

Ministry of Tourism, Culture and Sport
Confirmation Letter
April 5, 2013

**Ministry of Tourism,
Culture and Sport**

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5 April 2013

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Project: Amherst Island Wind Energy Project
OPA Reference Number: F-004563-WIN-130-601
Report Title: Protected Properties Assessment
Applicant: Windlectric Inc.
Location: Township of Loyalist, County of Lennox and Addington
MTCS File No.: 11EA020

Dear Ms Uchiyama:

This office has reviewed the above-mentioned report (the "Report"), which has been submitted to this ministry as required under O. Reg. 359/09, as amended (Renewable Energy Approvals under the *Environmental Protection Act*) (the "REA regulation"). This letter constitutes the Ministry of Tourism, Culture and Sport (the "Ministry") comments for the purposes of section 23(3)(a) of the REA regulation regarding the heritage assessment undertaken for the above project.

The Report recommends the following:

5.0 Study Results and Recommendations

A total of three (3) protected properties have been identified within the Study Area. These properties include:

- Neilson's General Store at 5170 Front Road;
- Trinity United Church at 5555 Front Road; and
- Pentland Cemetery at 1652 Front Road.

Potential negative impacts have been identified for all three properties.

This study recommends the following for the church and store:

- Project activities within a 50 m buffer zone of the Trinity United Church and Neilson's Store should be avoided.
- If Project activities within a 50 m buffer zone cannot be avoided due to other Project constraints, it is recommended that maximum acceptable vibration, or peak particle velocity (PPV), levels for each building be determined by a qualified engineer with previous experience working with built heritage under similar circumstances prior to Project activities.
- Project activities should be monitored to ensure that maximum PPV levels are not exceeded.
- All Project activities should cease immediately if PPV levels are exceeded to determine a solution to ensure compliance with PPV levels.

The study recommends the following for the cemetery:

- The Operations and Maintenance Building location opposite the Pentland Cemetery should be avoided.
- Prior to Project activities within a 50 m buffer zone (*i.e.*, collector line, transportation of Project components), it is recommended that the stone wall be fully documented. The stone wall should be assessed periodically by a qualified individual during Project activities to ensure that no damage is occurring. Project activities should cease immediately if vibrations are found to be resulting in damage until the wall can be adequately reinforced or supported.
- The stone wall should be evaluated by a qualified mason or engineer following construction activities in the vicinity of the cemetery to ensure that no damage has occurred. Any damage to the wall should be repaired immediately following construction activities.
- To minimize impacts from the Operation and Maintenance Building, trees and/ or shrubbery should be planted to shield this structure from view.

Based on the information contained in the Report, the Ministry is satisfied that the heritage assessment process and reporting are consistent with the applicable heritage assessment requirements established in s. 23 of O. Reg. 359/09. Please note that the Ministry makes no representation or warranty as to the completeness, accuracy or quality of the heritage assessment report (please see Note 1).

This letter does not waive any requirements under the *Ontario Heritage Act*.

This letter does not constitute approval of the renewable energy project. Approvals or licences for the project may be required under other statutes and regulations. Please ensure that you obtain all required approvals and/or licences.

Please ensure that the proponent is aware that, if new information or substantive project changes arise after issuance of this letter, the applicant should discuss them with you to determine if any additional assessment or reporting is required. If additional reporting or revisions are required, they should be submitted to the Ministry for review. Upon completion of that review, the Ministry will determine if any revisions to the content of this letter are required.

Should you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

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Heritage Planner
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cc. Sean Fairfield, Senior Manager
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Chris Schiller, Manager
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Note 1: In no way will the Ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional heritage resources are identified or the Report is otherwise found to be inaccurate, incomplete, misleading or fraudulent.



Stantec

**AMHERST ISLAND WIND ENERGY
PROJECT
PROTECTED PROPERTIES
ASSESSMENT**

File No. 160960595
December 6, 2012
Revised April 1, 2013

Prepared for:

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Prepared by:

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FIT No.: F-001563-WIN-130-601

Note:

Blank pages were inserted into the report for double sided printing and have been removed for the electronic version, which affects page numbering. No technical information was removed from this document during the creation of the electronic version.

Executive Summary

Specific sections of the *Ontario Regulation 359/09, Renewable Energy Approvals Under Part V.0.1 Of The Environmental Protection Act* pertain to Heritage Resources, specifically protected properties as listed in the Table in Section 19. In order to satisfy the conditions of the regulations, Stantec Consulting Ltd. was retained by Windlectric Inc. to conduct a Protected Properties Assessment of the location of the Amherst Island Wind Energy Project.

The assessment included a review of records and inventories held by Loyalist Township, the Ontario Ministry of Culture and the Ontario Heritage Trust. A visual survey of the Study Area was completed in July, 2011 to confirm the existing conditions.

The findings of the report conclude that:

- Three (3) properties designated by a municipal by-law made under section 29 of the *OHA* have been identified within the Study Area.
- No properties in respect of which a notice of intention to designate as being of cultural heritage value or interest has been given in accordance with section 29 of the *OHA* have been identified within or adjacent to the Study Area.
- No properties designated by order of the Minister of Culture under section 34.5 of the *OHA* have been identified within or adjacent to the Study Area.
- No properties in respect of which a notice of intention to designate as being of cultural heritage value or interest of provincial significance has been given in accordance with section 34.6 of the *OHA* have been identified within or adjacent to the Study Area.
- No properties that are part of an area designated by a municipal by-law made under section 41 of the *OHA* as a heritage conservation district have been identified within or adjacent to the Study Area.
- No properties designated as a historic site under Regulation 880 of the Revised Regulations of Ontario, 1990 (Historic Sites) made under the *OHA* have been identified within or adjacent to the Study Area.

Potential negative impacts were identified for each of the protected properties and the following recommendations have been made to minimize or avoid impacts:

This study recommends the following:

- Project activities within a 50 m bufferzone of the Trinity United Church and Neilson's Store should be avoided.

**AMHERST ISLAND WIND ENERGY PROJECT
PROTECTED PROPERTIES ASSESSMENT**

- If construction within a 50 m bufferzone cannot be avoided, it is recommended that prior to Project activities within a 50 m bufferzone of the Trinity United Church and Neilson's Store, maximum acceptable vibration, or peak particle velocity (PPV), levels for each building should be determined by a qualified engineer with previous experience working with heritage buildings under similar circumstances.
- Construction and Project-related transportation activities should be monitored to ensure that maximum PPV levels are not exceeded.
- All construction activities should cease if PPV levels are exceeded to determine a solution to ensure compliance with PPV levels.

In order to address potential negative impacts on the Pentland Cemetery, the following recommendations have been made:

- The Operations and Maintenance Building alternative opposite the Pentland Cemetery should be avoided.
- If Project activities within a 50 m bufferzone cannot be avoided, it is recommended that, prior to any Project activities, the stone wall be fully documented.
- The stone wall should be assessed periodically by a qualified individual during Project activities to ensure that no damage is occurring.
- Project activities should cease immediately if vibrations are found to be resulting in damage until the wall can be adequately reinforced or supported.
- The stone wall should be evaluated by a qualified mason or engineer following construction activities to ensure that no damage has occurred and any damage to the wall should be repaired immediately following construction activities.
- If the Operations and Maintenance Building is located opposite the Pentland Cemetery, it is recommended that, in order to minimize the visual impact on the character of views from the cemetery, trees or tall shrubbery be planted between the road and the building to soften view of the building. The vegetation should be of a height that shields views of the Operation and Maintenance Building.

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1.0 Introduction

Stantec Consulting Ltd. (Stantec) was retained by Windlectric Inc. to prepare a Renewable Energy Approval (REA) Application, as required under *Ontario Regulation 359/09 – Renewable Energy Approvals under Part V.0.1 of the Environmental Protection Act* (O.Reg. 359/09). According to subsection 6.(3) of O.Reg. 359/09, the Project is classified as a Class 4 Wind Facility and will follow the requirements identified in O.Reg. 359/09 for such a facility.

The Project Study Area includes Amherst Island, and approximately 3 - 15 kilometre wide corridor stretching between the Island and the mainland where the submarine cable is proposed. The mainland portion of the Project Study Area stretches from the mainland shoreline, north of the Invista Transformer Station and is generally bounded by i) County Road 4 to the West; ii) the Canadian National Railway line to the North; and iii) approximately 500 m East of Jim Snow Drive to the East (Figure 1).

This Protected Properties Report is one component of the REA Application for the Project, and has been prepared in accordance with O. Reg. 359/09. The study was conducted by Christienne Uchiyama, M.A. Heritage Planning Consultant with Stantec. Colin Varley, M.A., R.P.A., Senior Archaeologist and Heritage Planning Consultant acted as Senior Reviewer.

1.1 O.REG. 359/09 REQUIREMENTS, PROTECTED PROPERTIES

This Protected Properties Assessment has been conducted in accordance with O.Reg. 359/09, s.19, which states that:

19. (1) A person who proposes to engage in a renewable energy project shall determine whether the project location is on a property described in Column 1 of the Table to the section.

Section 4 of this report outlines those properties identified within the Study Area which are protected as outlined in the table in Section 19 (Table 1), specifically those protected properties which are located on or abutting the location of Project components (*i.e.*, project locations).

The Regulation further states that:

(2) If the project location is on a property described in Column 1 of the Table to this section, a person mentioned in subsection (1) shall submit, as part of the application for the issue of a renewable energy approval, a copy of the written authorization,

(a) of the person or body set out opposite the description in Column 2 of the Table; and

(b) of the type set out opposite the description in Column 3 of the Table.

**AMHERST ISLAND WIND ENERGY PROJECT
PROTECTED PROPERTIES ASSESSMENT**

Table 1: Table from Section 19, O.Reg 359/09

Item	Column 1	Column 2	Column 3
	Description of property.	Person or body whose authorization is required.	Type of authorization required to be submitted.
1	A property that is the subject of an agreement, covenant or easement entered into under clause 10 (1) (b) of the <i>Ontario Heritage Act</i> .	Ontario Heritage Trust.	Authorization to undertake any activities related to the renewable energy project that require the approval of the Ontario Heritage Trust pursuant to the easement or covenant.
2	A property in respect of which a notice of intention to designate the property to be of cultural heritage value or interest has been given in accordance with section 29 of the <i>Ontario Heritage Act</i> .	Municipality that gave the notice.	If, as part of the renewable energy project, the alteration of the property or the demolition or removal of a building or structure on the property is proposed, consent to alter the property or demolish or remove the building or structure.
3	A property designated by a municipal by-law made under section 29 of the <i>Ontario Heritage Act</i> as a property of cultural heritage value or interest.	Municipality that made the by-law.	If, as part of the renewable energy project, the alteration of the property or the demolition or removal of a building or structure on the property is proposed, consent to alter the property or demolish or remove the building or structure.
4	A property designated by order of the Minister of Culture made under section 34.5 of the <i>Ontario Heritage Act</i>	Minister of Culture.	If, as part of the renewable energy project, the alteration of the property or the demolition or removal of a building or structure on the property is proposed, consent to alter the property or demolish or remove the building or structure.
5	A property in respect of which a notice of intention to designate the property as property of cultural heritage value or interest of provincial significance has been given in accordance with section 34.6 of the <i>Ontario Heritage Act</i> .	Minister of Culture.	If, as part of the renewable energy project, the alteration of the property or the demolition or removal of a building or structure on the property is proposed, consent to alter the property or demolish or remove the building or structure.
6	A property that is the subject of an easement or a covenant entered into under section 37 of the <i>Ontario Heritage Act</i> .	Municipality that entered into the easement or covenant.	Authorization to undertake any activities related to the renewable energy project that require the approval of the municipality that entered into the easement or covenant.
7	A property that is part of an area designated by a municipal by-law made under section 41 of the <i>Ontario Heritage Act</i> as a heritage conservation district.	Municipality that made the by-law.	If, as part of the renewable energy project, the alteration of the property or the erection, demolition or removal of a building or structure on the property is proposed, a permit to alter the property or to erect, demolish or remove a building or structure or to erect, demolish or remove a building or structure on the property.
8	A property designated as a historic site under Regulation 880 of the Revised Regulations of Ontario, 1990 (Historic Sites) made under the <i>Ontario Heritage Act</i> .	Minister of Culture.	If, as part of the renewable energy project, the excavation or alteration of the property of historical significance is proposed, a permit to excavate or alter the property.

1.1 PROJECT DESCRIPTION

The basic components of the proposed Project include up to 36 Siemens wind turbines. The turbine model proposed utilizes the same 36 turbine pad locations that have been subject to the assessment required under REA. The layout includes 34 Siemens SWT-2.3-113 2300 kW and two (2) Siemens SWT-2.3-113 2221 kW model wind turbines. The final layout will result in a total installed nameplate capacity of approximately 56 - 75 MW. The number of wind turbines will be dependent upon final selection of the model of the wind turbine most appropriate to the proposed Project. The proposed Project will also include a 34.5 kilovolt (kV) underground and/or overhead electrical power line collector system, fibre optic data lines from each turbine and/or wireless technology for the communication of data, a transmission line, truck turnaround areas, a submarine cable, an operations and maintenance building, permanent dock, a substation, a switching station, an unserviced storage shed, one connection point to the existing electrical system, cable vault areas, meteorological tower(s) (met tower(s)), access road(s) to the met tower site(s), and turbine access roads with culvert installations, as required, at associated watercourse crossings.

Temporary components during construction may include staging areas for the turbines, access road, met tower, collector line and transmission line as well as staging areas, crane paths, a temporary dock, site office(s), batch plant, central staging areas, and associated watercourse crossings. The electrical power line collector system would transport the electricity generated from each turbine to the substation, along the submarine cable to the mainland and then to a switching station located near to an existing Hydro One Networks Inc. (HONI) 115 kV transmission line.

Locations of Project components are shown in Figures 2 through 5.

1.2 STUDY METHODOLOGY

The Protected Properties Assessment was composed of a program of archival research, consultation with applicable groups and governmental organizations and visual assessment. Groups and inventories consulted in the process of the assessment included;

- The Ontario Heritage Trust;
- Loyalist Township planning staff;
- the Amherst Island Museum; and
- Lennox and Addington Museum and Archives.

To familiarise the study team with the Study Area, archival documents were reviewed and a summary historical background of the local area was prepared. A site visit was conducted on July 7th and 8th, 2011 to identify any heritage structures existing within and around the Study Area in order to cross-reference existing buildings with inventories of designated buildings and to record existing conditions.

As per requirements outlined in the Table in Section 19 of O.Reg 359/09 (shown below), buildings identified through archival research and the site visit were assessed based on eight (8) descriptions of protection.

1.1.1 Impact Assessment Methodology

Assessment of potential direct or indirect impacts of the project on identified built heritage resources in the Study Area considered Ministry of Tourism and Culture guidelines concerning *Heritage Impact Assessments and Conservation Plans* (MTCS, 2006a).

The Ministry of Tourism and Culture outlines seven potential negative impacts on heritage resources:

- **Destruction** of any, or part of any, *significant heritage attributes* or features;
- **Alteration** that is not sympathetic, or is incompatible, with the historic fabric and appearance;
- **Shadows** created that alter the appearance of a *heritage attribute* or change the viability of a natural feature or plantings, such as a garden;
- **Isolation** of a *heritage attribute* from its surrounding environment, context or a *significant* relationship;
- **Direct or indirect obstruction** of *significant* views or vistas within, from, or of built and natural features;
- **A change in land use** such as rezoning a battlefield from open space to residential use, allowing new *development* or *site alteration* to fill in the formerly open spaces; and
- **Land disturbances** such as a change in grade that alters soils, and drainage patterns that adversely affect an *archaeological resource*.

Land disturbances are being assessed in a separate Stage 1 Archaeological Assessment and have not been included in the current evaluation.

Identification of potential impacts considered the proposed site plan in relation to identified protected properties (Figures 2 through 5).

In order to evaluate the potential visual impact of turbines, visual modelling was used. Visual Aid 1 presents the scale of a turbine with a height similar to those expected for the current Project at a distance of 550 m and 1000 m from a typical two storey residential building. Visual Aid 2 presents that same model with trees at various locations and distances in order to evaluate the effectiveness of tree-cover as an effective mitigative measure.

A series of Visual Simulations have also been undertaken as part of the overall Project (Appendix B). These simulations were also used to inform the assessment of potential visual impacts.

In addition to direct impacts related to destruction, this assessment also evaluated the potential for indirect impacts resulting from the vibrations of construction and the transportation of Project components and personnel. Although the effect of traffic and construction vibrations on historic period structures is not fully understood, negative effects have been demonstrated on buildings with a setback of less than 40 m from the curbside (Crispino and D'Apuzzo, 2001; Ellis, 1987; Rainer, 1982; Wiss, 1981). The proximity of Project components to resources of protected properties was considered in this assessment, particularly those within 50 m.

**AMHERST ISLAND WIND ENERGY PROJECT
PROTECTED PROPERTIES ASSESSMENT**



Visual Aid 1: Wind Turbine Scale Schematic



Visual Aid 2: Wind Turbine Scale Schematic, with trees



Legend

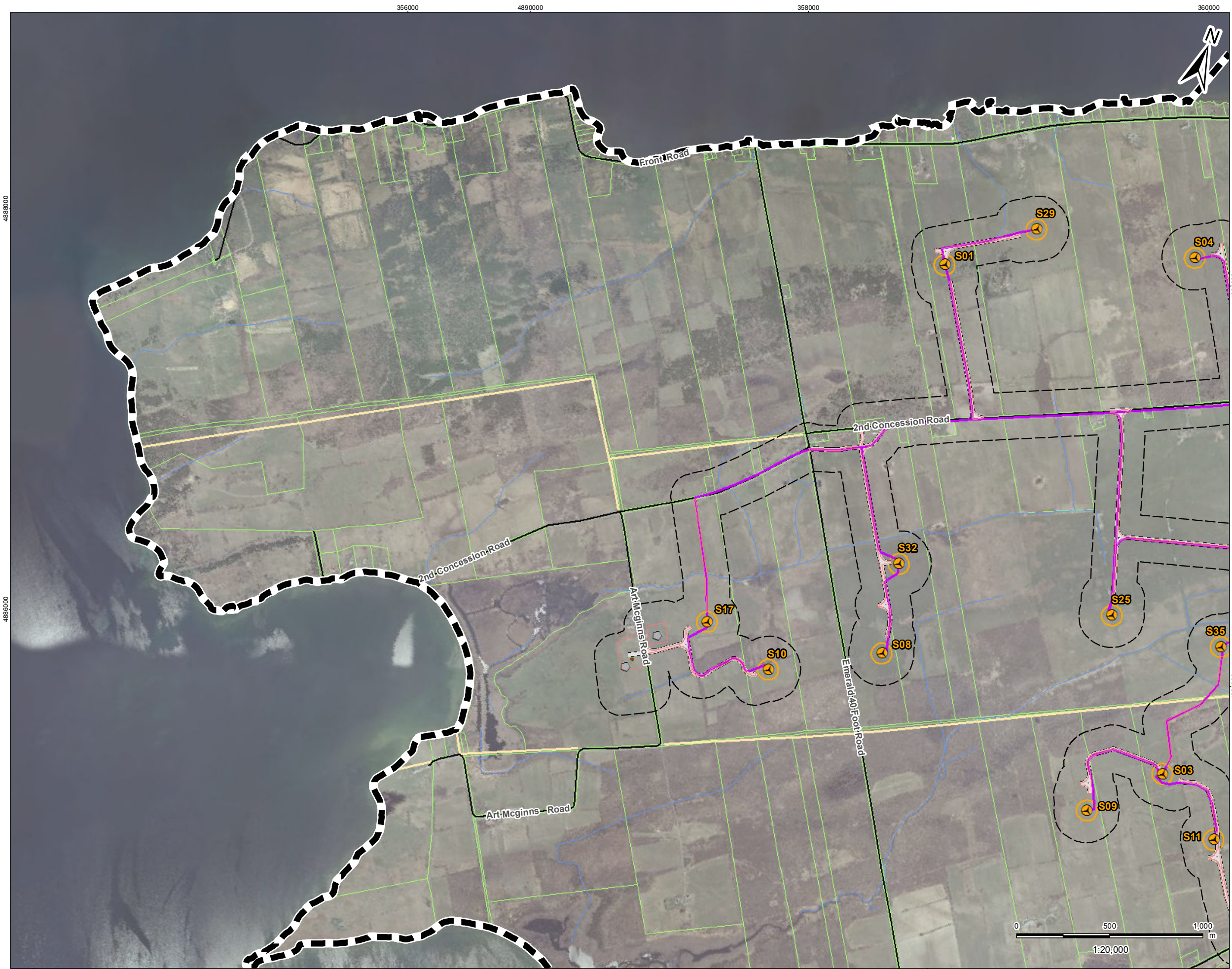
- Project Study Area
- Watercourse

- Notes**
1. Coordinate System: UTM NAD 83 - Zone 18 (N).
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Client/Project	WINDLECTRIC INC. AMHERST ISLAND WIND ENERGY PROJECT
Figure No.	1
Title	Site Location



- ### Legend
- Project Study Area
 - 120m Zone of Investigation
 - Protected Property
 - Project Components**
 - Turbine
 - Met Tower (Potential Location)
 - Substation (Potential Location)
 - Collector Lines
 - Access Road
 - Submarine Cable Path
 - Potential Culvert Location
 - Point of Common Coupling
 - Mainland Cable Vault (Potential Location)
 - Island Cable Vault
 - Turbine Blade Tips
 - Constructible Area
 - Mainland Dock (Potential Location)
 - Island Dock
 - Batch Plant (Potential Location)
 - Site Office (Potential Location)
 - Storage Shed
 - Operation and Maintenance Building (Potential Location)
 - TransmissionLine**
 - Mainland Option 1
 - Mainland Option 2
 - Island Transmission Line
 - Land Use**
 - Central Staging Area
 - Switching Station (Potential Location)
 - Existing Features**
 - Road
 - Unopened Road Allowance
 - Railway
 - Watercourse
 - Property Boundaries

- ### Notes
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AMHERST ISLAND WIND ENERGY PROJECT

Figure No.
2

Title
Site Plan & Location of Protected Properties
(Western Portion)



Legend

- Project Study Area
- 120m Zone of Investigation
- Protected Property
- Project Components**
- Turbine
- Met Tower (Potential Location)
- Substation (Potential Location)
- Collector Lines
- Access Road
- Submarine Cable Path
- Potential Culvert Location
- Point of Common Coupling
- Mainland Cable Vault (Potential Location)
- Island Cable Vault
- Turbine Blade Tips
- Constructible Area
- Mainland Dock (Potential Location)
- Island Dock
- Batch Plant (Potential Location)
- Site Office (Potential Location)
- Storage Shed
- Operation and Maintenance Building (Potential Location)
- TransmissionLine**
- Mainland Option 1
- Mainland Option 2
- Island Transmission Line
- Land Use**
- Central Staging Area
- Switching Station (Potential Location)
- Existing Features**
- Road
- Unopened Road Allowance
- Railway
- Watercourse
- Property Boundaries

Notes

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Client/Project
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AMHERST ISLAND WIND ENERGY PROJECT

Figure No.
3

Title
Site Plan & Location of Protected Properties
(Central Portion)





- ### Legend
- Project Study Area
 - 120m Zone of Investigation
 - Protected Property
 - Project Components**
 - Turbine
 - Met Tower (Potential Location)
 - Substation (Potential Location)
 - Collector Lines
 - Access Road
 - Submarine Cable Path
 - Potential Culvert Location
 - Point of Common Coupling
 - Mainland Cable Vault (Potential Location)
 - Island Cable Vault
 - Turbine Blade Tips
 - Constructible Area
 - Mainland Dock (Potential Location)
 - Island Dock
 - Batch Plant (Potential Location)
 - Site Office (Potential Location)
 - Storage Shed
 - Operation and Maintenance Building (Potential Location)
 - TransmissionLine**
 - Mainland Option 1
 - Mainland Option 2
 - Island Transmission Line
 - Land Use**
 - Central Staging Area
 - Switching Station (Potential Location)
 - Existing Features**
 - Road
 - Unopened Road Allowance
 - Railway
 - Watercourse
 - Property Boundaries

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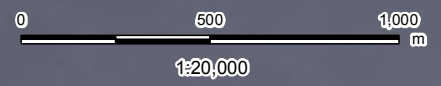
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Client/Project
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AMHERST ISLAND WIND ENERGY PROJECT

Figure No.
4

Title
Site Plan & Location of Protected Properties
(Eastern Portion)





- ### Legend
- Project Study Area
 - 120m Zone of Investigation
 - Protected Property
 - Project Components**
 - Turbine
 - Met Tower (Potential Location)
 - Substation (Potential Location)
 - Collector Lines
 - Access Road
 - Submarine Cable Path
 - Potential Culvert Location
 - Point of Common Coupling
 - Mainland Cable Vault (Potential Location)
 - Island Cable Vault
 - Turbine Blade Tips
 - Constructible Area
 - Mainland Dock (Potential Location)
 - Island Dock
 - Batch Plant (Potential Location)
 - Site Office (Potential Location)
 - Storage Shed
 - Operation and Maintenance Building (Potential Location)
 - TransmissionLine**
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 - Mainland Option 2
 - Island Transmission Line
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Client/Project
WINDLECTRIC INC.
AMHERST ISLAND WIND ENERGY PROJECT

Figure No.
5

Title
Site Plan & Location of Protected Properties
(Mainland Portion)

2.0 Study Area

The Project Study Area includes Amherst Island and an approximately 3 - 15 kilometre wide corridor stretching between the Island and the mainland where the submarine cable is proposed. The mainland portion of the Project Study Area stretches from the mainland shoreline, north of the Invista Transformer Station and is generally bounded by i) County Road 4 to the West; ii) the Canadian National Railway line to the North; and iii) approximately 500 m East of Jim Snow Drive to the East (Figure 1).

The Study Area is entirely located within Loyalist Township in the County of Lennox and Addington in eastern Ontario. Land use in the island portion of the Study Area is primarily agricultural with some areas of undeveloped forest or wetland, while land use on the mainland portion is industrial. Settlements located within and in the general vicinity of the Study Area include Stella, Emerald, Millhaven, Ernestown, Amherstview, and Bath.

The Study Area is located in the Napanee Plain physiographic region, encompassing a geographic area of approximately 700 square miles around the Town of Napanee. It is characterized by a flat-to-undulating plain of limestone with clay deposits to the south and a small amount of long, thin drumlins (Chapman and Putnam, 1984). Drumlins within the Study Area are comprised of Bondhead Loam, a calcareous, stony loam characterized by good drainage (Gillespie, Wickland & Matthews, 1963).

Major topographic features are the Bay of Quinte along the north of the Island and Lake Ontario along the south of the Island. There are numerous secondary watercourses running throughout the entirety of the Study Area (Figure 1).

3.0 Historical Background

Early maps of Amherst Island use the name “Isle Tonti”. Henri de Tonti first arrived in New France with Robert de La Salle in 1678, the year following the rebuilding of Fort Frontenac in present-day Kingston. Although the island was granted to de Tonti, it is likely that he never stepped foot on Amherst Island as he left the area less than a month after his arrival to travel with La Salle through the Great Lakes, along the Illinois River and to the mouth of the Mississippi (Burleigh, 1980).

Fort Frontenac was destroyed in 1758 by an expedition led by Lt. Colonel John Bradstreet, giving the British control of the Bay of Quinte. At the time of the fort’s destruction, no European development of Amherst Island had taken place (Burleigh, 1980). Following the American Revolution, the land along the Bay of Quinte and the Upper St. Lawrence River were identified as an ideal location for settlement and the reconstruction of Fort Frontenac and the survey of land to layout Townships were undertaken in 1783.

Born in Mount Johnson, New York in 1741, Johnson followed his father Sir William’s dedication and service to the Crown, becoming the 2nd Baronet of New York upon his father’s death in 1774. In 1776, he was forced to abandon nearly 200,000 acres of land when he fled to Canada (Montreal) with his followers and tenants (Burleigh, 1980). In 1782, Johnson was asked to recruit men for a regiment later named the King’s Royal Regiment of New York, attaining the rank of Brigadier General. That year he was also appointed Inspector General of Indian affairs of First Nations. In 1784, Governor Frederick Haldimand appointed him to supervise settlement along the St. Lawrence and Bay of Quinte.

The western half of the island was granted to Sir John Johnson in 1796 as partial compensation for land lost as a result of the American Revolutionary War, with the eastern half being granted to him at a later date. Johnson never settled on the island but instead left his son to act as his agent. He also appointed Richard Hitchins to act as an agent in 1823. A notice in the Kingston Chronicle and Gazette dated June 2, 1828 reads:

Notice to Emigrants

Persons desirous of settling in Upper Canada, may procure LANDS, on the Island of Tanti, situated in Lake Ontario, 9 miles above Kingston. There are several thousand acres yet unoccupied, which will be either Sold or Leased upon reasonable terms. The situation is pleasant, and the soil generally of an excellent quality. Further information may be obtained by application to Rich’d Hichins, Esquire residing on the Island, or to A.K. Johnson, Esquire at Prescott.

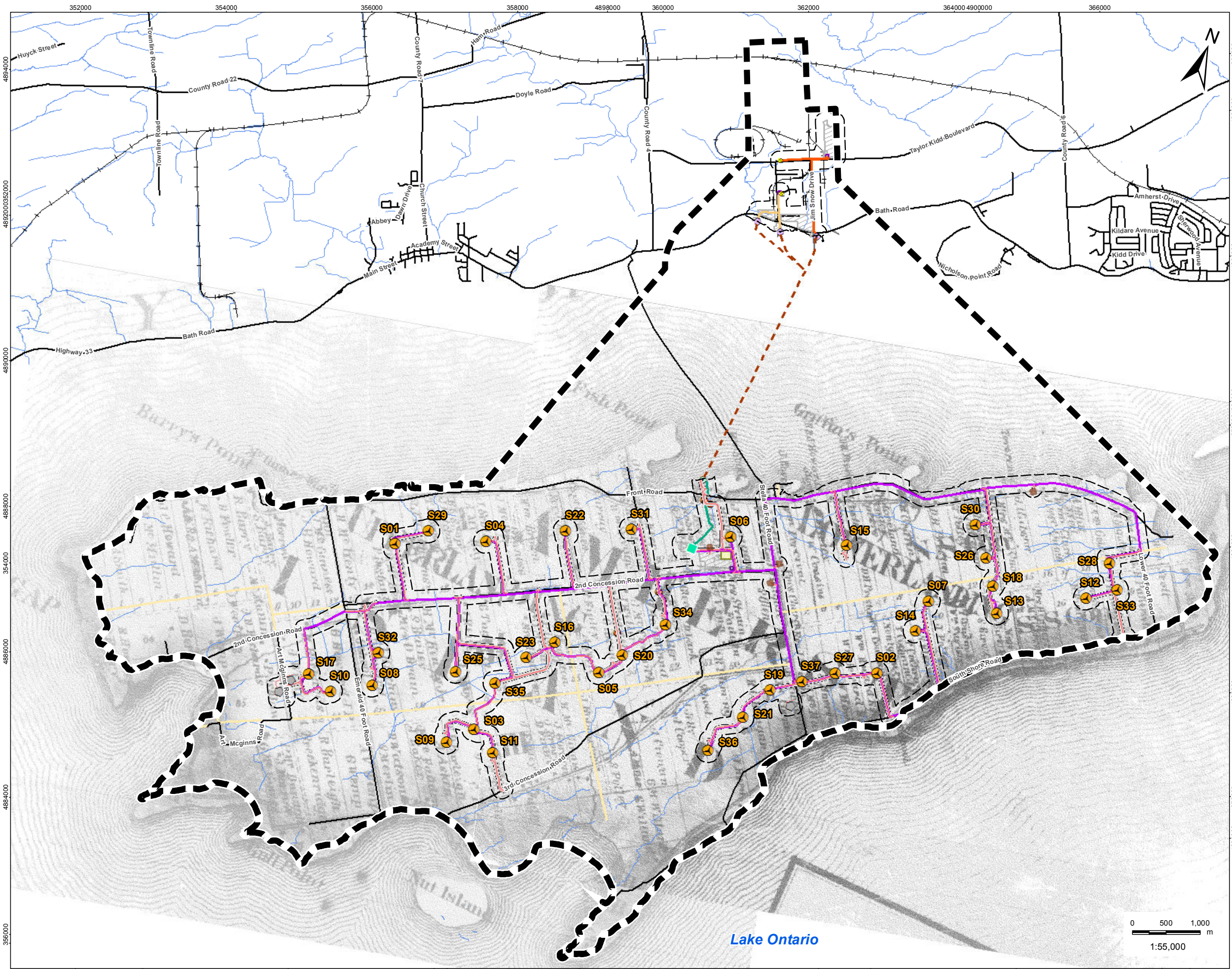
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PROTECTED PROPERTIES ASSESSMENT**

The island as an entire holding changed hands a number of times, including once whereby Maria Bowes (Johnson's daughter) lost it in a game of cards to the Earl of Mountcashel, whose later financial troubles forced its seizure, by the Sherriff in 1857. Following the seizure the property was purchased by Colonel Robert Percival Maxwell of Ireland, who appointed his cousin William Moutray to act as his land agent on the Island (Burleigh, 1980). Mr. Moutray settled on the Island, living in Stella until his death.

By 1803, settlement had begun along the northern shore of the island. Early settlers were primarily United Empire Loyalists, having lost property in the United States during the American Revolution, including several of Johnson's own officers (Burleigh, 1980). A wave of Irish settlers also arrived on the Island and the population steadily climbed, with over 2000 inhabitants by the early 1840s.

Walling's 1860 Map of Amherst Island shows the extent of development in the mid-19th century (Figure 6). Along the north shore, the settlements of Emerald and Stella were established and several churches and one school had been constructed.

Meacham's 1878 Map (Figures 7 through 10) shows further development of the island with four churches of different denominations, including one Catholic church and one Presbyterian church established to accommodate the large wave of Irish immigration to the island mid-century (Burleigh, 1980). The Pentland and Catholic cemeteries are depicted at either end of the north shore as are three schools, including one serving the southern shore.



- ### Legend
- Project Study Area
 - 120m Zone of Investigation
 - Project Components**
 - Turbine
 - Met Tower (Potential Location)
 - Substation (Potential Location)
 - Collector Lines
 - Access Road
 - Submarine Cable Path
 - Laydown Area and Crane Pad
 - Potential Culvert Location
 - Point of Common Coupling
 - Mainland Cable Vault (Potential Location)
 - Island Cable Vault
 - Turbine Blade Tips
 - Constructible Area
 - Mainland Dock (Potential Location)
 - Island Dock
 - Batch Plant (Potential Location)
 - Site Office (Potential Location)
 - Storage Shed
 - Operation and Maintenance Building (Potential Location)
 - TransmissionLine**
 - Mainland Option 1
 - Mainland Option 2
 - Island Transmission Line
 - Land Use**
 - Central Staging Area
 - Switching Station (Potential Location)
 - Existing Features**
 - Road
 - Unopened Road Allowance
 - Railway
 - Watercourse

Notes

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Figure No.
6

Title
Walling's 1860 Historic Mapping of Amherst Island Overlaid by Project Components



Legend

- Project Study Area
- 120m Zone of Investigation
- Project Components**
- Turbine
- Met Tower (Potential Location)
- Substation (Potential Location)
- Collector Lines
- Access Road
- Submarine Cable Path
- Laydown Area and Crane Pad
- Potential Culvert Location
- Point of Common Coupling
- Mainland Cable Vault (Potential Location)
- Island Cable Vault
- Turbine Blade Tips
- Constructible Area
- Mainland Dock (Potential Location)
- Island Dock
- Batch Plant (Potential Location)
- Site Office (Potential Location)
- Storage Shed
- Operation and Maintenance Building (Potential Location)
- TransmissionLine**
- Mainland Option1
- Mainland Option 2
- Island Transmission Line
- Land Use**
- Central Staging Area
- Switching Station (Potential Location)
- Existing Features**
- Road
- Unopened Road Allowance
- Railway
- Watercourse

Notes

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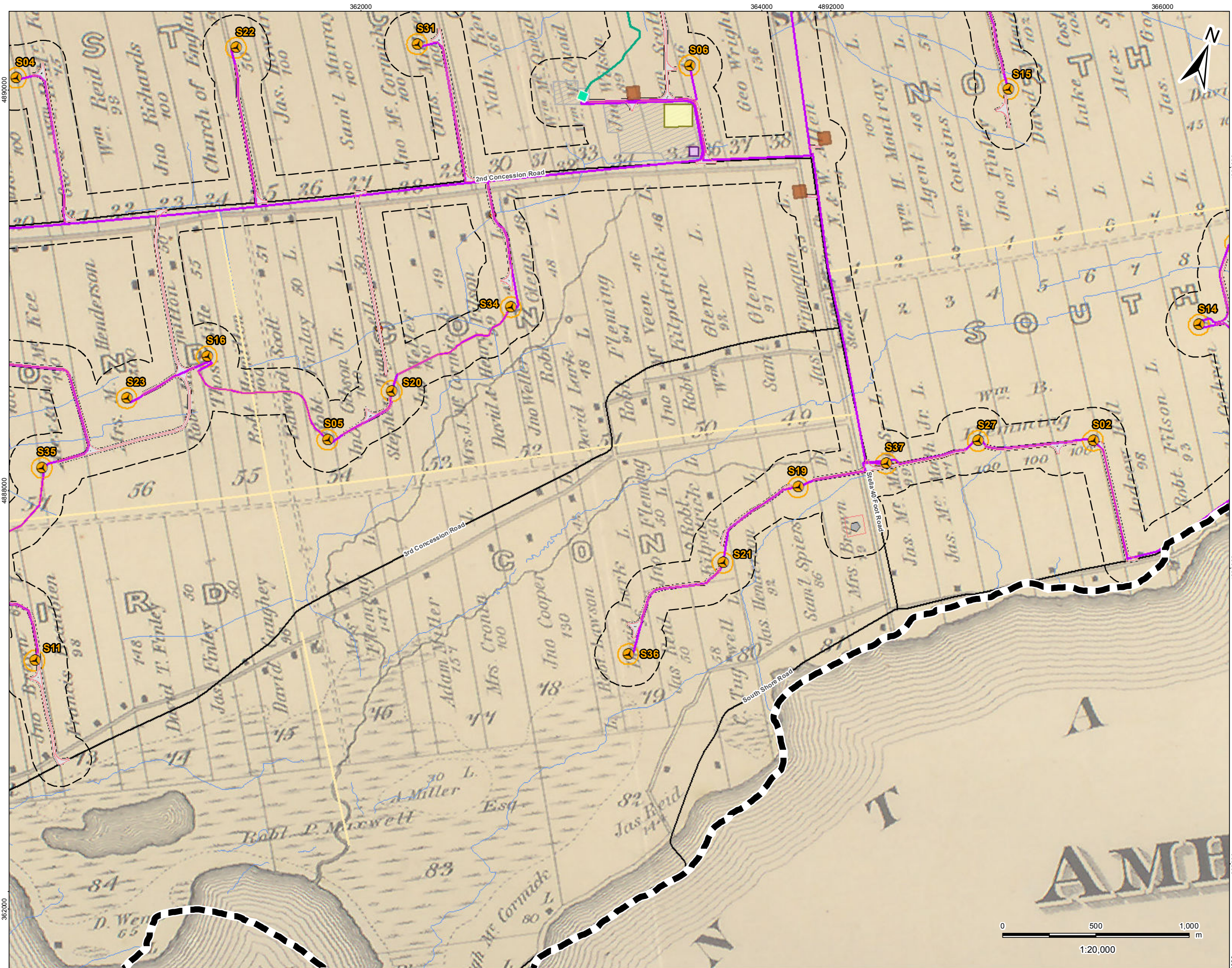
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Figure No.
7

Title
Meacham's 1878 Historic Mapping Overlaid by Project Components (Western Portion)



Legend

- Project Study Area
- 120m Zone of Investigation
- Project Components**
- Turbine
- Met Tower (Potential Location)
- Substation (Potential Location)
- Collector Lines
- Access Road
- Submarine Cable Path
- Laydown Area and Crane Pad
- Potential Culvert Location
- Point of Common Coupling
- Mainland Cable Vault (Potential Location)
- Island Cable Vault
- Turbine Blade Tips
- Constructible Area
- Mainland Dock (Potential Location)
- Island Dock
- Batch Plant (Potential Location)
- Site Office (Potential Location)
- Storage Shed
- Operation and Maintenance Building (Potential Location)
- TransmissionLine**
- Mainland Option 1
- Mainland Option 2
- Island Transmission Line
- Land Use**
- Central Staging Area
- Switching Station (Potential Location)
- Existing Features**
- Road
- Unopened Road Allowance
- Railway
- Watercourse

Notes

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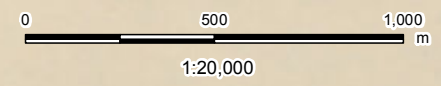
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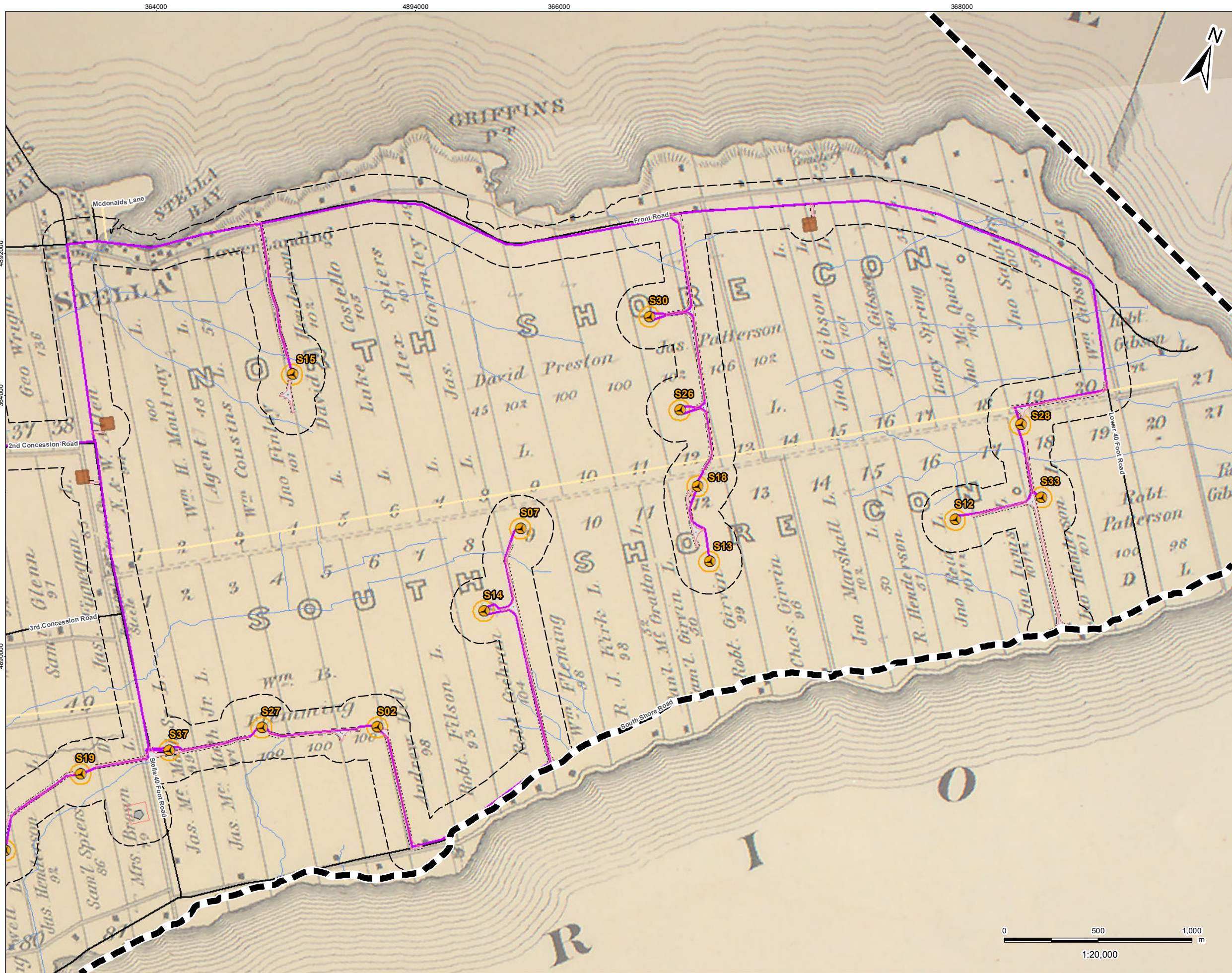
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Figure No.
8

Title
Meacham's 1878 Historic Mapping Overlaid
by Project Components (Central Portion)





Legend

- Project Study Area
- 120m Zone of Investigation
- Project Components**
- Turbine
- Met Tower (Potential Location)
- Substation (Potential Location)
- Collector Lines
- Access Road
- Submarine Cable Path
- Laydown Area and Crane Pad
- Potential Culvert Location
- Point of Common Coupling
- Mainland Cable Vault (Potential Location)
- Island Cable Vault
- Turbine Blade Tips
- Constructible Area
- Mainland Dock (Potential Location)
- Island Dock
- Batch Plant (Potential Location)
- Site Office (Potential Location)
- Storage Shed
- Operation and Maintenance Building (Potential Location)
- TransmissionLine**
- Mainland Option1
- Mainland Option 2
- Island Transmission Line
- Land Use**
- Central Staging Area
- Switching Station (Potential Location)
- Existing Features**
- Road
- Unopened Road Allowance
- Railway
- Watercourse

Notes

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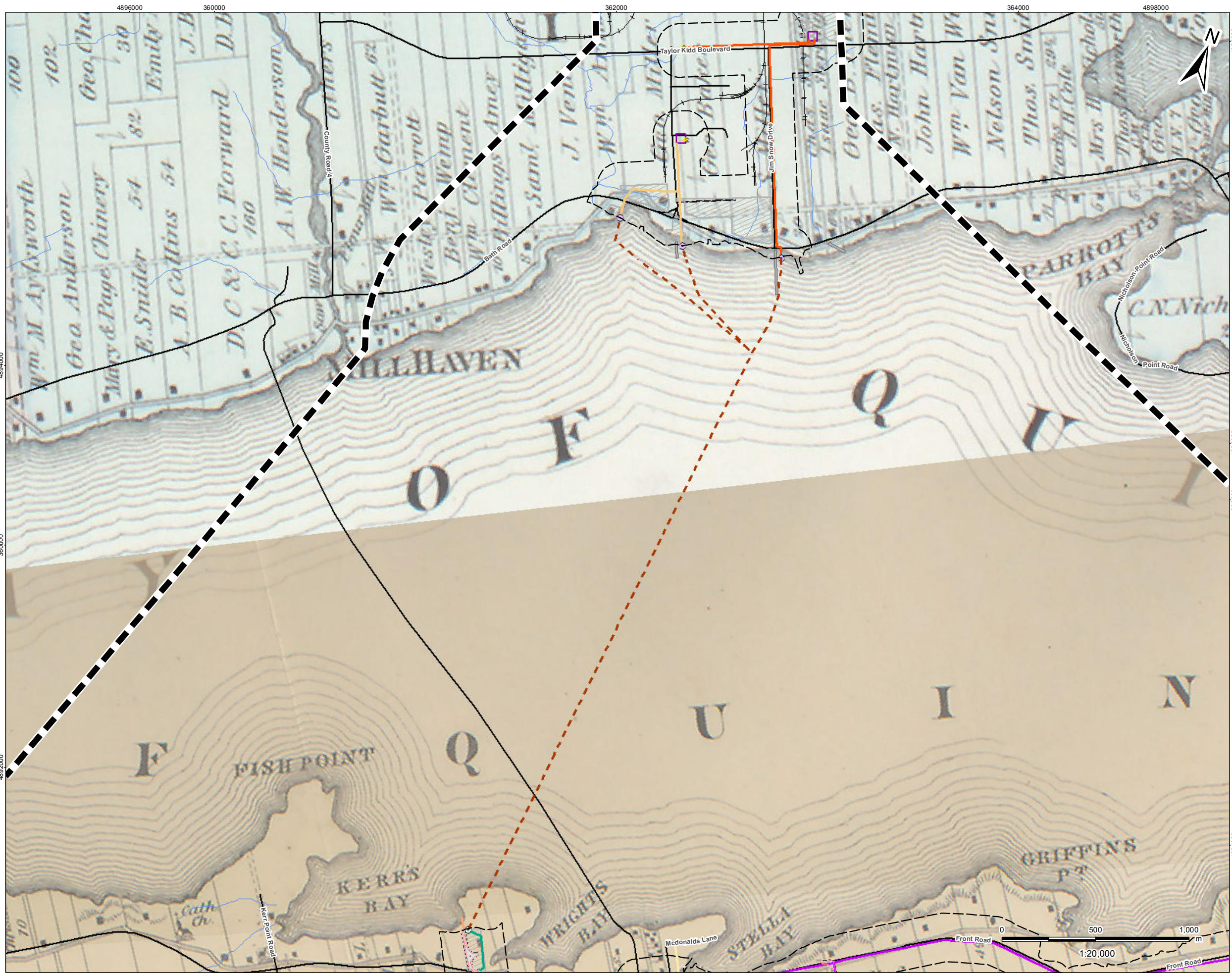
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Figure No.
9

Title
Meacham's 1878 Historic Mapping Overlaid
by Project Components (Eastern Portion)



Legend

- Project Study Area
- 120m Zone of Investigation
- Project Components**
 - Turbine
 - Met Tower (Potential Location)
 - Substation (Potential Location)
 - Collector Lines
 - Access Road
 - Submarine Cable Path
 - Laydown Area and Crane Pad
 - Potential Culvert Location
 - Point of Common Coupling
 - Mainland Cable Vault (Potential Location)
 - Island Cable Vault
 - Turbine Blade Tips
 - Constructible Area
 - Mainland Dock (Potential Location)
 - Island Dock
 - Batch Plant (Potential Location)
 - Site Office (Potential Location)
 - Storage Shed
 - Operation and Maintenance Building (Potential Location)
- TransmissionLine**
 - Mainland Option 1
 - Mainland Option 2
 - Island Transmission Line
- Land Use**
 - Central Staging Area
 - Switching Station (Potential Location)
- Existing Features**
 - Road
 - Unopened Road Allowance
 - Railway
 - Watercourse

Notes

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Figure No.
10

Title
Meacham's 1878 Historic Mapping Overlaid by Project Components (Mainland Portion)

4.0 Protected Properties

4.1 EXISTING HERITAGE DESIGNATIONS, EASEMENTS AND CONSERVATION DISTRICTS

There are three (3) properties within the Study Area protected under the conditions outlined in Section 19, O.Reg 359/09 (pers. comm., Fraser, 2011; pers. comm., Sova, 2012; MTCS, 2011).

Table 2: Protected Properties Within or Adjacent to the Study Area

Description of Property (as per Section 19, O.Reg 359/09)	Buildings in Study Area
A property that is the subject of an agreement, covenant or easement entered into under clause 10 (1)(b) of the <i>Ontario Heritage Act (OHA)</i> .	none
A property in respect of which a notice of intention to designate the property to be of cultural heritage value or interest has been given in accordance with section 29 of the <i>OHA</i> .	none
A property designated by a municipal by-law made under section 29 of the <i>OHA</i>	Neilson's Store; Trinity United Church; and Pentland Cemetery
A property designated by order of the Minister of Culture made under section 34.5 of the <i>OHA</i> as a property of cultural heritage value or interest of provincial significance.	none
A property in respect of which a notice of intention to designate the property to be of cultural heritage value or interest of provincial significance has been given in accordance with section 34.6 of the <i>OHA</i> .	none
A property that is the subject of an easement or a covenant entered into under section 37 of the <i>OHA</i> .	none
A property that is part of an area designated by a municipal by-law made under section 41 of the <i>OHA</i> as a heritage conservation district.	none
A property designated as a historic site under Regulation 880 of the Revised Regulation of Ontario, 1990 (Historic Sites) made under the <i>OHA</i> .	none

4.1.1 Neilson's Store

Neilson's Store is located in the Village of Stella, at 5170 Front Road in part of Lot 3, North Shore Concession (Figures 4 and 11). The property is protected by Municipal By-Law No. 2001-16, under Section 29 of the *OHA*. The property was designated as an architectural and historical property on April 9, 2001.

The designated property is comprised of the building and the property on which it is situated, from the road to the shoreline (Appendix C, By-Law 2001-16).

Neilson's Store was constructed in 1883 by James Neilson, replacing an earlier store that had been on the site since 1873. The building was designated as an excellent example of 19th century commercial architecture. Character-defining architectural details include: large display windows; covered-porch along the front of the store; some remaining wood clapboard cladding;

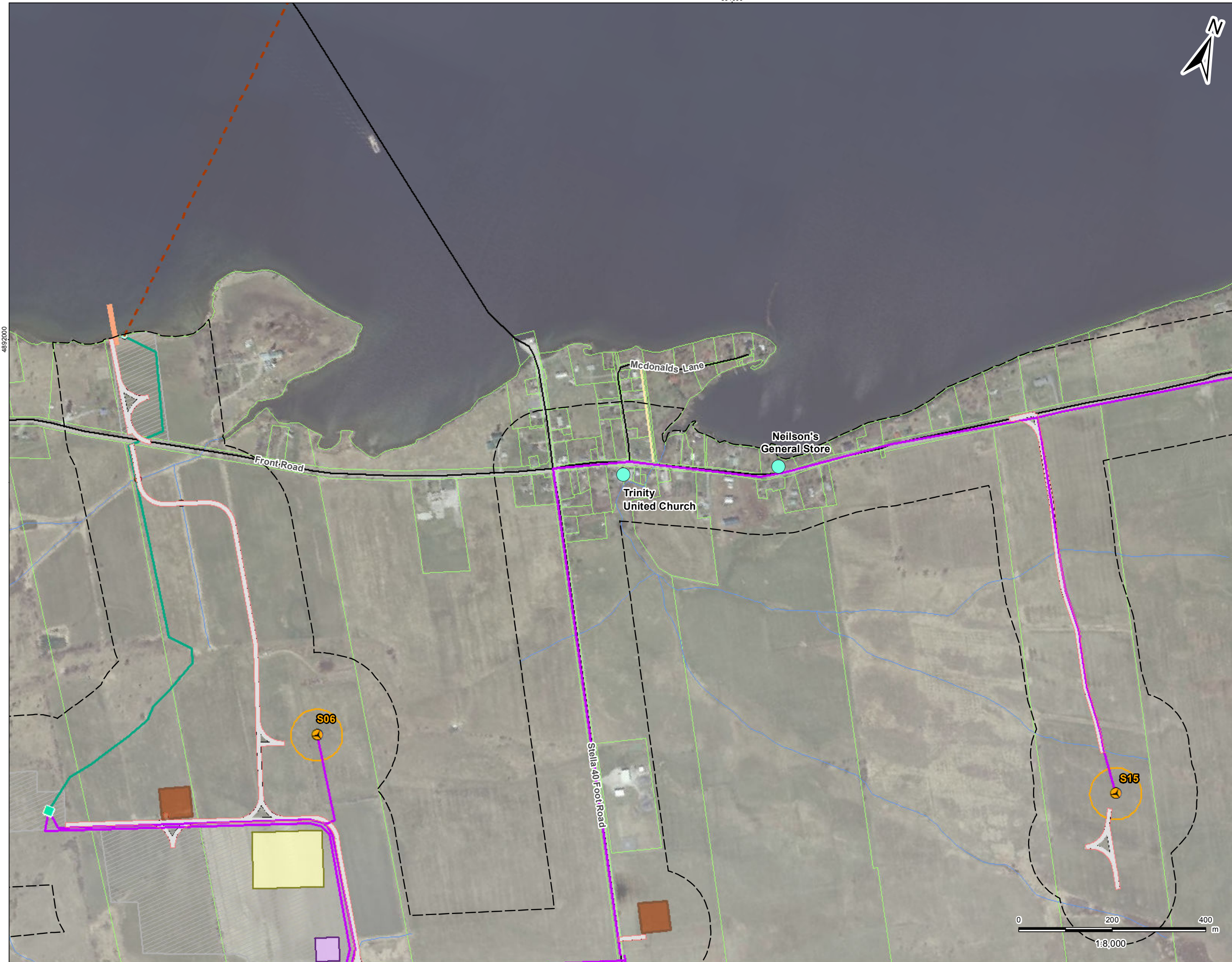
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PROTECTED PROPERTIES ASSESSMENT**

narrow soffit with beaded tongue and groove boarding; and two lightning rods with decorative glass finials on the roof (Plate 1).

The designation also protects the former shipping yard along the shore which was originally intended to supply the store, but was also served as a docking place for numerous commercial vessels. It was the dock for the first ferry when service began in 1929. The shipping yard and surrounding property now serve as a public park. Details regarding the history and architectural features of the building are outlined in the *Reasons for Designation in Schedule 'B' to By-Law 2001-16* in Appendix C. Neilson's Store currently houses the Amherst Island Museum and Gallery.



Plate 1: Neilson's General Store, 5170 Front Road



Legend

- Project Study Area
- 120m Zone of Investigation
- Protected Property
- Project Components**
- Turbine
- Met Tower (Potential Location)
- Substation (Potential Location)
- Collector Lines
- Access Road
- Submarine Cable Path
- Potential Culvert Location
- Point of Common Coupling
- Mainland Cable Vault (Potential Location)
- Island Cable Vault
- Turbine Blade Tips
- Constructible Area
- Mainland Dock (Potential Location)
- Island Dock
- Batch Plant (Potential Location)
- Site Office (Potential Location)
- Storage Shed
- Operation and Maintenance Building (Potential Location)
- TransmissionLine**
- Mainland Option 1
- Mainland Option 2
- Island Transmission Line
- Land Use**
- Central Staging Area
- Switching Station (Potential Location)
- Existing Features**
- Road
- Unopened Road Allowance
- Railway
- Watercourse
- Property Boundaries

Notes

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Figure No.

11

Title

Detail of the Village of Stella

Impact Assessment

Neilson's Store is located on the north side of Front Road in part of Lot 3, North Shore Concession (Figure 4). Neilson's Store is adjacent to the Front Road Right-of-Way (RoW) along which the Project collector line is located (Figure 4). The structure is narrowly setback from the road, being 5 m and 11 m north of the northern and southern limits of the road RoW, respectively. Other project components in the vicinity of the property include turbines S06 and S15, located approximately 1250 m to the southwest, and 1000m to the south-southeast, respectively (Figures 4 and 11).

Destruction – There is a potential for Project activities related to the installation of any new collector line infrastructure to indirectly damage the structural integrity of Neilson's Store and its heritage attributes. In the event that an underground Collector System is installed, there is potential for vibrations from below-grade construction activities to inadvertently damage or destroy protected resources and features as a result of the building's narrow setback.

Alteration – The Project will not alter the subject property.

Shadows - No Project-related negative impacts have been identified with respect to shadows.

Isolation – No Project-related negative impacts have been identified with respect to isolation.

Direct or indirect obstruction of significant views – Two turbines (S15 and S06) are located within the vicinity of Neilson's Store (Figure 4). Views of Neilson's Store are generally northward, with the Project to the viewers' back and, as a result, views of the store will not be affected by the Project.

Above-ground transmission lines are located along either side of Front Road, including in front of the Neilson's Store building (Plate 1). Any new above-ground infrastructure of a similar type, placed in similar locations (*i.e.*, not directly in front of the building) would not have a negative impact on views of the building.

Views from the park comprising the remainder of the property at 5170 Front Road have also been assessed as part of this study. Potentially visible Project components in the vicinity of the property include: turbines S06 and S15, located approximately 1140 m to the southwest and 1000m to the south-southeast, respectively. It is possible that Turbines S06 and S15 may be visible from the park from certain vantage points; however, this is not likely to detract from the visitor's visual experience of the park given the thick tree cover on both sides of the road, the narrow setback of properties in the immediate vicinity, and the downward slope of the surrounding property towards the Lake to the north.

Change in land-use - No change in land-use will occur as a direct result of the Project.

Conclusions and recommended mitigation

Given that above-ground transmission lines are located along either side of Front Road, including in front of the Neilson's Store building (Plate 1), any new above-ground infrastructure of a similar type, placed in similar locations (*i.e.*, not directly in front of the building) would not have a negative impact on views of the building.

It is recommended that no Project activities be undertaken within 50 m of the Neilson's Store. If due to other Project constraints Front Road cannot be avoided, the following mitigation is recommended: that the maximum acceptable vibration, or peak particle velocity (PPV), levels for the structure should be determined by a qualified engineer with previous experience working with built heritage under similar circumstances prior to Project activities; and that Project activities should be monitored throughout their duration to ensure that maximum PPV levels are not exceeded. All construction activities should cease immediately if levels are exceeded to determine a solution to ensure compliance with PPV levels.

4.1.2 Trinity United Church

Trinity United Church is located in the Village of Stella at 5555 Front Road in part of Lot 1, North Shore Concession (Figures 4 and 11). The property is protected by Municipal By-Law No. 2005-98, under Section 29 of the *OHA*. The property was designated as a property of architectural and historical value on September 26, 2005. The designation specifically protects the entire exterior of the building, excluding the modern features.

Formerly the Wesley Methodist Church, it was constructed between 1873 and 1874 to serve the Methodist population of Amherst Island, who had begun holding services on the Island in 1872 in School House No. 1 and later in the Orange Hall. The church later served as the ferry office and public library.

The church is frame construction with wood-cladding, built on a simple rectangular plan. The roof is metal. Character-defining features of the building include the simple lancet arch windows and doors, projecting verges and exposed purlins (Plate 2). Further details pertaining to the building's history, architectural features, and contextual value as it relates to the Village of Stella are outlined in the *Reasons for Designation in Schedule 'C' to By-Law 2005-98* in Appendix C.

Impact Assessment

Trinity United Church is located on the south side of Front Road in part of Lot 1, North Shore Concession (Figures 4 and 11). Project components in the vicinity of the property include the collector line along the Front Road Right-of-Way (RoW) and Turbines S06 and S15, located approximately 1000 m to the southwest and 1200 m to the southeast, respectively (Figures 4

and 11). The church is narrowly setback, being 5 m and 20 m south of the southern and northern limits of the Front Road RoW.

Destruction – There is a potential for Project activities related to the installation of any new collector line infrastructure to indirectly damage the structural integrity of the Trinity United Church and its heritage attributes. There is potential for vibrations from below-grade construction activities related to the proposed buried collector line to inadvertently damage or destroy protected resources and features as a result of the church's narrow setback.

Alteration - No Project-related negative impacts are expected with respect to alteration.

Shadows - No Project-related negative impacts are expected with respect to shadows.

Isolation – No Project-related negative impacts have been identified with respect to isolation.

Direct or indirect obstruction of significant views – Two turbines, S06 and S15, are located within the vicinity of Trinity United Church (Figure 4). The church is narrowly setback from the road and is flanked on both sides by buildings of similar height, massing and setback. The rear of the property is treed (Plate 2). Visual modelling indicates that the turbines will not detract from views of the church based on the narrow setback of the church and adjacent buildings, and their thickly forested backdrop (Plate 2, Visual Aid 2).

Above-ground transmission lines are located along either side of Front Road, including in front of the Trinity United Church (Plate 2). Any new above-ground infrastructure of a similar type, placed in similar locations (*i.e.*, not directly in front of the building) would not have a negative impact on views of the building.

Change in land-use - No change in land-use will occur as a direct result of the Project.

Conclusions and recommended mitigation

Given that above-ground transmission lines are located along either side of Front Road, including in front of the Trinity United Church (Plate 2), any new above-ground infrastructure of a similar type, placed in similar locations (*i.e.*, not directly in front of the building) would not have a negative impact on views of the building.

It is recommended that no Project activities be undertaken within 50 m of the Trinity United Church. If due to other Project constraints Front Road cannot be avoided the following mitigation is recommended: that the maximum acceptable vibration, or peak particle velocity (PPV), levels for the structure should be determined by a qualified engineer with previous experience working with built heritage under similar circumstances prior to Project activities; and that Project activities should be monitored throughout their duration to ensure that maximum

PPV levels are not exceeded. All construction activities should cease immediately if levels are exceeded to determine a solution to ensure compliance with PPV levels.



Plate 2: Trinity United Church, 5555 Front Road

4.1.3 Pentland Cemetery

Pentland Cemetery is located east of Stella at 1652 Front Road in part of Lot 16, North Shore Concession (Figure 4). The property is protected by Municipal By-Law No. 2007-116 under Section 29 of the *OHA*. The property was designated as a property of architectural and historical value on December 19, 2010.

The designation of Pentland Cemetery specifically protects the entire property, original tree growth and the Irish dry stone fence found on all four sides (Plate 3). The stone wall has been rebuilt in recent years by members of the community. Character-defining features of the cemetery include numerous headstones and footstones dating from 1831 to 2001, wrought iron fencing around some of the burials and groupings of burials, landscaping which includes a

number of mature cedars, and the stone fence constructed by John Crowe, parts of which were recently reconstructed by members of the community (Plate 4).

In addition to man-made components, the cemetery is also characterized by numerous mature tree plantings around and throughout the cemetery which result in a canopy in many parts of the cemetery (Plates 4 through 6). The topography of the Pentland Cemetery slopes gently down towards the north shore. The cemetery has a strong historic and contextual association with the Bay of Quinte to the north, and views towards the lake to the north are significant (Plate 6).

The first burial at the cemetery was that of Samuel Pentleton in 1831 and the last was Arthur Scott in 1954. The ashes of Anita Fowler were placed in the Fowler family plot in 2001.

Further information regarding the history of Pentland Cemetery can be found in the *Reasons for Designation in Schedule 'B' to By-Law 2005-41* in Appendix C.

Impact Assessment

Pentland Cemetery is located on the north side of Front Road in part of Lot 16, North Concession (Figure 4). Project components in the vicinity of the cemetery include: the Project collector line along Front Road; Turbines S30, S26, S18, S13, S12, S28, and S33, located approximately 1025 m, 1290 m, 1614 m, and 1970 m to the southeast and 1875 m, 1650 m, and 2018 m to the south, respectively; and an Operation and Maintenance Building within 100 m to the south (Figure 4).

Destruction – There is potential for vibrations from Project activities (*i.e.*, Operations and Maintenance Building, collector line, transportation of Project components) to inadvertently damage protected features such as the dry stone fence.

Alteration - No Project-related negative impacts are expected with respect to alteration.

Shadows - No Project-related negative impacts are expected with respect to shadows.

Isolation – No Project-related negative impacts have been identified with respect to isolation.

Direct or indirect obstruction of significant views – Six turbines (S30, S26, S18, S13, S12, and S28) are located within 2000 m of the cemetery (Figure 4). Views of the cemetery from Front Road will not be affected by the turbine locations, which are all to the viewers' back when viewing Pentland Cemetery.

Views from the cemetery have also been considered. Significant views from the Pentland Cemetery towards the Bay of Quinte to the north will not be obstructed by the Project. One of the characteristic natural features of the cemetery is the canopy resulting from numerous mature trees in and around the cemetery. Coupled with the downward slope of the cemetery

and the distance of the closest turbines (S30 and 26), no significant impacts are expected with respect to turbines.

In the event that an Operations and Maintenance Building is constructed on the south side of Front Road, opposite the cemetery, the building may have a negative impact on the pastoral character of views from the cemetery.

Change in land-use - No change in land-use will occur as a direct result of the Project.

Conclusions and recommended mitigation

It is recommended that the Operations and Maintenance Building location opposite the Pentland Cemetery be avoided.

Prior to Project activities (*i.e.*, for the buried collector line or transportation of Project components) within a 50 m bufferzone, it is recommended that the stone wall be fully documented. The stone wall should be assessed periodically by a qualified individual during construction activities to ensure that no damage is occurring. Project activities should cease immediately if vibrations are found to be resulting in damage until the wall can be adequately reinforced or supported.

The stone wall should be evaluated by a qualified mason or engineer following construction activities in the vicinity of the cemetery to ensure that no damage has occurred. Any damage to the wall should be repaired immediately following Project activities.

If the Operations and Maintenance Building is located opposite the Pentland Cemetery, steps should be taken to minimise the visual impact on the character of the views from the cemetery. It is recommended that trees or tall shrubbery be planted between the road and the building to soften views of the building. The vegetation should be of a height that shields the Operation and Maintenance Building from view.



Plate 3: Irish dry stone fence at Pentland Cemetery



Plate 4: Pentland Cemetery 1652 Front Road



Plate 5: View from Pentland Cemetery facing south-southeast



Plate 6: View from Pentland Cemetery facing north

5.0 Study Results and Recommendations

A total of three (3) protected properties have been identified within the Study Area. These properties include:

- Neilson's General Store at 5170 Front Road;
- Trinity United Church at 5555 Front Road; and
- Pentland Cemetery at 1652 Front Road.

Potential negative impacts have been identified for all three properties.

This study recommends the following for the church and store:

- Project activities within a 50 m bufferzone of the Trinity United Church and Neilson's Store should be avoided.
- If Project activities within a 50 m bufferzone cannot be avoided due to other Project constraints, it is recommended that maximum acceptable vibration, or peak particle velocity (PPV), levels for each building be determined by a qualified engineer with previous experience working with built heritage under similar circumstances prior to Project activities.
- Project activities should be monitored to ensure that maximum PPV levels are not exceeded.
- All Project activities should cease immediately if PPV levels are exceeded to determine a solution to ensure compliance with PPV levels.

The study recommends the following for the cemetery:

- The Operations and Maintenance Building location opposite the Pentland Cemetery should be avoided.
- Prior to Project activities within a 50 m bufferzone (*i.e.*, collector line, transportation of Project components), it is recommended that the stone wall be fully documented. The stone wall should be assessed periodically by a qualified individual during Project activities to ensure that no damage is occurring. Project activities should cease immediately if vibrations are found to be resulting in damage until the wall can be adequately reinforced or supported.

- The stone wall should be evaluated by a qualified mason or engineer following construction activities in the vicinity of the cemetery to ensure that no damage has occurred. Any damage to the wall should be repaired immediately following construction activities.
- To minimize impacts from the Operation and Maintenance Building, trees and/ or shrubbery should be planted to shield this structure from view.

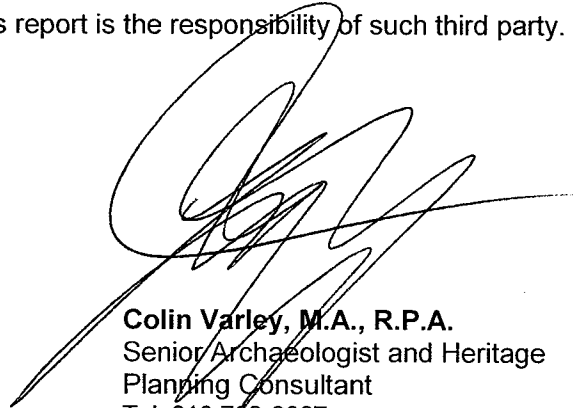
6.0 Closure

This report has been prepared for the sole benefit of Windlectric Inc. and may not be used by any third party without the express written consent of Stantec Consulting Ltd and Windlectric Inc.. Any use which a third party makes of this report is the responsibility of such third party.

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