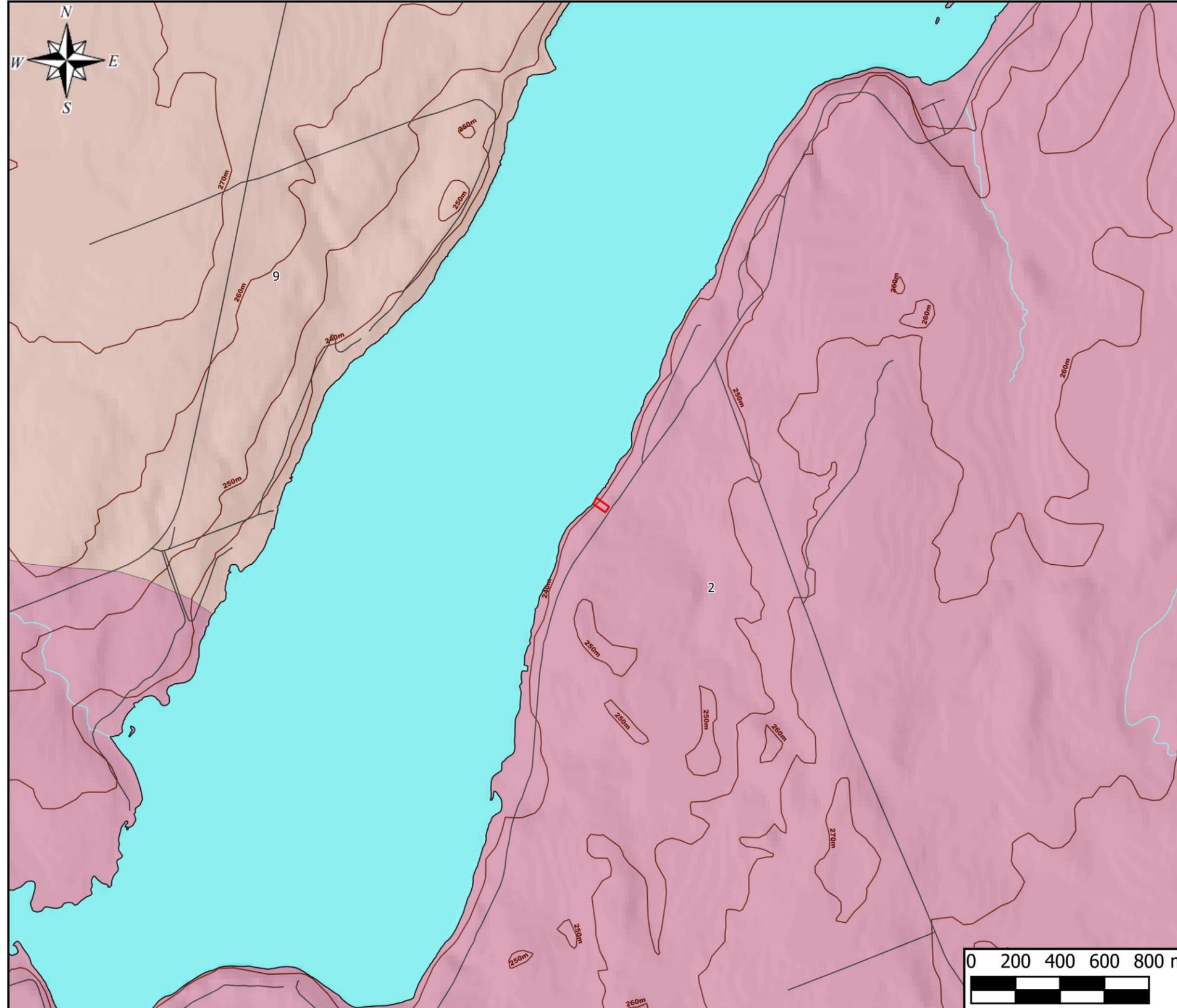
Canada, Natural Resources
Canada. Burleigh Falls, Ontario.
1:50,000. Map Sheet 31 D/9, ed. 5,
1994.

0 150 300 450 600 m



Map 4: Historic Topographic Map



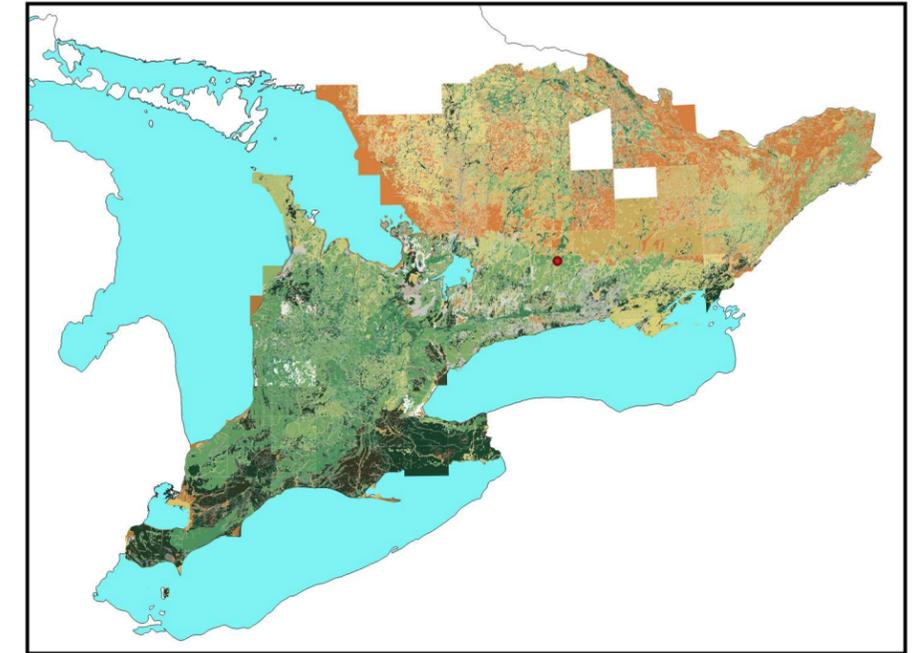
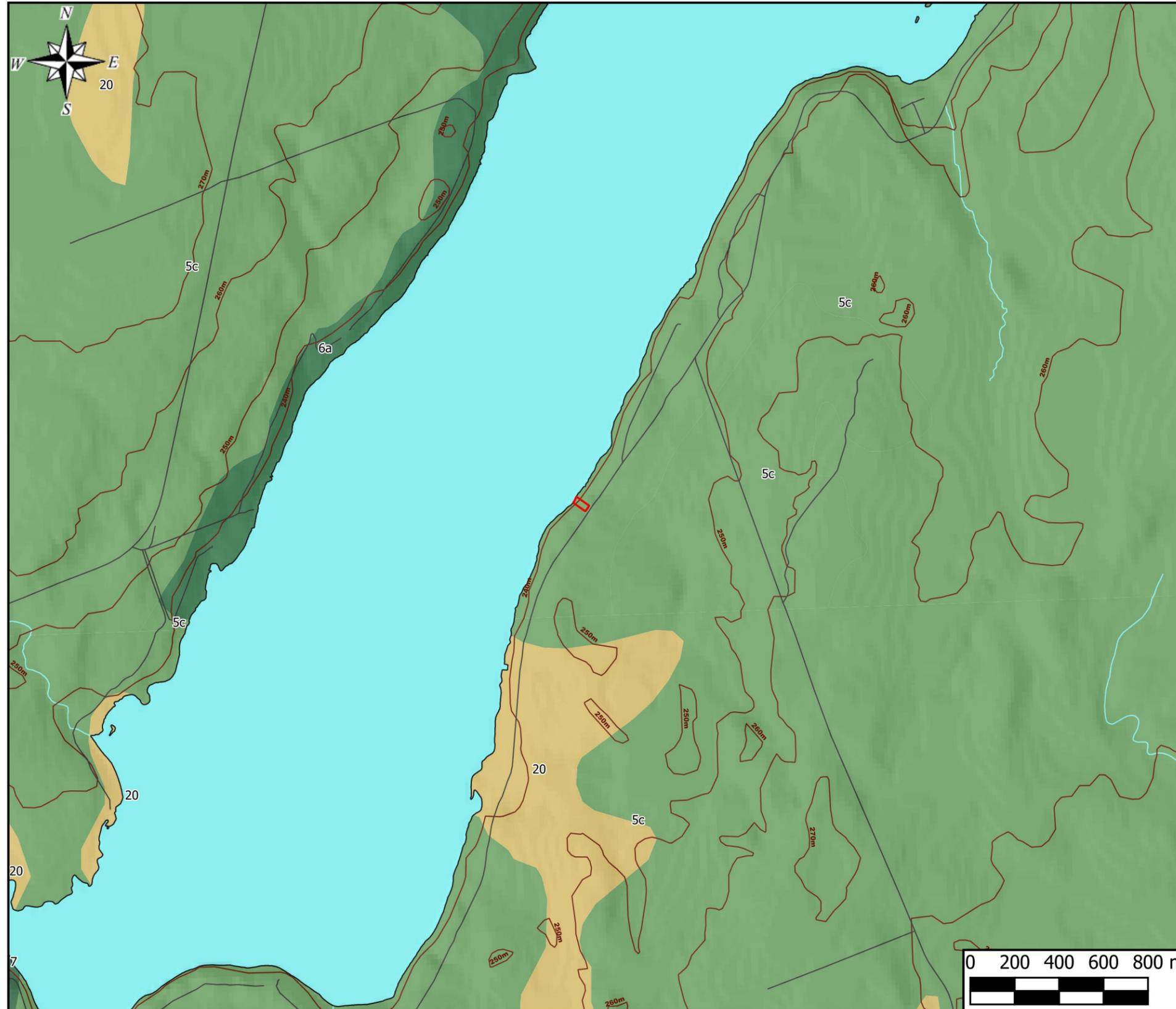


Legend

-  Study Area
-  Road Network
-  2 - Till Moraines
-  9 - Limestone Plains

Base Data:
Chapman, L.J. and Putnam, D.F. 2007. Physiography of southern Ontario; Ontario Geological Survey, Miscellaneous Release—
Data 228.

Map 5: Physiographic Landforms

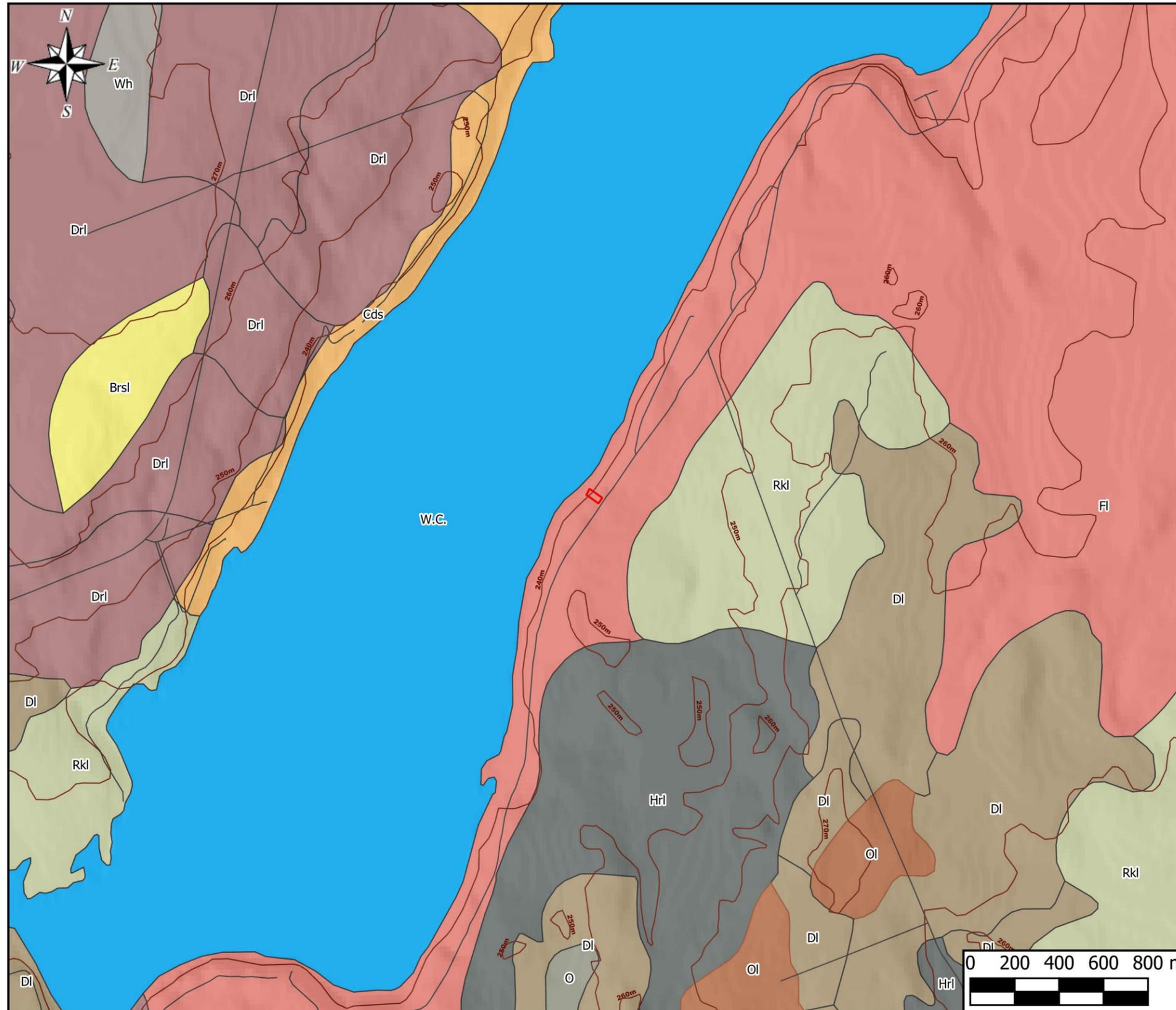


Legend

- Study Area
- Road Network
- 5c - Diamicton sandy
- 5c - silt, clay
- 5c - Till; Till And Stratified Sand And Gravel
- 6a - Gravel, Gravelly, Sand, Minor Silt And Till
- 7 - Gravel And Sand
- 20 - Muck
- 20 - Peat, muck

Base Data:
 Ontario Geological Survey 2010. Surficial geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data
 128-REV ISBN 978-1-4435-2483-4

Map 6: Surficial Geology

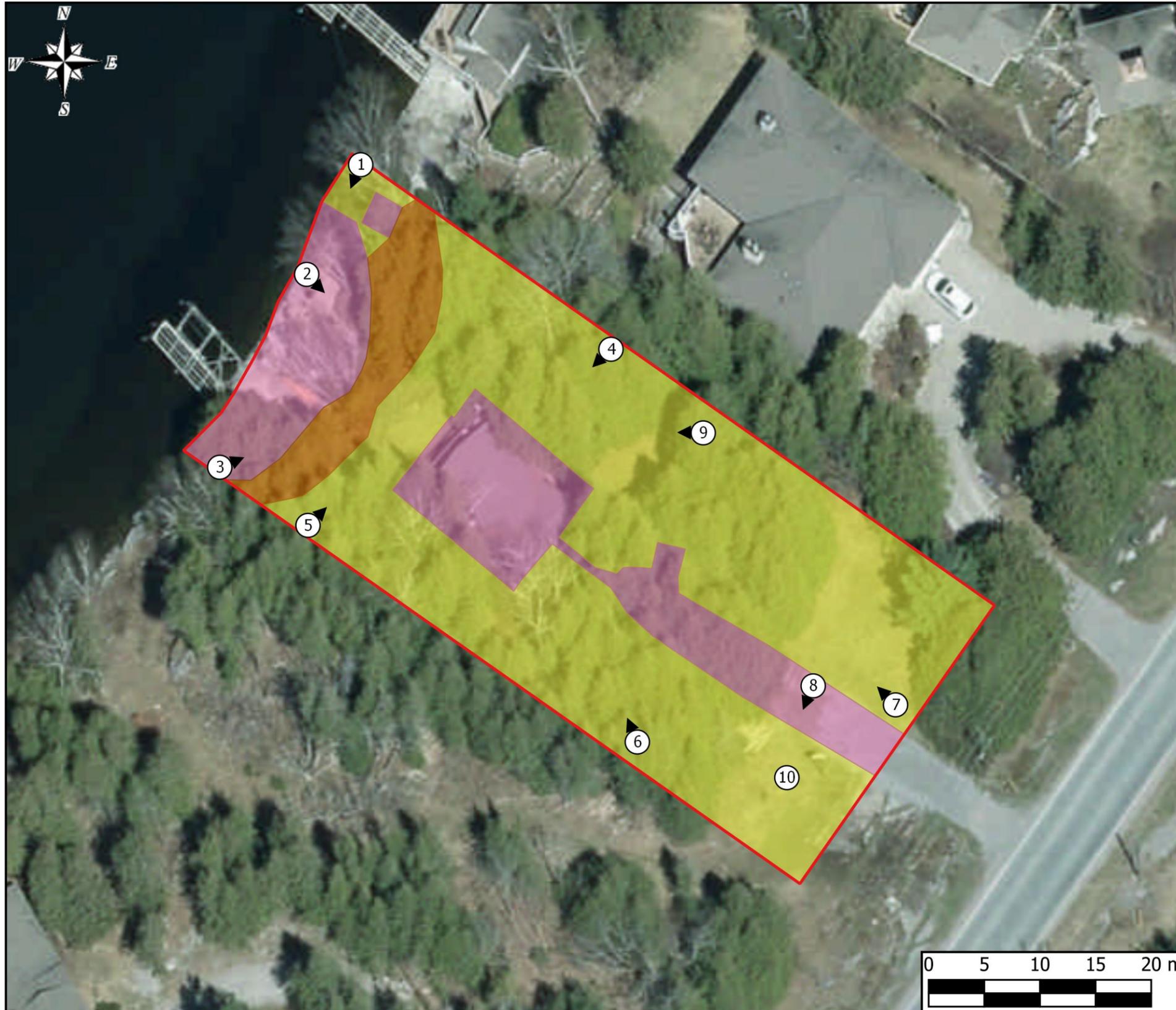


Legend

- Study Area
- Road Network
- Brsl - Brinco Sandy Loam
- Cds - Chandos Loamy Sand
- Drl - Douro Loam
- DI - Dummer Loam
- FI - Farmington Loam
- Hrl - Harney Loam
- O - Organic
- OI - Otonabee Loam
- Rkl - Rockcroft Sandy Loam
- SPg - St. Peters Gravelly Sandy Loam
- Wh - Washago Peat
- W.C. - Watercourse

Reference:
 Soil Map of Peterborough County. Soil Survey Report No. 45. Scale 1:63,360

Map 7: Regional Soil Map



Legend

-  Study Area
-  Area Subject to Test Pit Survey at 5 metre intervals
-  Area of Subsurface Disturbance - Not Assessed
-  Area of Steep Slope - Not Assessed
-  Photo Location and Direction

Reference:
Peterborough County 2018 Aerial Imagery

**Map 8: Stage 2
Assessment Results**