

Appendix E:
Correspondence with MTCS



Stantec Consulting Ltd.
70 Southgate Drive, Suite 1, Guelph ON N1G 4P5

December 2, 2014
File: 160960595

Attention: Paige Campbell
Ministry of Tourism, Culture and Sport
435 S. James Street, Suite 334
Thunder Bay ON P7E 5S7

Dear Ms. Campbell ,

**Reference: Amherst Island Wind Energy
Project Layout Modifications**

The purpose of this letter is to provide the Ministry of Tourism, Culture and Sports (MTCS) with details regarding proposed project layout modifications to the Amherst Island Wind Energy Project (the "Project"). Please accept this correspondence as a formal request for your office to expedite the review of the information described below due to the fact that a modification submission to the Ministry of the Environment and Climate Change (MOECC) is required as soon as possible to meet the Project schedule.

These Project updates have been discussed with the MOECC, who has verified the proposed modifications would be classified as Technical Changes and a Project Design Change, pursuant to the classification system outlined in the Ministry of the Environment's Technical Guide to Renewable Energy Approvals (October, 2013).

The amendments include the following:

- a) The reduction in the number of Wind Turbines by changing the Turbine Model (Siemens 2.942 MW and 2.772 MW) (see **Figure 1A, Attachment 1**);
- b) The addition of an underground collector line along a previously approved access road between T16/T23 and T35 (see **Figure 1A, Attachment 1**); and
- c) The addition of an underground collector line along South Shore Road and up to S13 (see **Figure 1, Attachment 1**). Along with the removal of the portions of the proposed underground collector line along Stella 40 Foot Road and Front Road.

Amendment Details

Technical Change Modifications:

- a) Reducing the number of Wind Turbines by changing Turbine Model (Siemens 2.942 MW and 2.772 MW)

Design with community in mind



December 2, 2014
Paige Campbell
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**Reference: Amherst Island Wind Energy
Project Layout Modifications**

This technical change involves changing the Project's turbines from a combination of Siemens 2.3 MW and 2.221 MW to a combination of Siemens 2.942 MW and 2.772 MW, and thereby reducing the number of turbines from 36 to 27. The new turbines would be physically identical, specifically with a hub height of 99.5 m and rotor diameter of 113 m. The modification will decrease the Project Location size by reducing the number of turbine sites from 36 to 27. All of these 27 turbine sites are in previously studied and proposed locations.

b) Collection System Route Change – Reducing Impacts on 2nd Concession

Another technical change would involve the addition of an underground collector line along a previously approved access road between T16/T23 and T35. This underground collector line has been incorporated into the design of the access road between T16/23 and T35. Because the collector line will use the same corridor as the previously studied and proposed access road, the Project Location will not be changed, and therefore there will be no new features to be considered within 120 m of the Project Location. The addition of the underground collector line route provides Windlectric Inc. with greater design flexibility. The construction and installation activities for this underground collector line will be completed in the same manner as the collector lines which are described in the Construction Plan Report, submitted as part of the Renewable Energy Approval (REA) Application.

The two technical amendments described above do not require additional Stage 2 archaeological assessments.

Project Design Change Modifications:

c) Collection System Route Change – Avoiding the Village of Stella

This proposed modification would involve rerouting the collection system to avoid the Village of Stella. In doing so, this modification would remove a significant portion of the existing collection system from S30 entrance along Front Road, including removing approximately 4 km of road allowance trenching (including through Stella). The modification would also require a new collection corridor from S13 to South Shore Rd. and west to S14 entrance, which would consist of approximately 1 km in road allowance and 700 m of in pasture field. The modification will decrease the Project Location size by resulting in a net reduction of approximately 2 km of collection system trenching.

The project modification has been discussed with the Ministry of the Environment and Climate Change (MOECC). The MOECC has verified this project modification is a Project Design Change



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**Reference: Amherst Island Wind Energy
Project Layout Modifications**

as pursuant to the classification system outlined in the Ministry of the Environment's *Technical Guide to Renewable Energy Approvals* (October, 2013).

Additional Stage 2 archaeological work was necessary to determine the presence of potential archaeological resources on the manicured private lawn (lot 13) south of Turbine S13. This work was undertaken and is described in the attached report titled: Attachment 2: Stage 2 Archaeological Assessment: Amherst island Wind Energy Project, Collector Line Modification.

The results of the Stage 2 work indicates no archaeological resources were identified during the field assessment, therefore, no further archaeological assessment of the study area is required.

CLOSING

Stantec Consulting Ltd. prepared this letter report for Windlectric Inc. for the Amherst Island Wind Energy Project. Windlectric Inc. is committed to implementing the appropriate protection and mitigation measures as they apply to the construction and operation of the proposed Project.

Regards,

STANTEC CONSULTING LTD.

A handwritten signature in blue ink that reads "Kerrie Skillen".

Kerrie Skillen
Project Manager
Phone: (519) 836-6966
kerrie.skillen@stantec.com

c. Alex Tsopelas, Algonquin Power Co.
Sean Fairfield, Algonquin Power Co.
Colin Varley, Stantec Consulting Ltd.

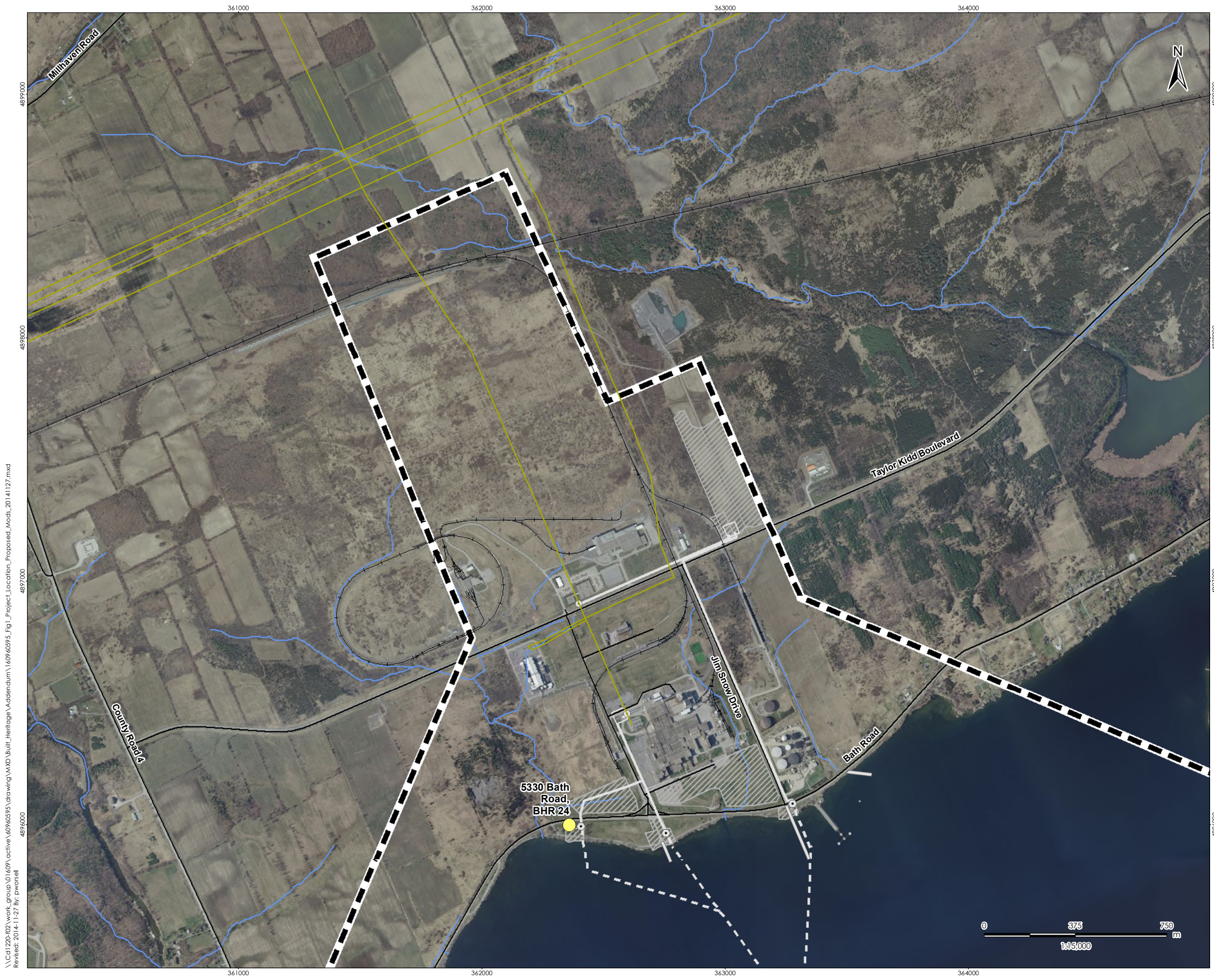
Attachments:

Attachment 1: Project Location & Study Area: Proposed Modifications
Attachment 2: Stage 2 Archaeological Assessment: Amherst island Wind Energy Project, Collector Line Modification

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Attachment 1:

Project Location & Study Area: Proposed Modifications



Legend

- Study Area
- Built Heritage Resource
- Protected Property
- Cultural Heritage Landscape
- Stone Fence
- Project Components**
- ⊗ Turbine (No Changes Proposed)
- ⊗ Turbine (Removed)
- ⊙ Met Tower - Potential Location (No Changes Proposed)
- ⊙ Met Tower - Potential Location (Removed)
- Other Project Component (No Changes Proposed)
- Other Project Component (New)
- Other Project Component (Removed)
- Existing Features**
- Road
- Unopened Road Allowance
- Railway
- Hydro Line
- Watercourse
- Property Line

Notes

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Client/Project

Windlectric Inc.
Amherst Island Wind Energy Project

Figure No.

1.1

Title

**Project Location & Study Area:
Proposed Modifications**



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 Revised: 2014-11-27 By: p.worsell

361000 362000 363000 364000 365000



Legend

- Study Area
- Built Heritage Resource
- Protected Property
- Cultural Heritage Landscape
- Stone Fence
- Project Components**
 - Turbine (No Changes Proposed)
 - Turbine (Removed)
 - Met Tower - Potential Location (No Changes Proposed)
 - Met Tower - Potential Location (Removed)
 - Other Project Component (No Changes Proposed)
 - Other Project Component (New)
 - Other Project Component (Removed)
- Existing Features**
 - Road
 - Unopened Road Allowance
 - Railway
 - Hydro Line
 - Watercourse
 - Property Line

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Revised: 2014-11-27 By: p.worsell



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Client/Project
Windlectric Inc.
Amherst Island Wind Energy Project

Figure No.
1.2

Title
**Project Location & Study Area:
Proposed Modifications**



366000 367000 368000 369000 370000



Legend

- Study Area
- Built Heritage Resource
- Protected Property
- Cultural Heritage Landscape
- Stone Fence
- Project Components**
 - Turbine (No Changes Proposed)
 - Turbine (Removed)
 - Met Tower - Potential Location (No Changes Proposed)
 - Met Tower - Potential Location (Removed)
 - Other Project Component (No Changes Proposed)
 - Other Project Component (New)
 - Other Project Component (Removed)
- Existing Features**
 - Road
 - Unopened Road Allowance
 - Railway
 - Hydro Line
 - Watercourse
 - Property Line



- Notes**
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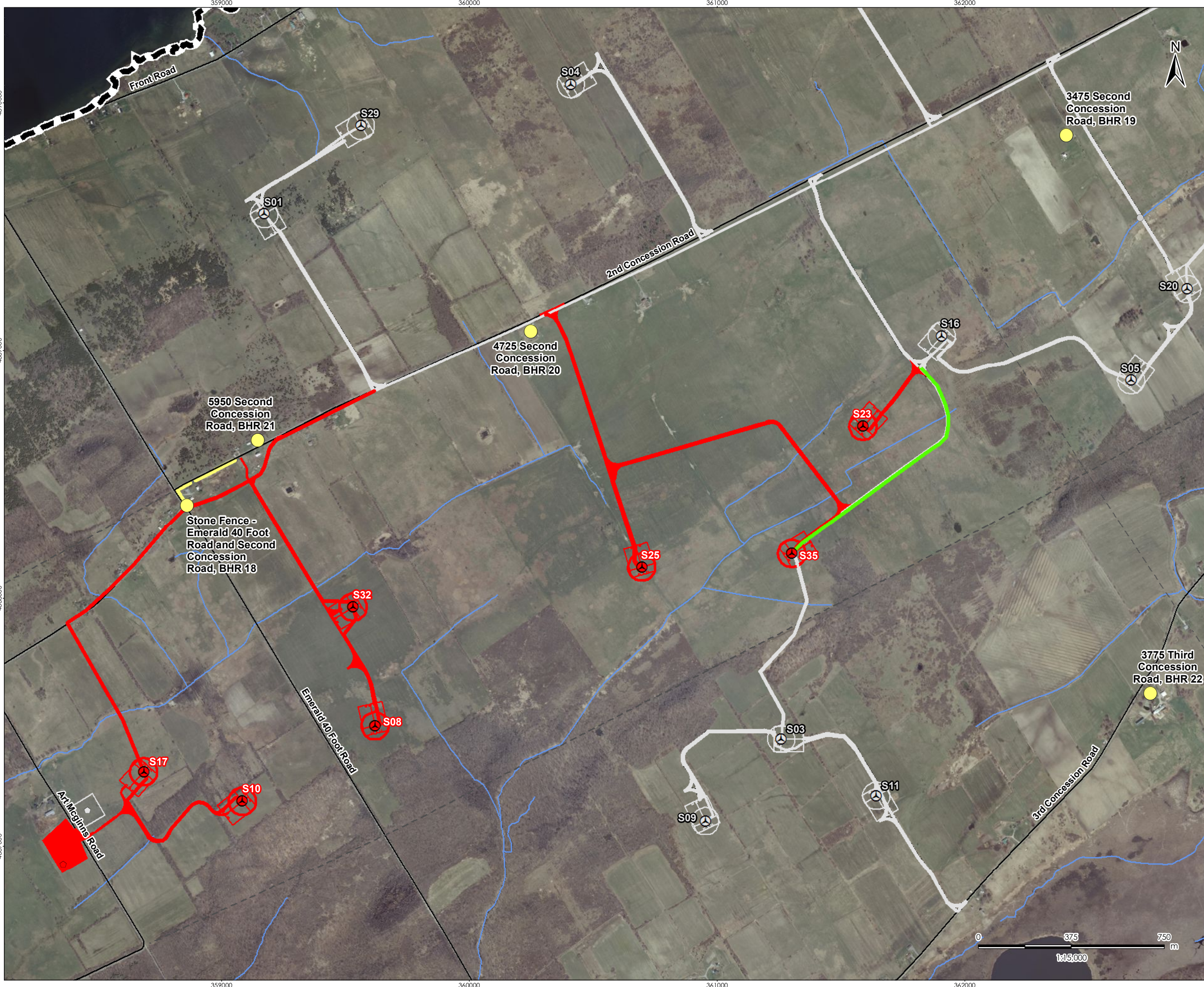
Client/Project
Windlectric Inc.
Amherst Island Wind Energy Project

Figure No.
1.3

Title
**Project Location & Study Area:
Proposed Modifications**

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Revised: 2014-11-27 By: p.worsell

366000 367000 368000 369000 370000



Legend

- Study Area
- Built Heritage Resource
- Protected Property
- Cultural Heritage Landscape
- Stone Fence
- Project Components**
- Turbine (No Changes Proposed)
- Turbine (Removed)
- Met Tower - Potential Location (No Changes Proposed)
- Met Tower - Potential Location (Removed)
- Other Project Component (No Changes Proposed)
- Other Project Component (New)
- Other Project Component (Removed)
- Existing Features**
- Road
- Unopened Road Allowance
- Railway
- Hydro Line
- Watercourse
- Property Line

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Client/Project
Windelectric Inc.
Amherst Island Wind Energy Project

Figure No.
1.4

Title
**Project Location & Study Area:
Proposed Modifications**

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 Revised: 2014-11-27 By: p.worsell



Legend

- Study Area
- Built Heritage Resource
- Protected Property
- Cultural Heritage Landscape
- Stone Fence
- Project Components**
- ⊙ Turbine (No Changes Proposed)
- ⊗ Turbine (Removed)
- ⊕ Met Tower - Potential Location (No Changes Proposed)
- ⊖ Met Tower - Potential Location (Removed)
- Other Project Component (No Changes Proposed)
- Other Project Component (New)
- Other Project Component (Removed)
- Existing Features**
- Road
- Unopened Road Allowance
- Railway
- Hydro Line
- Watercourse
- Property Line

Notes

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Client/Project

Windlectric Inc.
Amherst Island Wind Energy Project

Figure No.

1.5

Title

**Project Location & Study Area:
Proposed Modifications**

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 Revised: 2014-11-27 By: pworthell
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Attachment 2:

Stage 2 Archaeological Assessment:
Amherst island Wind Energy Project, Collector Line Modification

**Stage 2 Archaeological
Assessment: Amherst Island
Wind Energy Project, Collector
Line Modification**

Part of Lot 13, South Shore
Concession, Amherst Island,
County of Lennox and
Addington, Ontario



Prepared for:
Windlelectric Inc.
2845 Bristol Circle
Oakville, Ontario L6H 7H7

Prepared by:
Stantec Consulting Ltd.
1331 Clyde Ave, Suite 400
Ottawa, ON K2C 3G4

Licensee: Patrick Hoskins, MA
License Number: P415
PIF Number: P415-0020-2014
Project Number: 160960595

FIT Number: FUT3NOX

ORIGINAL REPORT

December 1, 2014

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STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

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Executive Summary

Stantec Consulting Ltd. (Stantec) was retained by Windlectric Inc. to complete a Stage 2 assessment of a proposed, Collector Line Modification for a section of the Amherst Island Wind Energy Project, located on part of Lot 13, South Shore Concession, Amherst Island, County of Lennox and Addington, Ontario. Windlectric Inc. (the Proponent or Windlectric) is proposing to develop, construct, and operate the 56 - 75 megawatt (MW) Amherst Island Wind Energy Project within Loyalist Township in the County of Lennox and Addington in eastern Ontario, in response to the Government of Ontario's initiative to promote the development of renewable electricity in the province.

The basic components of the proposed Project include up to 36 Siemens 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 un-serviced 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.

The Stage 2 archaeological assessment was conducted October 24, 2014 under PIF #P415-0020-2014 issued to Patrick Hoskins, MA, by the Ministry of Tourism, Culture and Sport (MTCS). An area approximately 90 metres north-south by 15 metres east-west was assessed during the Stage 2 archaeological assessment conducted on behalf of Winelectric Inc.

The Stage 2 archaeological assessment resulted in the identification of no archaeological resources, and therefore **it is recommended that no further archaeological assessment of the study area is required.**

The Ministry of Tourism, Culture and Sport is asked to accept this report into the Ontario Public Register of Archaeological Reports.

The Executive Summary highlights key points from the report only; for complete information and findings, the reader should examine the complete report.



STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

Project Personnel

Licensed Archaeologist:	Patrick Hoskins, MA (P415)
Project Manager:	Colin Varley, MA, RPA Associate, Senior Archaeologist (P002)
Licensed Field Directors:	Tavis Maplesden, BA (R467)
Field Technicians:	Patrick Hokins, MA (P415)
Report Writer:	Patrick Hoskins, MA (P415)
GIS Specialist:	Nicole Cruikshank, B.Sc. CertGIS
Technical Review:	Colin Varley, MA, RPA (P002)
Senior Review:	Jim Wilson, MA, Archaeology Discipline Lead, (P001)

Acknowledgements

Ministry of Tourism, Culture and Sport: Mr. Robert von Bitter



STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

Project Context
December 1, 2014

1.0 PROJECT CONTEXT

1.1 DEVELOPMENT CONTEXT

Stantec Consulting Ltd. (Stantec) was retained by Windlectric Inc. to complete a Stage 2 assessment of a proposed Collector Line Modification for a section of the Amherst Island Wind Energy Project, located on part of Lot 13, South Shore Concession, Amherst Island, County of Lennox and Addington, Ontario (Figures 1 and 2). Windlectric Inc. (the Proponent or Windlectric) is proposing to develop, construct, and operate the 56 - 75 megawatt (MW) Amherst Island Wind Energy Project within Loyalist Township in the County of Lennox and Addington in eastern Ontario, in response to the Government of Ontario's initiative to promote the development of renewable electricity in the province.

The basic components of the proposed Project include up to 36 Siemens 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 un-serviced 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 roads, met tower(s), collector lines and transmission line as well as 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.



STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

Project Context
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The REA application considered the following alternative Project configurations:

- two alternative mainland transmission line routes;
- two alternative switching station locations and corresponding point of common coupling with the HONI line;
- three alternative mainland temporary dock locations along the mainland;
- a submarine cable with three alternative submarine cable routes near the mainland;
- three alternative mainland submarine cable landing locations and corresponding cable vault locations;
- up to three alternative met tower locations; and,
- up to three potential locations for an operations and maintenance building.

Final selection of the sites to be used would be based on the results of consultation activities, detailed design / engineering work, and the conditions experienced during construction.

This current Stage 2 assessment was required in order to assess the addition of an underground collector line along South Shore Road within the road right-of-way and on private land from the access road for S14 to S13. The rerouting of the proposed collector line would occur from the end of a previously surveyed section of the Project through a lawn area in Lot 13. The collector line will run south through the property to the disturbed road Right of Way at South Shore Road. The total width of the proposed project work will be maximally 10 m wide.

1.1.1 Objectives

The objectives of the Stage 2 archaeological assessment are to document archaeological resources present within the subject property, to determine whether any of the resources might be artifacts or archaeological sites with cultural heritage value or interest requiring further assessment, and to provide specific Stage 3 direction for the protection, management, and/or recovery of the identified archaeological resources (Government of Ontario 2011).

1.2 HISTORICAL CONTEXT

The study area comprises an area approximately 90 metres north-south by 15 metres east-west with in part of Lot 13, South Shore Concession, Amherst Island, County of Lennox and Addington.

1.2.1 Post-contact Aboriginal Resources

The study area is situated within the County of Lennox and Addington, Ontario. The area was subjected to the Crawford's Purchase in 1783. The purchase consisted of lands "...from the mouth of the Gananoque River to the mouth of the Trent River was purchased from the



STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

Project Context
December 1, 2014

Mississaug[a]... [and] includes the southern portions of the Counties of Hastings, Lennox and Addington, and Frontenac." (Morris 1943:16-17)

1.2.2 Euro-Canadian Resources

The following historical overview is based on that found in the Stage 1 AA report for the project (Stantec 2012). Originally part of the historic Midland District, the Counties of Lennox and Addington were created as part of the United Counties of Frontenac, Lennox and Addington by the 1792 decree of Governor John Graves Simcoe. In 1864, there was a further separation leading to what are now the two counties of Frontenac and of Lennox and Addington. Unlike other historic counties with multiple names, Lennox and Addington only ever existed as separate entities on paper and never needed to be united. The townships were named for Charles Lennox and Henry Addington, both members the British aristocracy and parliament.

The original settlers of the Lennox and Addington area were United Empire Loyalists (UEL), fleeing a post-Revolution United States for the relative safety of Canada in and around 1784. Prior to their arrival most of the land remained in wilderness and, as it had never been surveyed, little was known about its condition. The large numbers of Loyalists fleeing America for Nova Scotia and New Brunswick eventually caused a land shortage that forced the British to look for other areas to open. Thus, the north shore of Lake Ontario, from Kingston westward, was quickly surveyed and land allotments distributed (Herrington 1915). Initial land grants were for 200 acres per person with larger allotments given to those who had actively fought for the Crown in the Revolutionary War. Each applicant drew a number that corresponded with a certain parcel of land in one of the five 'Towns' laid out. It was their responsibility to clear and cultivate the land (Herrington 1913).

The first European claimant of Amherst Island (historically Isle de Tonti/Ile Tonti) was the French explorer Robert de la Salle (La Salle) who named it for his lieutenant Henri de Tonti. Prior to that, it had been known by its Aboriginal name Kaouenesgo. De la Salle was a key figure in opening up the Lake Ontario region for trade. He set up Fort Frontenac at what is now Kingston, to capitalize on the fur trade and included Amherst Island in his seigniory as a seat of control of water access to the Bay of Quinte.

In 1792, Amherst Island was designated as part of the historic County of Ontario. It consisted of the islands of the St. Lawrence River, and existed until 1800 when the county was dissolved and the islands attached to their respective counties on the north shore of Lake Ontario (Herrington 1913). The islands were not initially included in the UEL land grants, and were to remain in the hands of First Nations, but when it was noted that the major ones, including Amherst, were essentially the size of townships, they were reallocated to European settlement (Burleigh 1980).

In 1796, the western half of the island was granted to Sir John Johnson, a Loyalist Brigadier General and leader of the King's Royal Regiment of New York, with the eastern half being granted to him at a later date. Johnson, an American-born aristocrat, was forced to abandon a



STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

Project Context
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sizable estate when he fled to Canada with his followers and tenants. After the war he was appointed by Governor Frederick Haldimand to supervise the settling along the St. Lawrence and Bay of Quinte. He was regarded by the Loyalist settlers in the region as their leader and was a front runner for first Governor of Upper Canada which he lost to John Graves Simcoe. Johnson was also appointed Inspector of Indian Affairs and championed their causes, even putting stop to certain proposed practices by the British government when he felt that they were detrimental to Native interests (Earle 2000). Johnson never settled on the island but instead left his son to act as his agent. Johnson also gave 500 acres of island land to John Stuart, the former chaplain of the King's Royal Regiment of New York, himself a Loyalist and important clergyman and educator who settled in Kingston in 1785 (Millman 2000). The island as an entire holding subsequently changed hands a number of times, including one memorable account whereby the sister of Johnson, a Maria Bowes, lost it in a game of cards to the Earl of Mountcashel, whose later financial troubles forced its seizure by the Sherriff in 1857 (Burleigh 1980).

By 1803, the northern shore of the island had begun to be settled and, over the next few decades, the population steadily climbed until by the early 1840s there were over 2000 inhabitants. As a popular stop over and harbour for boats travelling Lake Ontario between Kingston and parts west the island flourished but, like many marine settlements, with the advent of rail and road travel, floundered as its importance waned.

Meacham's 1878 map (Figure 3) shows in greater detail the further development of the island, with at least four churches of different denominations, including one Catholic church established to accommodate the large wave of Irish immigration to the island mid-century (Burleigh 1980). Two cemeteries are depicted at either end of the north shore of the island and there were three schools, including one serving the southern shore. Also evident are the shipping docks and a Post Office associated with the hamlet of Emerald, as well as a store and blacksmiths in both Emerald and Stella. There is also a note regarding a sulphur spring on the eastern outskirts of Emerald. The map shows that Lot 13, South Shore Concession, the current study area, was settled by Charles Girvin.

1.2.3 Recent Reports

The only archaeological reports that discusses the Project Area or land within 50 metres of it is related to the current project: the Stage 1 archaeological assessment report, entitled *Amherst Island Wind Energy Project, Stage 1 Archaeological Assessment, Various lots, South Shore Concession, North Shore Concession, Concession 1-3, Amherst island; and Lot 19, Concession 1; part of Lots 16-26, Concession 1; part of Lots 16-27, Broken Front, Township of Ernestown, Loyalist County, ON* (Stantec 2012), and the Stage 2 archaeological assessment report, entitled *Amherst Island Wind Energy Project, Stage 2 Archaeological Assessment, Various lots, South Shore Concession, North Shore Concession, Concession 1-3, Amherst Island; and Lot 19, Concession 1; part of Lots 16-26, Concession 1; part of Lots 16-27, Broken Front, Township of Ernestown, Loyalist County, ON* (Stantec 2013).



STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

Project Context
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1.3 ARCHAEOLOGICAL CONTEXT

1.3.1 The Natural Environment

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. The Napanee Plain 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).

The soils of the study area consist of Lansdowne Clay, a calcareous, stone-free clay with imperfect drainage (Gillespie *et al.* 1963).

The major topographic feature of the area is Lake Ontario, which is approximately 15 metres to the south of the study area.

1.3.2 Pre-contact Aboriginal Resources

Overall, archaeological research in many parts of Eastern Ontario has been fairly limited, at least compared to adjoining areas in Southern Ontario and northern New York State, resulting in only a limited understanding of the cultural processes that occurred in this part of the province. The following summary of the prehistoric occupation of Eastern Ontario (see Table 1 for chronological chart) is based on syntheses in Archaeologix (2008), Ellis and Ferris (1990), Jacques Whitford (2008), Pilon (1999) and Wright (1995).

Identifiable human occupation of Ontario begins just after the end of the Wisconsin Glacial period. The first human settlement can be traced back 11,000 years, when this area was settled by Native groups that had been living to the south of the emerging Great Lakes. This initial occupation is referred to as the "Palaeo-Indian" archaeological culture.

Table 1: Southern Ontario Prehistoric Cultural Chronology, Years Before Present (BP)

Archaeological Period	Time	Characteristics
Early Paleo-Indian	11,000–10,400 BP	caribou and extinct Pleistocene mammal hunters, small camps
Late Paleo-Indian	10,400–10,000 BP	smaller but more numerous sites
Early Archaic	10,000–8,000 BP	slow population growth, emergence of woodworking industry, development of specialised tools
Middle Archaic	8,000–4,500 BP	environment similar to present, fishing becomes important component of subsistence, wide trade networks for exotic goods
Late Archaic	4,500–3,100 BP	increasing site size, large chipped lithic tools, introduction of bow hunting



STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

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Terminal Archaic	3,100-2,950 BP	emergence of true cemeteries with inclusion of exotic trade goods
Early Woodland	2,950-2,400 BP	introduction of pottery, continuation of Terminal Archaic settlement and subsistence patterns
Middle Woodland	2,400-1,400 BP	increased sedentism, larger settlements in spring and summer, dispersed smaller settlement in fall and winter, some elaborate mortuary ceremonialism
Transitional Woodland	1,400-1,100 BP	incipient agriculture in some locations, seasonal hunting & gathering
Late Woodland (Early Iroquoian)	1,100-700 BP	limited agriculture, development of small village settlement, small communal longhouses
Late Woodland (Middle Iroquoian)	700-600 BP	shift to agriculture as major component of subsistence, larger villages with large longhouses, increasing political complexity
Late Woodland (Late Iroquoian)	600- 350 BP	very large villages with smaller houses, politically allied regional populations, increasing trading network

Early Palaeo-Indian (EPI) (11,000-10,400 before present BP) settlement patterns suggest that small groups, or "bands", followed a pattern of seasonal mobility extending over large territories. Many (although by no means all) of the EPI sites were located on former beach ridges associated with Lake Algonquin, the post-glacial lake occupying the Lake Huron/Georgian Bay basin, and research/evidence indicates that the vegetative cover of these areas would have consisted of open spruce parkland, given the cool climatic conditions. Sites tend to be located on well-drained loamy soils, and on elevations in the landscape, such as knolls. The fact that assemblages of artifacts recovered from EPI sites are composed exclusively of stone skews our understanding of the general patterns of resource extraction and use. However, the taking of large game, such as caribou, mastodon and mammoth, appears to be of central importance to the sustenance of these early inhabitants. Moreover, EPI site location often appears to be located in areas which would have intersected with migratory caribou herds. In the Ottawa Valley it appears that the palaeo-environment had not recovered sufficiently from the former glaciations to have allowed an EPI occupation. There is, however, some evidence of EPI incursion to the Rideau Lakes area.

The Late Palaeo-Indian (LPI) period (10,400-10,000 BP) is poorly understood compared to the EPI, the result of less research focus than the EPI. As the climate warmed the spruce parkland was gradually replaced and the vegetation of Southern Ontario began to be dominated by closed coniferous forests. As a result many of the large game species that had been hunted in the EPI period either moved north with the more open vegetation, or became locally extinct. Like the EPI, LPI peoples covered large territories as they moved around to exploit different resources. Environmental conditions in Eastern Ontario and the Ottawa Valley were sufficient to allow for a Late Palaeo-Indian occupation, although the evidence of such is still very limited.



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The transition from the Palaeo-Indian period to the Archaic archaeological culture of Ontario prehistory is evidenced in the archaeological record by the development of new tool technologies, the result of using an increasing number of resources as compared to peoples from earlier archaeological cultures, and developing a broader based series of tools to more intensively exploit those resources. During the Early Archaic period (10,000-8,000 BP), the jack and red pine forests that characterized the LPI environment were replaced by forests dominated by white pine with some associated deciduous elements. Early Archaic projectile points differ from Palaeo-Indian forms most notably by the presence of side and corner notching on their bases. A ground stone tool industry, including celts and axes, also emerges, indicating that woodworking was an important component of the technological development of Archaic peoples. Although there may have been some reduction in the degree of seasonal mobility, it is still likely that population density during the Early Archaic was low, and band territories large.

The development of more diversified tool technology continued into the Middle Archaic period (8,000-4,500 BP). The presence of grooved stone net-sinkers suggests an increase in the importance of fishing in subsistence activities. Another new tool, the bannerstone, also made its first appearance during this period. Bannerstones are ground stone weights that served as counterbalance for "atlatls" or spear-throwers, again indicating the emergence of a new technology. The increased reliance on local, often poor quality chert resources for chipped stone tools suggests that in the Middle Archaic groups inhabited smaller territories lacking high quality raw materials. In these instances lower quality materials which had been glacially deposited in local tills and river gravels were used.

This reduction in territory size appears to have been the result of gradual region-wide population growth, which forced a reorganization of subsistence patterns, as a larger population had to be supported from the resources of a smaller area. Stone tools designed specifically for the preparation of wild plant foods suggest that subsistence catchment was being widened and new resources being more intensively exploited. A major development of the later part of the Middle Archaic period was the initiation of long distance trade. In particular, native copper tools manufactured from sources near Lake Superior were being widely traded.

During the later part of the Middle Archaic (5,500-4,500 BP) a distinctive occupation, or tradition, known as the Laurentian Archaic, appears in south-eastern Ontario, western Quebec, northern New York and Vermont. Laurentian Archaic sites are found only within the transitional zone between the deciduous forests to the south and coniferous forests to the north known as the Canadian Biotic Province and are identifiable through the association of certain diagnostic tool types, including ground slate semi-lunar knives (or "ulus"), plummets for use in fishing, ground slate points and knives, and ground stone gouges, adzes and grooved axes. It is thought that there was less reliance on plant foods and a greater reliance on hunting and fishing in this region than for Archaic peoples in southern and south-western Ontario. Laurentian Archaic sites have been found in the middle Ottawa River valley, along the Petawawa and Trent River watersheds and at Brockville.



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The trend towards decreased territory size and a broadening subsistence base continued during the Late Archaic (4,500-2,900 BP). Late Archaic sites are far more numerous than either Early or Middle Archaic sites. It appears that the increase in numbers of sites at least partly represents an increase in population. However, around 4,500 BP water levels in the Great Lakes began to rise, taking their modern form. It is likely that the relative paucity of earlier Archaic sites is due to their being inundated under the rising lake levels.

The appearance of the first true cemeteries occurs during the Late Archaic. Prior to this period, individuals were interred close to the location where they died. However, with the advent of the Late Archaic and local cemeteries individuals who died at a distance from the cemetery would be returned for final burial at the group cemetery often resulting in disarticulated skeletons, occasionally missing minor bone elements (e.g. finger bones). The emergence of local group cemeteries has been interpreted as being a response to both increased population densities and competition between local groups for access to resources, in that cemeteries would have provided symbolic claims over a local territory and its resources.

Increased territoriality and more limited movement are also consistent with the development of distinct local styles of projectile points. The trade networks which began in the Middle Archaic expand during this period, and begin to include marine shell artifacts (such as beads and gorgets) from as far away as the Mid-Atlantic coast. These marine shell artifacts and native copper implements show up as grave goods, indicating the value of the items. Other artifacts such as polished stone pipes and slate gorgets also appear on Late Archaic sites. One of the more unusual of the Late Archaic artifacts is the "birdstone", a small, bird-like effigy usually manufactured from green banded slate.

The Early Woodland period (2,900-2,200 BP) is distinguished from the Late Archaic period primarily by the addition of ceramic technology. While the introduction of pottery provides a useful demarcation point for archaeologists, it may have made less difference in the lives of the Early Woodland peoples. The first pots were very crudely constructed, thick walled, and friable. It has been suggested that they were used in the processing of nut oils by boiling crushed nut fragments in water and skimming off the oil. These vessels were not easily portable, and individual pots must not have enjoyed a long use life. There have also been numerous Early Woodland sites located at which no pottery was found, suggesting that these poorly constructed, undecorated vessels had yet to assume a central position in the day-to-day lives of Early Woodland peoples.

Other than the introduction of this rather limited ceramic technology, the life-ways of Early Woodland peoples show a great deal of continuity with the preceding Late Archaic period. For instance, birdstones continue to be manufactured, although the Early Woodland varieties have "pop-eyes" which protrude from the sides of their heads. Likewise, the thin, well-made projectile points which were produced during the terminal part of the Archaic period continue in use. However, the Early Woodland variants were side-notched rather than corner-notched, giving them a slightly altered and distinctive appearance. The trade networks which were established



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in the Middle and Late Archaic also continued to function, although there does not appear to have been as much traffic in marine shell during the Early Woodland period. These trade items were included in increasingly sophisticated burial ceremonies, including construction of burial mounds.

In terms of settlement and subsistence patterns, the Middle Woodland (2,200 B.C.-1,100 BP) provides a major point of departure from the Archaic and Early Woodland periods. While Middle Woodland peoples still relied on hunting and gathering to meet their subsistence requirements, fish were becoming an even more important part of the diet. Middle Woodland vessels are often heavily decorated with hastily impressed designs covering the entire exterior surface and upper portion of the vessel interior. Consequently, even very small fragments of Middle Woodland vessels are easily identifiable.

It is also at the beginning of the Middle Woodland period that rich, densely occupied sites appear along the margins of major rivers and lakes. While these areas had been utilized by earlier peoples, Middle Woodland sites are significantly different in that the same location was occupied off and on for as long as several hundred years. Because this is the case, rich deposits of artifacts often accumulated. Unlike earlier seasonally utilized locations, these Middle Woodland sites appear to have functioned as base camps, occupied off and on throughout the course of the year. There are also numerous small upland Middle Woodland sites, many of which can be interpreted as special purpose camps from which localized resource patches were exploited. This shift towards a greater degree of sedentism continues the trend witnessed from the Middle Archaic, and provides a prelude to the developments that follow during the Late Woodland period.

There are three complexes of Middle Woodland culture in Ontario. The complex specific to eastern Ontario is known as "Princess Point" most notably represented by ceramics decorated with a stamped zigzag pattern applied at various angles to the exterior of the vessel, known as "pseudo scallop shell". Another common decorative style is the dentate stamp, a comb-like tool creating square impressions.

The relatively brief period of the Transitional Woodland period is marked by the acquisition of cultivar plants species, such as maize and squash, from communities living south of the Great Lakes. The appearance of these plants began a transition to food production, which consequently led to a much reduced need to acquire naturally occurring food resources. Sites were thus occupied for longer periods and by larger populations. Transitional Woodland sites have not been undiscovered in eastern Ontario.

The Late Woodland period in southern Ontario is associated with societies referred to as the Ontario Iroquois Tradition. This period is often divided into three temporal components; Early, Middle and Late Iroquoian (see Table 3.1). In eastern Ontario, especially in the Ottawa River Valley, there is considerable overlap of people continuing to practice a hunting and gathering economy and those using limited horticulture as a supplement to gathered plants. For the most



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part, however, classic Late Woodland sites in eastern Ontario are limited to an area at the east end of Lake Ontario and along the St. Lawrence River valley. Middle Iroquoian sites have not been identified east of Kingston.

During the Late Iroquoian period a distinctive material culture emerges at the east end of Lake Ontario and along the St. Lawrence River up to Québec City, known as the St. Lawrence Iroquois (SLI). SLI sites are characterized by large semi-permanent villages and associated satellite settlements. The inhabitants of these villages and satellites practiced horticulture of staple crops which made up the bulk of their diet. Other food resources were hunted, fished and gathered. SLI village sites can be extensive, up to 10 acres or more in size and composed of a number of longhouse structures. Special purpose satellite settlements, such as hunting and fishing camps, are smaller in area and in the number and size of structures within the settlement. The inhabitants of these villages and satellites practiced horticulture of staple crops which made up the bulk of the diet. Other food resources were hunted, fished and gathered (cf. Pendergast 1974; Jaimeson 1990; Stewart 1992). Late Woodland village sites can be extensive, up to 10 acres or more in size and composed of a number of longhouse structures. Satellite settlements are smaller in extent and in the number and size of structures within the settlement. SLI sites are located in territory on either side of the St. Lawrence River, from the east end of Lake Ontario to the vicinity of Quebec City (Jamieson 1990).

Overall conditions in the study area are considered very favourable for prehistoric occupation, including access to a wide variety of econiches for the harvesting of plant, fish and animal resources, and access to major transportation routes along the Lake Ontario shoreline.

1.3.3 Previously Known Archaeological Sites and Surveys

In order to compile an inventory of archaeological resources, the registered archaeological site records kept by the MTCS were consulted. In Ontario, information concerning archaeological sites stored in the archaeological sites database (ASDB) maintained by the MTCS. This database contains archaeological sites registered according to the Borden system. Under the Borden system, Canada is divided into grid blocks based on latitude and longitude. A Borden Block is approximately 13 kilometres east to west and approximately 18.5 kilometres north to south. Each Borden Block is referenced by a four-letter designator and sites within a block are numbered sequentially as they are found. The Project Area under review is located within Borden Block BaGd.

Information concerning specific site locations is protected by provincial policy, and is not fully subject to the *Freedom of Information and Protection of Privacy Act*. The release of such information in the past has led to looting or various forms of illegally conducted site destruction. Confidentiality extends to all media capable of conveying location, including maps, drawings, or textual descriptions of a site location. The MTCS will provide information concerning site location to the party or an agent of the party holding title to a property, or to a licensed archaeologist with relevant cultural resource management interests.



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The Stage 1 report indicated that much of the study area had high potential for the presence for archaeological resources and a Stage 2 archaeological assessment would need to be completed prior to construction activities (Stantec 2012). During the Stage 2 assessment conducted by Stantec (Stnatec 2013), seven (7) archaeological sites wre identified, including:, five (5) Euro-Canadian sites; one (1) pre-contact Aboriginal site; and one (1) indeterminate site. None of these sites are located within 1 kilometre of the present study area.

1.3.4 Existing Conditions

The study area is located on a manicured lawn and encompasses an area approximately 90 metres north-south by 15 metres east-west (Figure 4).

STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

Field Methods
December 1, 2014

2.0 FIELD METHODS

Prior to the property survey all available archaeological reports were reviewed. The Stage 2 assessment of the Amherst Island Wind Energy Project, Collector Line Modification study area was conducted on October 24, 2014 under archaeological consulting license P415 issued to Patrick Hoskins, MA, of Stantec by the MTCS. The study area comprises an area approximately 90 metres north-south by 15 metres east-west in size of manicured lawn, located on part of Lot 13, South Shore Concession, Amherst Island, County of Lennox and Addington, Ontario.

During the Stage 2 survey, assessment conditions were excellent and at no time were the field, weather, or lighting conditions detrimental to the recovery of archaeological material (Table 22). Photos 1 to 2 in Section 8.1 of this report confirm that field conditions met the requirements for a Stage 2 archaeological assessment using a test pit excavation methodology, as per Section 2.1.2, Standard 1D of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Section 7.8.6 Standard 1a; Government of Ontario 2011). Figure 5 provides an illustration of the Stage 2 assessment methods, as well as photograph locations and directions.

Table 2: Field and Weather Conditions

Date	Activity	Weather	Field Conditions
October 24, 2014	Stage 2 test pit survey	Sunny, warm	85-95% visibility

The study area was subjected to a Stage 2 test pit survey at a five metre interval (Photos 1-2) in accordance with Section 2.1.2 of the MTCS's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Each test pit was approximately 30 centimetres in diameter and excavated five centimetres into sterile subsoil (Photos 3-4). The soils were then examined for stratigraphy, cultural features, or evidence of fill. All soil was screened through six millimeter mesh hardware cloth to facilitate the recovery of small artifacts and then used to backfill the pit. No test pit excavation occurred within the disturbed roadway or ditch at the south end of the study area.

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Record of Finds
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3.0 RECORD OF FINDS

The Stage 2 archaeological assessment was conducted employing the methods described in Section 2.0. An inventory of the documentary record generated by fieldwork is provided in Table 3 below.

Table 3: Inventory of the Documentary Record

Document Type	Current Location of Document Type	Additional Comments
1 pages of field notes	Stantec office in Ottawa	In original field book and scanned into project folder
1 map provided by client	Stantec office in Ottawa	Hard and digital copies in project file
6 Digital Photographs	Stantec office in Ottawa	Stored digitally in project file

No material culture remains were identified or collected during the Stage 2 assessment of the proposed Amherst Island Wind Energy Project, Collector Line Modification.

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Analysis and Conclusions
December 1, 2014

4.0 ANALYSIS AND CONCLUSIONS

Stantec was retained by Windlectric Inc. to conduct a Stage 2 archaeological assessment for the proposed Amherst Island Wind Energy Project, Collector Line Modification. The study area was subjected to a Stage 2 test pit survey. No archaeological resources were identified during the Stage 2 assessment of the study area.



STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

Recommendations
December 1, 2014

5.0 RECOMMENDATIONS

The Stage 2 archaeological assessment of the proposed Amherst Island Wind Energy Project, Collector Line Modification resulted in the recovery of no archaeological resources. **It is recommended that no further archaeological assessment of the study area is required.**

The *Ministry of Tourism, Culture and Sport* is asked to accept this report into the Ontario Public Register of Archaeological Reports.

STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

Advice on Compliance with Legislation
December 1, 2014

6.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, 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 Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed 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 *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ontario Ministry of Consumer Services.

Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological license.



STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

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STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

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STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

Images
December 1, 2014

8.0 IMAGES

8.1 PHOTOS

Photo 1: Test Pit Survey at 5 Metre Intervals, facing northwest



Photo 2; Test Pit Survey at 5 Metre Intervals, facing west



STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

Images
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Photo 3: View of Test Pit



Photo 4: View of Test Pit



STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

Maps
December 1, 2014

9.0 MAPS

All mapping with will follow on succeeding pages. Maps identifying exact site locations do not form part of this public report; they may be found in the Supplementary Documentation.



Legend

-  Project Study Area
-  Railway
-  Watercourse

Notes

1. Coordinate System: UTM NAD 83 - Zone 18 (N).
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012.
3. Imagery Source: First Base Solutions ©, 2012. Imagery Date: 2008.



Stantec

November 2012
160960595

Client/Project

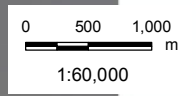
WINDLECTRIC INC.
AMHERST ISLAND WIND ENERGY PROJECT

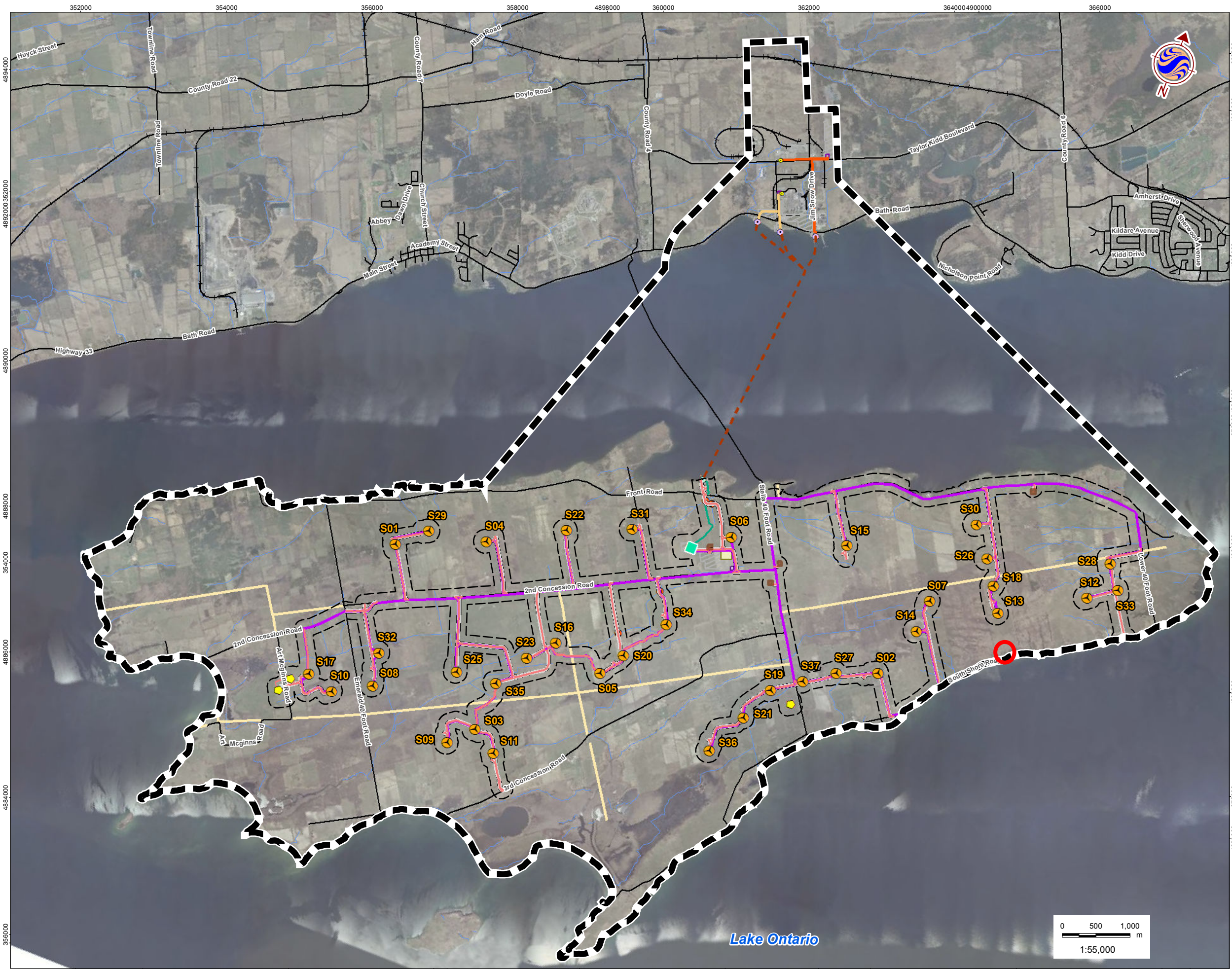
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1

Title

Site Location





Legend

Project Components

- Project Study Area
- 120m Zone of Investigation
- 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
- Current Study Area

Notes

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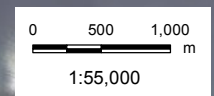


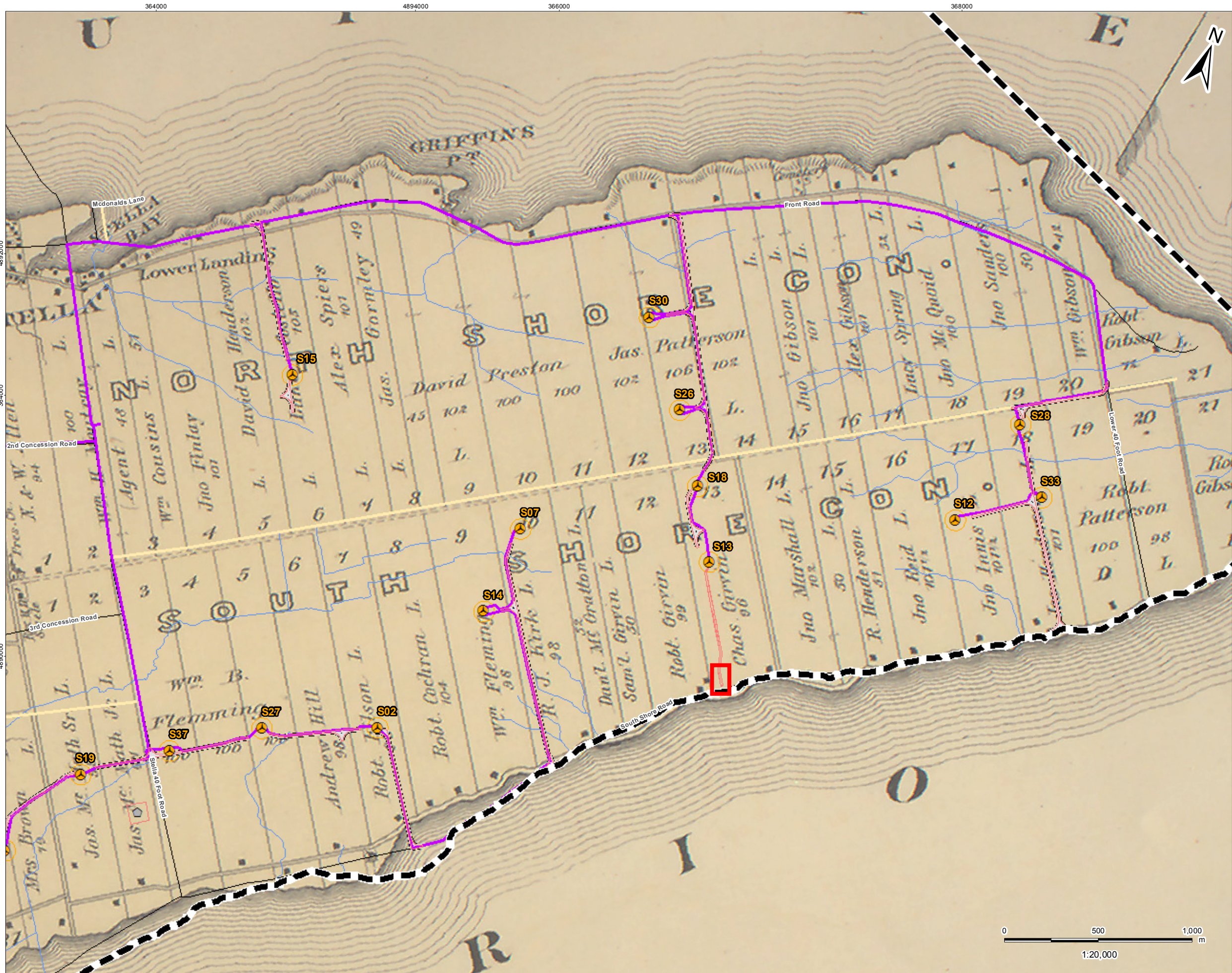
December 2012
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Client/Project
**WINDLECTRIC INC.
AMHERST ISLAND WIND ENERGY PROJECT**

Figure No.
2

Title
Site Plan





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
- 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
- MainlandComponents**
- Central Staging Area
- Switching Station (Potential Location)
- Existing Features**
- Road
- Unopened Road Allowance
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2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012.



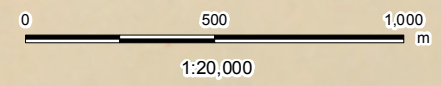
Stantec

November 2014
160960595

Client/Project
WINDLECTRIC INC.
AMHERST ISLAND WIND ENERGY PROJECT

Figure No.
3

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





Legend

- Study Area
- 120m Zone of Investigation
- Project Components**
 - Turbine
 - Met Tower
 - Access Road
 - Collector Lines
 - Laydown Area and Crane Path
 - Submarine Cable Path
 - Dock Footprint
 - Laydown and Storage Area (Potential Location)
 - Operation and Maintenance Building (Potential Location)
 - Shed
 - Turbine Blade Tips
 - Substation (Potential Location)
 - Potential Culvert Location
 - Point of Common Coupling
- Transmission Lines**
 - Overhead - Option 1
 - Underground - Option 1
 - Overhead - Option 2
 - Underground - Option 2
- Land Use**
 - Laydown, Storage, Parking & Office
 - Optional Cable Landing
 - Proposed Rail and Unloading Crane Pad
 - Proposed Switching Station
- Existing Features**
 - Road
 - Unopened Road Allowance
 - Railway
 - Watercourse
 - Property Line
- Current Study Area

- ### Notes
- Coordinate System: UTM NAD 83 - Zone 18 (N).
 - Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012. Project layout S19 - revision 3.
 - Imagery Source: First Base Solutions ©, 2012. Imagery Date: 2008



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Figure No. 4

Title **Location of Stage 2 AA Testing**





Legend

- Study Area
- 120m Zone of Investigation
- Photo Location
- Project Components**
- Turbine
- Met Tower
- Access Road
- Collector Lines
- Laydown Area and Crane Path
- Submarine Cable Path
- Dock Footprint
- Laydown and Storage Area (Potential Location)
- Operation and Maintenance Building (Potential Location)
- Shed
- Turbine Blade Tips
- Substation (Potential Location)
- Potential Culvert Location
- Point of Common Coupling
- Transmission Lines**
- Overhead - Option 1
- Underground - Option 1
- Overhead - Option 2
- Underground - Option 2
- Land Use**
- Laydown, Storage, Parking & Office
- Optional Cable Landing
- Proposed Rail and Unloading Crane Pad
- Proposed Switching Station
- Existing Features**
- Road
- Unopened Road Allowance
- Railway
- Watercourse
- Property Line
- Ploughed Areas**
- Ploughed for Pedestrian Survey
- Not Surveyed
- Test Pit Survey

Notes

1. Coordinate System: UTM NAD 83 - Zone 18 (N).
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012. Project layout S19 - revision 3.
3. Imagery Source: First Base Solutions ©, 2012. Imagery Date: 2008



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Client/Project	WINDLECTRIC INC. AMHERST ISLAND WIND ENERGY PROJECT
Figure No.	5
Title	Location of Additional Stage 2 AA Testing Property R337




STAGE 2 ARCHAEOLOGICAL ASSESSMENT: AMHERST ISLAND WIND ENERGY PROJECT, COLLECTOR LINE MODIFICATION

Closure
December 1, 2014

10.0 CLOSURE

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

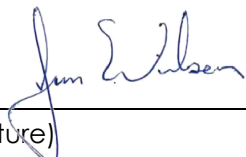
We trust this report meets your current requirements. Please do not hesitate to contact us should you require further information or have additional questions about any facet of this report.

Project Manager Review _____
(signature) 

Colin Varley, MA, RPA (P002)

Licensee Review _____
(signature) 

Patrick Hoskins, MA (P415)

Senior Review _____
(signature) 

Jim Wilson, MA (P001)



Skillen, Kerrie

From: Sean Fairfield <Sean.Fairfield@algonquinpower.com>
Sent: Tuesday, January 06, 2015 2:38 PM
To: Campbell, Paige (MTCS)
Cc: Alex Tsopelas; Varley, Colin; Skillen, Kerrie
Subject: RE: Amherst Island Wind Energy

Hi Paige – thank you.

Regards,

Sean Fairfield | Algonquin Power Co. | Senior Manager - Project Planning
P: 905-465-4518 | C: 905-466-1360 | F: 905-465-4514
E: sean.fairfield@algonquinpower.com
354 Davis Road, Oakville, Ontario L6J 2X1

Safety, Make it Personal...

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From: Campbell, Paige (MTCS) [<mailto:Paige.Campbell@ontario.ca>]
Sent: Tuesday, January 06, 2015 2:02 PM
To: Sean Fairfield
Subject: Amherst Island Wind Energy

Sean,

I have reviewed and accepted the Stage 2 collector line modification report, for which no sites were found and no further work is recommended. The other modifications to the project involve reduction of project areas, so the existing Stage 2 report which covered the full extent of the original project is still valid and no additional Stage 2 work is required on the remainder of the project.

Seven archaeological sites were identified during the Stage 2 work and recommended for Stage 3. From my conversations with you and the archaeologists at Stantec I understand that all these sites will still undergo Stage 3 assessment in the upcoming field season(s), so the ministry is satisfied that all matters of archaeological concern for this project are being dealt with in a satisfactory manner and we have no additional concerns or comments at this time.

Paige Campbell
Archaeology Review Officer
Archaeology Program Unit

Ministry of Tourism, Culture and Sport
435 S. James Street, Suite 334
Thunder Bay, ON P7E 6S7
807-475-1628



Stantec Consulting Ltd.
49 Frederick Street, Kitchener ON N2H 6M7

December 1, 2014
File: 160960595

Attention: Laura Hatcher, MCIP, RPP, Team Lead: Heritage Land Use Planning

Culture Services Unit
Programs and Services Branch
Ministry of Tourism, Culture and Sport
401 Bay Street Suite
1700 Toronto ON M7A 0A7

Dear Ms. Hatcher,

Reference: Amherst Island Wind Energy Project Heritage Assessment – Project Layout Modifications

Algonquin Power (on behalf of Windlectric Inc.) is developing the Amherst Island Wind Energy Project (the Project), a proposed 75MW wind energy project on Amherst Island, located within Loyalist Township in the County of Lennox and Addington in eastern Ontario. As discussed with Ministry of Tourism, Culture and Sport (MTCS) on Tuesday, November 4, 2014, Algonquin Power is considering three modifications to the REA application for the Project.

This letter is submitted as an addendum to the Project Renewable Energy Approval Application – *Heritage Assessment* that was submitted to the MTCS in April 2013 and for which a letter of satisfaction was received on April 17, 2013.

The purpose of this letter is to provide the MTCS with an understanding of modifications that have been made to the location of the Project (details are listed below) since the *Heritage Assessment* was confirmed by the MTCS, and to provide an assessment of the proposed modifications in order to identify any additional potential effects, mitigation measures, or monitoring requirements that were not included in the *Heritage Assessment*. For the purposes of this summary, only additional infrastructure was assessed.

PROJECT DESCRIPTION

The basic components of the proposed Project include up to 36 Siemens 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.

At the time of the 2013 *Heritage Assessment*, the turbine model proposed utilized 36 turbine pad locations that have been subject to the assessment required under REA. The layout in the original REA application included 34 Siemens SWT-2.3-113 2300 kW and two (2) Siemens SWT-2.3-113 2221 kW model wind turbines.

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Laura Hatcher, MCIP, RPP, Team Lead: Heritage Land Use Planning

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Reference: Amherst Island Wind Energy Project Heritage Assessment – Project Layout Modifications

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 un-serviced 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. It is understood that the collector system, including the collector and transmission lines, will be positioned below ground.

Temporary components during construction may include staging areas for the turbines, access roads, met tower(s), collector lines and transmission line as well as 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.

HERITAGE CONTEXT

Stantec was retained by Algonquin Power Co. on behalf of the Proponent to undertake the cultural heritage and protected properties assessments for the Project as required by *Ontario Regulation 359/09*. Both Reports received written comments expressing satisfaction from the MTCS in April, 2013. Representatives from Algonquin Power Co., Stantec, and the MTCS met via tele-conference to discuss proposed modifications on November 4, 2014. It was determined during that time that, as is the standard process for filing modifications following receipt of a letter of satisfaction, Stantec would prepare a letter summarizing the proposed changes and implications, if any, on cultural heritage resources.

PROPOSED MODIFICATION DESCRIPTION

There are three modifications which have been proposed following the completion of the *Heritage Assessment* (see Figure 1). These are: (1) a change in turbine model and associated reduction in the number of turbines, (2) a change in collection system routing to avoid the Village of Stella and (3) changes to the road and collection system to avoid some activities on 2nd Concession.

Further detail is provided below regarding the proposed modifications.

1. Reducing the number of Wind Turbines by changing Turbine Model (Siemens 2.942 MW and 2.772 MW)



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Reference: Amherst Island Wind Energy Project Heritage Assessment – Project Layout Modifications

This modification involves changing the Project's turbines from a combination of Siemens 2.3 MW and 2.221 MW to a combination of Siemens 2.942 MW and 2.772 MW, and thereby reducing the number of turbines from 36 to 27. The new turbines would be physically identical, specifically with a hub height of 99.5 m and rotor diameter of 113 m. The modification will decrease the Project Location size by reducing the number of turbine sites from 36 to 27. All of these 27 turbine sites are in previously studied and proposed locations.

The project modification has been discussed with the Ministry of the Environment and Climate Change (MOECC). The MOECC has verified this project modification is a Technical Change as pursuant to the classification system outlined in the Ministry of the Environment's *Technical Guide to Renewable Energy Approvals* (October, 2013). Given the nature of this technical update, the *Heritage Assessment* does not require any additional assessment. As such, the update is being provided for MTCS's information.

2. Collection System Route Change 1 – Avoiding the Village of Stella

This proposed modification would involve rerouting the collection system to avoid the Village of Stella. In doing so, this modification would remove a significant portion of the existing collection system from S30 entrance along Front Road, including by removing approximately 4 km of road allowance trenching (including through Stella). The modification would also require a new collection corridor from S13 to South Shore Rd. and west to S14 entrance, which would consist of approximately 1 km in road allowance and 700 m of in pasture field. The modification will decrease the Project Location size by resulting in a net reduction of approximately 2 km of collection system trenching.

The project modification has been discussed with the Ministry of the Environment and Climate Change (MOECC). The MOECC has verified this project modification is a Project Design Change as pursuant to the classification system outlined in the Ministry of the Environment's *Technical Guide to Renewable Energy Approvals* (October, 2013). Additional assessment to determine the presence of potential heritage resources is necessary along South Shore Road in between Turbines S13 and S14. This was undertaken as described in the text below.

3. Collection System Route Change 2 – Reducing Impacts on 2nd Concession

This modification would involve the addition of an underground collector line along a previously approved access road between T16/T23 and T35. The collector line has been incorporated into the design of the access road between T16/23 and T35. The modification will decrease the Project Location size by eliminating the need to install a second collection circuit trench on approximately 3 km of 2nd Concession.



Reference: Amherst Island Wind Energy Project Heritage Assessment – Project Layout Modifications

The project modification has been discussed with the Ministry of the Environment and Climate Change (MOECC). The MOECC has verified this project modification is a Technical Change as pursuant to the classification system outlined in the Ministry of the Environment's *Technical Guide to Renewable Energy Approvals* (October, 2013). Given the nature of this technical update, the *Heritage Assessment* does not require any additional assessment. As such, the update is being provided for MTCS's information.

REPORT REVIEW

Stantec reviewed the *Heritage Assessment*. There were 24 built heritage resources and four cultural heritage landscapes identified as part of the study. Recommendations were prepared to mitigate any potential impacts identified based on an understanding of the Project at that time. These recommendations were as follows:

A total of 24 built heritage resources and four cultural heritage landscapes have been identified and assessed by this study for potential Project-related negative impacts. A summary of potentially affected resources and landscapes and recommended mitigation is presented in Table 25.

Table 25 Summary of Recommended Mitigation

BHR/CHL #	Address/Name	Recommended Mitigation
BHR 4 BHR 5 BHR 6 BHR 19 BHR 20 BHR 21	3500 South Shore Road 4125 South Shore Road 2750 Front Road 3475 Second Concession Road 4725 Second Concession Road 5950 Second Concession Road	<ul style="list-style-type: none">• Avoid Project activities within a 50 m bufferzone of structures on the property.• In the event that Project activities within a 50 m bufferzone cannot be avoided, it is recommended that maximum acceptable vibration, or peak particle velocity (PPV), levels be determined by a qualified engineer prior to Project activities and that activities be monitored to ensure that maximum PPV levels are not exceeded.• All Project activities should cease if levels are exceeded until a solution can be determined.
BHR 7	3190 Front Road	<ul style="list-style-type: none">• Avoid Project activities within a 50 m bufferzone of structures or dry stone walls on the property.



Reference: Amherst Island Wind Energy Project Heritage Assessment – Project Layout Modifications

BHR/CHL #	Address/Name	Recommended Mitigation
BHR 18	Emerald 40 Foot Road and Second Concession Road	<ul style="list-style-type: none"> In the event that Project activities within a 50 m bufferzone cannot be avoided, it is recommended that maximum acceptable vibration, or peak particle velocity (PPV), levels be determined by a qualified engineer prior to Project activities be monitored to ensure that maximum PPV levels are not exceeded. Prior to any Project activities within 50 m of the property, the dry stone wall and any building containing heritage value should be documented. Any damage resulting from the construction should be repaired to a pre-Project state immediately following construction.
CHL 4	Ferry Landscape	<ul style="list-style-type: none"> Documentation of ferry landscape prior to the construction of permanent and temporary Project infrastructure.
CHL 1	Village of Stella	<ul style="list-style-type: none"> Avoid Project activities within a 50 m bufferzone of any structures in the CHL. In the event that Project activities within a 50 m bufferzone cannot be avoided, it is recommended that maximum acceptable vibration, or peak particle velocity (PPV), levels be determined by a qualified engineer prior to Project activities and that activities be monitored to ensure that maximum PPV levels are not exceeded. Photographically record condition of burial vault and monitor its physical condition during construction process. All Project activities should cease if levels are exceeded until a solution can be determined.
CHL 3	St. Paul's Presbyterian Church	

In order to lessen or avoid potential indirect negative impacts from construction vibrations on BHRs 4, 5, 6, 19, 20 and 21 and components of CHLs 1 and 3, the following recommendations have been made:

- Project activities should be avoided within 50 m of identified BHRs and any structures or buildings within identified CHLs.



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Laura Hatcher, MCIP, RPP, Team Lead: Heritage Land Use Planning

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Reference: Amherst Island Wind Energy Project Heritage Assessment – Project Layout Modifications

- *If Project activities within a 50 m bufferzone cannot be avoided, maximum acceptable vibration levels, or peak particle velocity (PPV) levels, should be determined by a qualified engineer with previous experience working with built heritage resources under similar circumstances.*
- *Project activities within the 50 m bufferzone should be monitored to ensure that PPV levels are not exceeded.*
- *All Project activities should cease immediately if levels are exceeded until a solution can be determined.*

With respect to the dry stone walls associated with BHRs 7 and 18, the following recommendations have been made:

- *It is recommended that Project activities be avoided within a 50 m bufferzone of any dry stone walls.*
- *In the event that Project activities cannot be avoided within 50 m of any dry stone wall, the wall should be documented prior to the commencement of said activities.*
- *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 Project activities to ensure that no damage has occurred and any damage to the wall should be repaired immediately following Project activities.*
- *Finally, prior to construction of shoreline Project infrastructure, views from the Ferry Landscape should be more thoroughly documented, particularly towards the proposed locations of new permanent and temporary infrastructure. This documentation should include, at the very least, a photographic record of existing conditions and views.*

It was determined that the impact assessment contained within the Report is valid but requires updating to reflect the proposed modifications. Specifically, 2450 South Shore Road (BHR 3) was evaluated for impacts associated with turbines positioned at the rear of the property. This assessment must be expanded to include potential impacts associated with the installation of collector lines at the front of the property and along the public road allowance.

Finally, it was determined that in four cases, where potential impacts were identified as a result of proposed Project infrastructure, this infrastructure had been removed. Therefore, potential impacts



Reference: Amherst Island Wind Energy Project Heritage Assessment – Project Layout Modifications

were no longer anticipated in these cases. In one case, additional project infrastructure was proposed. This is summarized in Table 1.

Table 1: Summary of Property Assessment and Requirements for Additional Assessment			
Municipal Address, BHR/CHL #	Relationship to Additional Infrastructure	Relationship to Removed Infrastructure	Additional Assessment Required
1830 South Shore Road, BHR 1	None	None	No
2090 South Shore Road, BHR 2	None	None	No
2450 South Shore Road, BHR 3	Adjacent	None	Yes
3500 South Shore Road, BHR 4	None	None	No
4125 South Shore Road, BHR 5	None	None	No
2750 Front Road, BHR 6	None	None	No
3190 Front Road, BHR 7	None	Adjacent	No
12405 Front Road, BHR 8	None	None	No
12515 Front Road, BHR 9	None	None	No
12525 Front Road, BHR 10	None	None	No
12675 Front Road, BHR 11	None	None	No
12945 Front Road, BHR 12	None	None	No
13555 Front Road, BHR 13	None	None	No
13895 Front Road, BHR 14	None	None	No
14005 Front Road, BHR 15	None	None	No
14005 Front Road, BHR 15	None	None	No
15095 Front Road, BHR 16	None	None	No
20 Emerald 40 Foot Road, BHR 17	None	None	No
Emerald 40 Foot Road & Second Concession Road, BHR 18	None	Adjacent	No
3475 Second Concession Road, BHR 19	None	None	No
4725 Second Concession Road, BHR 20	None	Adjacent	No



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Reference: Amherst Island Wind Energy Project Heritage Assessment – Project Layout Modifications

Municipal Address, BHR/CHL #	Relationship to Additional Infrastructure	Relationship to Removed Infrastructure	Additional Assessment Required
5950 Second Concession Road, BHR 21	None	Adjacent	No
3775 Third Concession Road, BHR 22	None	None	No
Lighthouse, BHR 23	None	None	No
5330 Bath Road, BHR 24	None	None	No
Village of Stella Cultural Heritage Landscape, CHL 1	None	None	No
Catholic Cemetery, CHL 2	None	None	No
St. Paul's Presbyterian Church, CHL 3	None	None	No
Ferry Landscape, CHL 4	None	None	No

FIELD ASSESSMENT

In order to identify the presence of potential heritage resources where modifications are proposed, a field assessment was completed. The assessment was undertaken by Meaghan Rivard, Heritage Consultant with Stantec, on Monday, October 27, 2014 under clear conditions. The field assessment was restricted to properties where new Project infrastructure is proposed and thus was limited to South Shore Road between Turbines S13 and S14, and the north portion of 2nd Concession Road, west of Stella 40 Foot Road and east of Kerr Point Road.

IMPACT ASSESSMENT

Impact assessments contained within the *Heritage Assessment* were determined to remain valid for all properties excluding BHR 3, 7, 18, 20, and 21. While in some cases the assessment addressed turbines which are no longer proposed or residences that no longer exist, it is only in the case of 2450 South Shore Road (BHR 3) where new infrastructure is proposed near the location that has not been assessed. Therefore, an impact assessment was undertaken in addition to the assessment completed as part of the *Heritage Assessment*.

The findings of the impact assessment are summarized in Table 2. It was determined that, given the vicinity of the resource to the newly proposed collector lines positioned underground within the municipal right of way (approximately 40 metres), there are no direct Project related negative impacts expected. However, there is the potential for indirect impacts resulting from construction

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Reference: Amherst Island Wind Energy Project Heritage Assessment – Project Layout Modifications

vibrations. With the identification of a new potential impact resulting from proposed Project modifications, mitigation measures are required.

Table 2 Direct and Indirect Impacts	
Potential Impact	Relevance to 2450 South Shore Road (BHR 3)
Destruction of any, or part of any, significant heritage attributes or features	No direct Project related negative impacts expected with respect to destruction; however, there is the potential for indirect impacts resulting from construction vibrations.
Alteration that is not sympathetic, or is incompatible, with the historic fabric and appearance	Not anticipated; alterations are restricted to the municipal right of way and are not anticipated to enter onto the property.
Shadows created that alter the appearance of a heritage attribute or change the viability of a natural feature or plantings, such as a garden	Not anticipated; below ground collector cables will not result in the creation of shadows.
Isolation of a heritage attribute from its surrounding environment, context or a significant relationship	Not anticipated; identified heritage attributes will remain connected with the surrounding area.
Direct or indirect obstruction of significant views or vistas within, from, or of built and natural features	Not anticipated; no significant views or vistas identified.
A change in land use such as rezoning a battlefield from open space to residential use, allowing new development or sit alteration to fill the formerly open spaces	Not anticipated; the land use will remain unaltered.
Land disturbances such as a change in grade that alters soils, and drainage patterns that adversely affect an archaeological resource	Not applicable; archaeological resources are considered in the Archaeological Assessment Reports (various stages).

RECOMMENDED MITIGATION

The potential for indirect impacts resulting from construction vibrations was identified during an impact assessment of 2450 South Shore Road (BHR 3). The impact was similar to that identified for BHRs 4, 5, 6, 19, 20, and 21 in the 2013 *Heritage Assessment*. Given the similarity in distance anticipated between the construction area and the resource, it was determined that mitigation recommendations contained within the Report would be appropriate. Therefore, Project activities should first be avoided within a 50 metre bufferzone surrounding the residence. Where this is activity cannot be avoided, maximum acceptable vibration levels should be determined and



Reference: Amherst Island Wind Energy Project Heritage Assessment – Project Layout Modifications

monitored. If these levels are exceeded, all Project activities should cease until a solution can be determined.

RECOMMENDATIONS

Based on these findings, it was determined the recommendations contained within the *Heritage Assessment* should be modified to reflect areas where additional assessment was undertaken as well as those where recommendations are no longer valid. We ask that the MTCS review the attached figures illustrating the proposed Project modification as well as the impact assessment contained within this letter. Following review, if appropriate, we request revision of the confirmation letter received by Stantec on April 17, 2013, to incorporate the revised recommendations as follows:

A summary of potentially affected resources and landscapes and recommended mitigation is presented in the table below.

Summary of Recommended Mitigation

BHR/CHL #	Address/Name	Recommended Mitigation
BHR 3 BHR 4 BHR 5 BHR 6 BHR 19	2400 South Shore Road 3500 South Shore Road 4125 South Shore Road 2750 Front Road 3475 Second Concession Road	<ul style="list-style-type: none">• Avoid Project activities within a 50 m bufferzone of structures on the property.• In the event that Project activities within a 50 m bufferzone cannot be avoided, it is recommended that maximum acceptable vibration, or peak particle velocity (PPV), levels be determined by a qualified engineer prior to Project activities and that activities be monitored to ensure that maximum PPV levels are not exceeded.• All Project activities should cease if levels are exceeded until a solution can be determined.
CHL 4	Ferry Landscape	<ul style="list-style-type: none">• Documentation of ferry landscape prior to the construction of permanent and temporary Project infrastructure.



Reference: Amherst Island Wind Energy Project Heritage Assessment – Project Layout Modifications

BHR/CHL #	Address/Name	Recommended Mitigation
CHL 1 CHL 3	Village of Stella St. Paul's Presbyterian Church	<ul style="list-style-type: none"> • Avoid Project activities within a 50 m bufferzone of any structures in the CHL. • In the event that Project activities within a 50 m bufferzone cannot be avoided, it is recommended that maximum acceptable vibration, or peak particle velocity (PPV), levels be determined by a qualified engineer prior to Project activities and that activities be monitored to ensure that maximum PPV levels are not exceeded. • Photographically record condition of burial vault and monitor its physical condition during construction process. • All Project activities should cease if levels are exceeded until a solution can be determined.

In order to lessen or avoid potential indirect negative impacts from construction vibrations on BHRs 4, 5, 6, and 19 and components of CHLs 1 and 3, the following recommendations have been made:

- Project activities should be avoided within 50 m of identified BHRs and any structures or buildings within identified CHLs.
- If Project activities within a 50 m bufferzone cannot be avoided, maximum acceptable vibration levels, or peak particle velocity (PPV) levels, should be determined by a qualified engineer with previous experience working with built heritage resources under similar circumstances.
- Project activities within the 50 m bufferzone should be monitored to ensure that PPV levels are not exceeded.
- All Project activities should cease immediately if levels are exceeded until a solution can be determined.

With respect to the dry stone walls associated with BHRs 7 and 18, while potential impacts are not anticipated, the following recommendations have been made and should be applied to previously identified resources as well as those encountered during Project construction activities:

- It is recommended that Project activities be avoided within a 50 m bufferzone of any dry stone walls.



December 1, 2014

Laura Hatcher, MCIP, RPP, Team Lead: Heritage Land Use Planning

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Reference: Amherst Island Wind Energy Project Heritage Assessment – Project Layout Modifications

- *In the event that Project activities cannot be avoided within 50 m of any dry stone wall, the wall should be documented prior to the commencement of said activities.*
- *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 Project activities to ensure that no damage has occurred and any damage to the wall should be repaired immediately following Project activities.*

Finally, prior to construction of shoreline Project infrastructure, views from the Ferry Landscape should be more thoroughly documented, particularly towards the proposed locations of new permanent and temporary infrastructure. This documentation should include, at the very least, a photographic record of existing conditions and views.

Regards,

STANTEC CONSULTING LTD.

A handwritten signature in black ink that reads "Meaghan Rivard".

Meaghan Rivard, MA, CAHP

Heritage Specialist

Phone: 519-575-4114

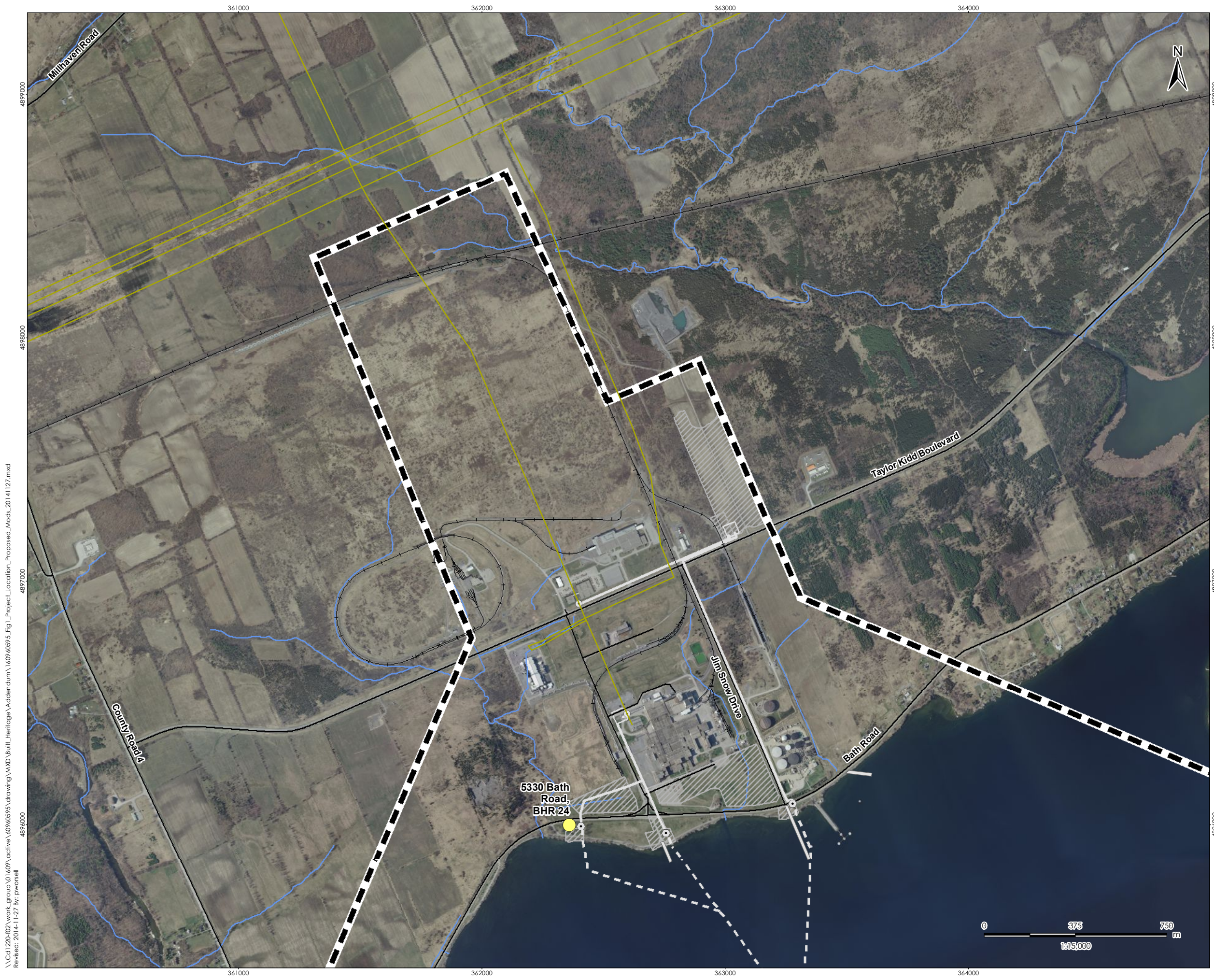
Meaghan.Rivard@stantec.com

Attachment: Project Location & Study Area: Proposed Modifications

c. Colin Varley, Stantec Consulting Ltd.

Kerrie Skillen, Stantec Consulting Ltd.

rm \\cd1220-f02\root\work_group\01609\active\60960595\reports\03_modification reports\rep_modification_no. 3_draft\ha assessment mod\let_60595_heritage_addendum_final.docx



Legend

- Study Area
- Built Heritage Resource
- Protected Property
- Cultural Heritage Landscape
- Stone Fence
- Project Components**
- ⊕ Turbine (No Changes Proposed)
- ⊖ Turbine (Removed)
- ⊙ Met Tower - Potential Location (No Changes Proposed)
- ⊙ Met Tower - Potential Location (Removed)
- Other Project Component (No Changes Proposed)
- Other Project Component (New)
- Other Project Component (Removed)
- Existing Features**
- Road
- Unopened Road Allowance
- Railway
- Hydro Line
- Watercourse
- Property Line

Notes

1. Coordinate System: NAD 1983 UTM Zone 18N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2014.
3. Orthoimagery © First Base Solutions, 2014. Imagery taken in 2008.

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Client/Project

Windlectric Inc.
Amherst Island Wind Energy Project

Figure No.

1.1

Title

**Project Location & Study Area:
Proposed Modifications**



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 Revised: 2014-11-27 By: p.worsell

361000 362000 363000 364000 365000



Legend

- Study Area
- Built Heritage Resource
- Protected Property
- Cultural Heritage Landscape
- Stone Fence
- Project Components**
 - Turbine (No Changes Proposed)
 - Turbine (Removed)
 - Met Tower - Potential Location (No Changes Proposed)
 - Met Tower - Potential Location (Removed)
 - Other Project Component (No Changes Proposed)
 - Other Project Component (New)
 - Other Project Component (Removed)
- Existing Features**
 - Road
 - Unopened Road Allowance
 - Railway
 - Hydro Line
 - Watercourse
 - Property Line

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Revised: 2014-11-27 By: p.worsell



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Client/Project
Windlectric Inc.
Amherst Island Wind Energy Project

Figure No.
1.2

Title
**Project Location & Study Area:
Proposed Modifications**

361000 362000 363000 364000 365000

366000 367000 368000 369000 370000



Legend

- Study Area
- Built Heritage Resource
- Protected Property
- Cultural Heritage Landscape
- Stone Fence
- Project Components**
 - Turbine (No Changes Proposed)
 - Turbine (Removed)
 - Met Tower - Potential Location (No Changes Proposed)
 - Met Tower - Potential Location (Removed)
 - Other Project Component (No Changes Proposed)
 - Other Project Component (New)
 - Other Project Component (Removed)
- Existing Features**
 - Road
 - Unopened Road Allowance
 - Railway
 - Hydro Line
 - Watercourse
 - Property Line



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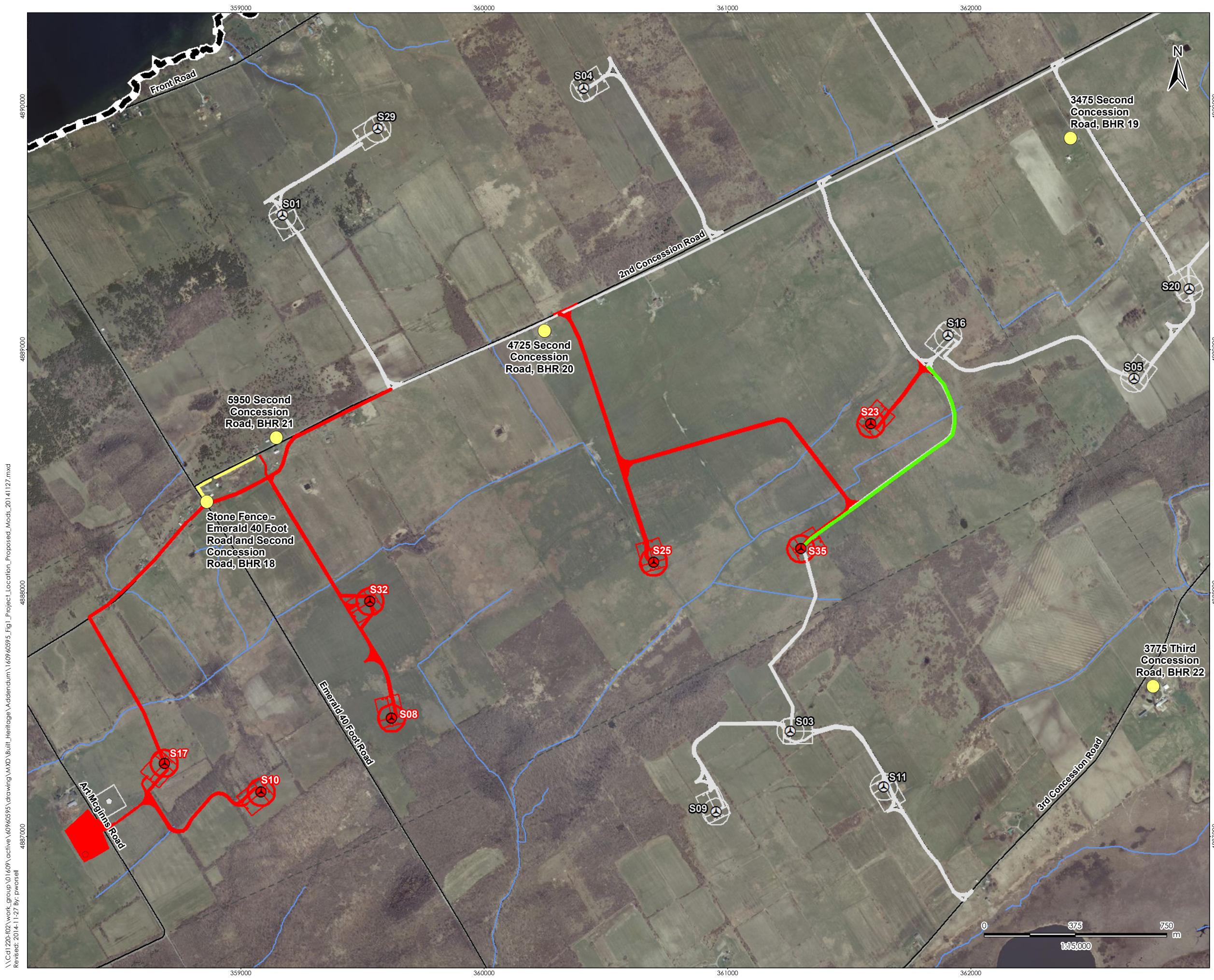
Client/Project
Windlectric Inc.
Amherst Island Wind Energy Project

Figure No.
1.3

Title
**Project Location & Study Area:
Proposed Modifications**

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Revised: 2014-11-27 By: p.worsell

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Legend

- Study Area
- Built Heritage Resource
- Protected Property
- Cultural Heritage Landscape
- Stone Fence

Project Components

- Turbine (No Changes Proposed)
- Turbine (Removed)
- Met Tower - Potential Location (No Changes Proposed)
- Met Tower - Potential Location (Removed)
- Other Project Component (No Changes Proposed)
- Other Project Component (New)
- Other Project Component (Removed)

Existing Features

- Road
- Unopened Road Allowance
- Railway
- Hydro Line
- Watercourse
- Property Line

Notes

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Client/Project
Windelectric Inc.
Amherst Island Wind Energy Project

Figure No.
1.4

Title
**Project Location & Study Area:
Proposed Modifications**

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Revised: 2014-11-27 By: p.worsell



Legend

- Study Area
- Built Heritage Resource
- Protected Property
- Cultural Heritage Landscape
- Stone Fence
- Project Components**
- Turbine (No Changes Proposed)
- Turbine (Removed)
- Met Tower - Potential Location (No Changes Proposed)
- Met Tower - Potential Location (Removed)
- Other Project Component (No Changes Proposed)
- Other Project Component (New)
- Other Project Component (Removed)
- Existing Features**
- Road
- Unopened Road Allowance
- Railway
- Hydro Line
- Watercourse
- Property Line

Notes

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Client/Project

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Amherst Island Wind Energy Project

Figure No.

1.5

Title

**Project Location & Study Area:
Proposed Modifications**



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 Revised: 2014-11-27 By: pworthell
 4887000

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Legend

- Study Area
- Built Heritage Resource
- Collector Line (New)

Existing Features

- Road
- Property Line



2450 South Shore Road, BHR 3

13m

South Shore Road

Lake Ontario



Notes

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Client/Project

Windlectric Inc.
Amherst Island Wind Energy Project

Figure No.

2

Title

**Built Heritage Resources -
2450 South Shore Road (BHR3)**

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**Ministry of Tourism, Culture
and Sport**

Culture Services Unit
Programs and Services Branch
Culture Division
401 Bay Street, Suite 1700
Toronto ON M7A 0A7
Tel: 416 314-7620
Fax: 416 212-1802

**Ministère du Tourisme, de la Culture
et du Sport**

Unité des services culturels
Direction des programmes et des services
Division de culture
401, rue Bay, bureau 1700
Toronto ON M7A 0A7
Tél: 416 314-7620
Télé: 416 212-1802



December 19, 2014

Ms. Meaghan Rivard
Heritage Consultant
Stantec
49 Frederick Street
Kitchener ON
N2H 6M7

Project: Amherst Island Wind Energy Project
OPA Reference Number: F-004563-WIN-130-601
Report Title: Addendum to Heritage Assessment - Project Layout
Modifications
Applicant: Windlectric Inc.
Location: Amherst Island, Township of Loyalist, County of Lennox and
Addington
MTCS File No.: 16EA025

Dear Ms. Rivard:

This office has reviewed the above-mentioned addendum to the heritage assessment report (the "Addendum"), 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") to address changes to the project layout. 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, and replaces our previous comment letter from April 17, 2013.

The Addendum recommends the following:

RECOMMENDATIONS

Based on these findings, it was determined the recommendations contained within the *Heritage Assessment* should be modified to reflect areas where additional assessment was undertaken as well as those where recommendations are no longer valid. We ask that the MTCS review the attached figures illustrating the proposed Project modification as well as the impact assessment contained within this letter. Following review, if appropriate, we request revision of the confirmation letter received by Stantec on April 17, 2013, to incorporate the revised recommendations as follows:

BHR/CHL #	Address/Name	Recommended Mitigation
BHR 3 BHR 4 BHR 5 BHR 6 BHR 19	2400 South Shore Road 3500 South Shore Road 4125 South Shore Road 2750 Front Road 3475 Second Concession Road	<ul style="list-style-type: none"> • Avoid Project activities within a 50 m bufferzone of structures on the property. • In the event that Project activities within a 50 m bufferzone cannot be avoided, it is recommended that maximum acceptable vibration, or peak particle velocity (PPV), levels be determined by a qualified engineer prior to Project activities and that activities be monitored to ensure that maximum PPV levels are not exceeded. • All Project activities should cease if levels are exceeded until a solution can be determined.
CHL 4	Ferry Landscape	<ul style="list-style-type: none"> • Documentation of ferry landscape prior to the construction of permanent and temporary Project infrastructure.
CHL 1 CHL 3	Village of Stella St. Paul's Presbyterian Church	<ul style="list-style-type: none"> • Avoid Project activities within a 50 m bufferzone of any structures in the CHL. • In the event that Project activities within a 50 m bufferzone cannot be avoided, it is recommended that maximum acceptable vibration, or peak particle velocity (PPV), levels be determined by a qualified engineer prior to Project activities and that activities be monitored to ensure that maximum PPV levels are not exceeded. • Photographically record condition of burial vault and monitor its physical condition during construction process. • All Project activities should cease if levels are exceeded until a solution can be determined.

In order to lessen or avoid potential indirect negative impacts from construction vibrations on BHRs 4, 5, 6, and 19 and components of CHLs 1 and 3, the following recommendations have been made:

- Project activities should be avoided within 50m of identified BHRs and any structures or buildings within identified CHLs.
- If Project activities within a 50 m bufferzone cannot be avoided, maximum acceptable vibration levels, or peak particle velocity (PPV) levels, should be determined by a qualified engineer with previous experience working with built heritage resources under similar circumstances.
- Project activities within the 50 m bufferzone should be monitored to ensure that PPV levels are not exceeded.
- All Project activities should cease immediately if levels are exceeded until a solution can be determined.

With respect to the dry stone walls associated with BHRs 7 and 18, while potential impacts are not anticipated, the following recommendations have been made and should be applied to previously identified resources as well as those encountered during Project construction activities:

- It is recommended that Project activities be avoided within a 50 m bufferzone of any dry stone walls.
- In the event that Project activities cannot be avoided within 50 m of any dry stone wall, the wall should be documented prior to the commencement of said activities.
- 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 Project activities to ensure that no damage has occurred and any damage to the wall should be repaired immediately following Project activities.

Finally, prior to construction of shoreline Project infrastructure, views from the Ferry Landscape should be more thoroughly documented, particularly towards the proposed locations of new permanent and temporary infrastructure. This documentation should include, at the very least, a photographic record of existing conditions and views.

Based on the information contained in the Addendum and the heritage assessment 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,

Laura Hatcher

Team Lead (A) – Heritage Land Use Planning

416-314-3108

laura.e.hatcher@ontario.ca

cc. Sean Fairfield, Senior Project Manager
Algonquin Power

Agatha Garcia-Wright, Director
Environmental Approvals Access & Service Integration Branch, Ministry of the Environment

Sarah Paul, Director
Environmental Approvals Branch, Ministry of the Environment

Paula Kulpa, Manager (A)
Culture Services Unit, Ministry of Tourism, Culture and Sport

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 Consulting Ltd.
49 Frederick Street, Kitchener ON N2H 6M7

December 1, 2014
File: 160960595

Attention: Laura Hatcher, MCIP, RPP, Team Lead: Heritage Land Use Planning

Culture Services Unit
Programs and Services Branch
Ministry of Tourism, Culture and Sport
401 Bay Street Suite
1700 Toronto ON M7A 0A7

Dear Ms. Hatcher,

Reference: Amherst Island Wind Energy Project Protected Properties – Project Layout Modifications

Algonquin Power (on behalf of Windlectric Inc.) is developing the Amherst Island Wind Energy Project (the Project), a proposed 75MW wind energy project on Amherst Island, located within Loyalist Township in the County of Lennox and Addington in eastern Ontario. As discussed with Ministry of Tourism, Culture and Sport (MTCS) on Tuesday, November 4, 2014, Algonquin Power is considering three modifications to the REA application for the Amherst Island Wind Project.

This letter is submitted as an addendum to the Project Renewable Energy Approval Application – *Protected Properties Assessment* that was submitted to the MTCS in April 2013 and for which a letter of satisfaction was received on April 5, 2013.

The purpose of this letter is to provide the MTCS with an understanding of modifications that have been made to the location of the Project (details are listed below) since the *Protected Properties Assessment* was confirmed by the MTCS, and to provide an assessment of the proposed modifications in order to identify any additional potential effects, mitigation measures, or monitoring requirements that were not included in the *Protected Properties Assessment*. For the purposes of this summary, only additional infrastructure was assessed.

PROJECT DESCRIPTION

The basic components of the proposed Project include up to 36 Siemens 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.

At the time of the 2013 *Protected Properties Assessment*, the turbine model proposed utilized 36 turbine pad locations that have been subject to the assessment required under REA. The layout in the original REA application included 34 Siemens SWT-2.3-113 2300 kW and two (2) Siemens SWT-2.3-113 2221 kW model wind turbines.



December 1, 2014

Laura Hatcher, MCIP, RPP, Team Lead: Heritage Land Use Planning

Page 2 of 6

Reference: Amherst Island Wind Energy Project Protected Properties – Project Layout Modifications

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 un-serviced 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. It is understood that the collector system, including the collector and transmission lines, will be positioned below ground.

Temporary components during construction may include staging areas for the turbines, access roads, met tower(s), collector lines and transmission line as well as 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.

HERITAGE CONTEXT

Stantec was retained by Algonquin Power Co. on behalf of the Proponent to undertake the cultural heritage and protected properties assessments for the Project as required by *Ontario Regulation 359/09*. Both Reports received written comments expressing satisfaction from the MTCS in April, 2013. Representatives from Algonquin Power Co., Stantec, and the MTCS met via tele-conference to discuss proposed modifications on November 4, 2014. It was determined during that time that, as is the standard process for filing modifications following receipt of a letter of satisfaction, Stantec would prepare a letter summarizing the proposed changes and implications, if any, on cultural heritage resources.

PROPOSED MODIFICATION DESCRIPTION

There are three modifications which have been proposed following the completion of the *Protected Properties Assessment*. These are: (1) a change in turbine model and associated reduction in the number of turbines, (2) a change in collection system routing to avoid the Village of Stella and (3) changes to the road and collection system to avoid some activities on 2nd Concession.

Further detail is provided below regarding the proposed modifications.

1. Reducing the number of Wind Turbines by changing Turbine Model (Siemens 2.942 MW and 2.772 MW)



December 1, 2014

Laura Hatcher, MCIP, RPP, Team Lead: Heritage Land Use Planning

Page 3 of 6

Reference: Amherst Island Wind Energy Project Protected Properties – Project Layout Modifications

This modification involves changing the Project's turbines from a combination of Siemens 2.3 MW and 2.221 MW to a combination of Siemens 2.942 MW and 2.772 MW, and thereby reducing the number of turbines from 36 to 27. The new turbines would be physically identical, specifically with a hub height of 99.5 m and rotor diameter of 113 m. The modification will decrease the Project Location size by reducing the number of turbine sites from 36 to 27. All of these 27 turbine sites are in previously studied and proposed locations.

The project modification has been discussed with the Ministry of the Environment and Climate Change (MOECC). The MOECC has verified this project modification is a Technical Change as pursuant to the classification system outlined in the Ministry of the Environment's *Technical Guide to Renewable Energy Approvals* (October, 2013). Given the nature of this technical update, the Protected Properties Assessment does not require any additional assessment. As such, the update is being provided for MTCS's information.

2. Collection System Route Change 1 – Avoiding the Village of Stella

This proposed modification would involve rerouting the collection system to avoid the Village of Stella. In doing so, this modification would remove a significant portion of the existing collection system from S30 entrance along Front Road, including by removing approximately 4 km of road allowance trenching (including through Stella). The modification would also require a new collection corridor from S13 to South Shore Rd. and west to S14 entrance, which would consist of approximately 1 km in road allowance and 700 m of in pasture field. The modification will decrease the Project Location size by resulting in a net reduction of approximately 2 km of collection system trenching.

The project modification has been discussed with the Ministry of the Environment and Climate Change (MOECC). The MOECC has verified this project modification is a Project Design Change as pursuant to the classification system outlined in the Ministry of the Environment's *Technical Guide to Renewable Energy Approvals* (October, 2013). Additional assessment to determine the relationship between previously identified protected properties and the proposed modifications is necessary along South Shore Road in between Turbines S13 and S14. This was undertaken as described in the text below.

3. Collection System Route Change 2 – Reducing Impacts on 2nd Concession

This modification would involve the addition of an underground collector line along a previously approved access road between T16/T23 and T35. The collector line has been incorporated into the design of the access road between T16/23 and T35. The modification will decrease the Project Location size by eliminating the need to install a second collection circuit trench on approximately 3 km of 2nd Concession.



December 1, 2014

Laura Hatcher, MCIP, RPP, Team Lead: Heritage Land Use Planning

Page 4 of 6

Reference: Amherst Island Wind Energy Project Protected Properties – Project Layout Modifications

The project modification has been discussed with the Ministry of the Environment and Climate Change (MOECC). The MOECC has verified this project modification is a Technical Change as pursuant to the classification system outlined in the Ministry of the Environment's *Technical Guide to Renewable Energy Approvals* (October, 2013). Given the nature of this technical update, the Protected Properties Assessment does not require any additional assessment. As such, the update is being provided for MTCS's information.

REPORT REVIEW

Stantec reviewed the *Protected Properties Assessment*. There were three protected properties identified and the ongoing designation of numerous stone fences in the Study Area was noted.

The *Protected Properties Assessment* determined that:

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:



December 1, 2014

Laura Hatcher, MCIP, RPP, Team Lead: Heritage Land Use Planning

Page 5 of 6

Reference: Amherst Island Wind Energy Project Protected Properties – Project Layout Modifications

- *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.*

Upon review, it has been determined that protected properties identified in the April 2013 *Protected Properties Assessment* are not situated within, or abutting, properties where new Project infrastructure is proposed. It was further determined that in three cases, Neilson's General Store, Trinity United Church, and Pentland Cemetery, all associated infrastructure has been removed (see Table 1). In each case, Project infrastructure has been removed as opposed to added. Therefore, it was determined that no additional assessment is required for protected properties identified during the April 2013 *Protected Properties Assessment*.

Table 1 Summary of Property Assessment and Requirements for Additional Assessment

Protected Property	Relationship to the Proposed Additional Infrastructure	Relationship to the Proposed Removed Infrastructure	Additional Assessment Required
Neilson's General Store (5170 Front Road)	None	Adjacent to removed infrastructure (collector line)	No
Trinity United Church (5555 Front Road)	None	Adjacent to removed infrastructure (collector line)	No
Pentland Cemetery (1652 Front Road)	None	Adjacent to removed infrastructure (Operation and Maintenance Building)	No



December 1, 2014
Laura Hatcher, MCIP, RPP, Team Lead: Heritage Land Use Planning
Page 6 of 6

Reference: Amherst Island Wind Energy Project Protected Properties – Project Layout Modifications

FINDINGS

Based on review of the *Protected Properties Assessment*, it was determined that no additional assessment is required. The recommendations contained within the Report address potential impacts that are no longer anticipated as a result of the removal of Project infrastructure. The recommendations as they exist in the 2013 Report address all designated properties at the time of the writing of the Report and not just those situated at, or abutting, the Project Location. As such, while the recommendations reach beyond properties where potential impacts are anticipated, the recommendations remain valid and are considered to satisfy requirements made under *Ontario Regulation 359/09*.

RECOMMENDATIONS

Based on these findings, it was determined that the analysis, assessment, and recommendations of the *Protected Properties Assessment* remain unchanged as a result of the proposed project layout modification.

We ask that the MTCS review the attached figures illustrating the proposed Project modification. Following review, if appropriate, we request confirmation of Stantec's review and MTCS comment regarding the proposed modification as related to recommendations of the *Protected Properties Assessment*.

Regards,

STANTEC CONSULTING LTD.

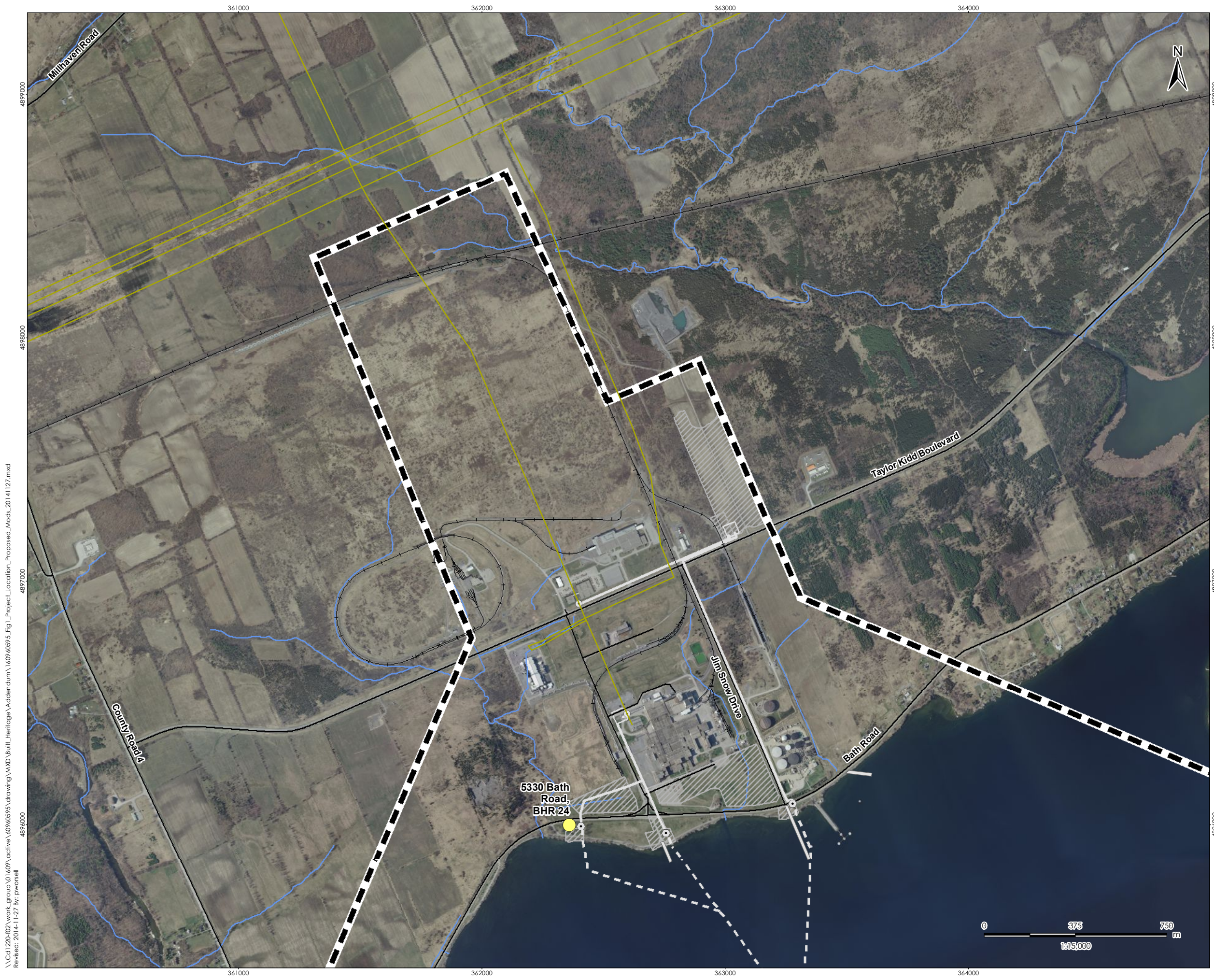
A handwritten signature in black ink that reads "Meaghan Rivard".

Meaghan Rivard, MA, CAHP
Heritage Specialist
Phone: 519-575-4114
Meaghan.Rivard@stantec.com

Attachment: Project Location & Study Area: Proposed Modifications

c. Colin Varley, Stantec Consulting Ltd.
Kerrie Skillen, Stantec Consulting Ltd.

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Legend

- Study Area
- Built Heritage Resource
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- Cultural Heritage Landscape
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Client/Project

Windlectric Inc.
Amherst Island Wind Energy Project

Figure No.

1.1

Title

**Project Location & Study Area:
Proposed Modifications**



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 Revised: 2014-11-27 By: p.worsell

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Legend

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Client/Project
Windlectric Inc.
Amherst Island Wind Energy Project

Figure No.
1.2

Title
**Project Location & Study Area:
Proposed Modifications**

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 Revised: 2014-11-27 By: p.worsell

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Legend

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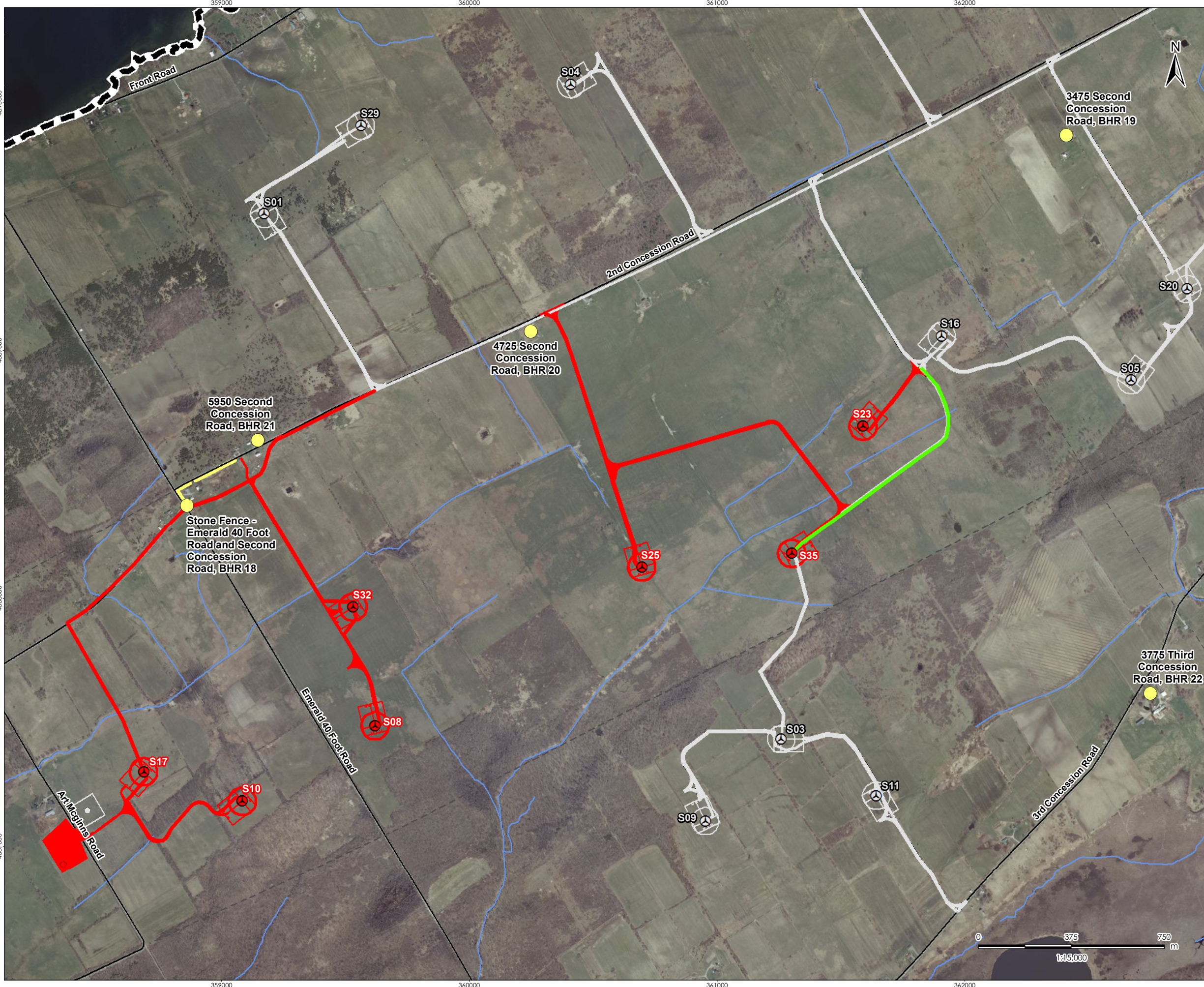
Client/Project
Windlectric Inc.
Amherst Island Wind Energy Project

Figure No.
1.3

Title
**Project Location & Study Area:
Proposed Modifications**

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Revised: 2014-11-27 By: p.worsell

366000 367000 368000 369000 370000



Legend

- Study Area
- Built Heritage Resource
- Protected Property
- Cultural Heritage Landscape
- Stone Fence
- Project Components**
- Turbine (No Changes Proposed)
- Turbine (Removed)
- Met Tower - Potential Location (No Changes Proposed)
- Met Tower - Potential Location (Removed)
- Other Project Component (No Changes Proposed)
- Other Project Component (New)
- Other Project Component (Removed)
- Existing Features**
- Road
- Unopened Road Allowance
- Railway
- Hydro Line
- Watercourse
- Property Line

Notes

1. Coordinate System: NAD 1983 UTM Zone 18N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2014.
3. Orthoimagery © First Base Solutions, 2014. Imagery taken in 2008.

November 2014
160960595

Client/Project
Windelectric Inc.
Amherst Island Wind Energy Project

Figure No.
1.4

Title
**Project Location & Study Area:
Proposed Modifications**

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 Revised: 2014-11-27 By: p.worsell



Legend

- Study Area
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Notes

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Client/Project

Windlectric Inc.
Amherst Island Wind Energy Project

Figure No.

1.5

Title

**Project Location & Study Area:
Proposed Modifications**



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 Revised: 2014-11-27 By: pworthell
 4887000

Skillen, Kerrie

From: Skillen, Kerrie
Sent: Wednesday, May 06, 2015 3:50 PM
To: Skillen, Kerrie
Subject: FW: Amherst Island Wind Energy Project Heritage Assessment and Protected Properties - Project Layout Modifications
Attachments: REA-MTCScomments-Amherst Island Wind 2014-12-19.pdf

From: Hatcher, Laura (MTCS) [<mailto:Laura.E.Hatcher@ontario.ca>]
Sent: Friday, December 19, 2014 5:31 PM
To: Rivard, Meaghan
Cc: sean.fairfield@algonquinpower.com; Garcia-Wright, Agatha (MOECC); Paul, Sarah (MOECC); Kulpa, Paula (MTCS)
Subject: Amherst Island Wind Energy Project Heritage Assessment and Protected Properties - Project Layout Modifications

Dear Meaghan,

The Ministry of Tourism, Culture and Sport has reviewed the addendum reports, submitted to MTCS on December 11, 2014, reflecting Project layout modifications to the Amherst Island Wind Energy Project.

For the addendum to the Protected Property report, the findings and recommendations of the report remain unchanged and the MTCS comment letter from April 5, 2013 remains valid.

For the addendum to the Heritage Assessment, please find attached a letter regarding the revised recommendations.

Sincerely,

Laura

Laura Hatcher, MCIP, RPP

Team Lead (A) – Heritage Land Use Planning

Culture Services Unit | Programs and Services Branch | Ministry of Tourism, Culture and Sport

401 Bay Street Suite 1700 Toronto ON M7A 0A7

Tel. 416.314.3108 | email: laura.e.hatcher@ontario.ca

**Ministry of Tourism, Culture
and Sport**

Culture Services Unit
Programs and Services Branch
Culture Division
401 Bay Street, Suite 1700
Toronto ON M7A 0A7
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**Ministère du Tourisme, de la Culture
et du Sport**

Unité des services culturels
Direction des programmes et des services
Division de culture
401, rue Bay, bureau 1700
Toronto ON M7A 0A7
Tél: 416 314-7620
Télé: 416 212-1802



December 19, 2014

Ms. Meaghan Rivard
Heritage Consultant
Stantec
49 Frederick Street
Kitchener ON
N2H 6M7

Project: Amherst Island Wind Energy Project
OPA Reference Number: F-004563-WIN-130-601
Report Title: Addendum to Heritage Assessment - Project Layout
Modifications
Applicant: Windlectric Inc.
Location: Amherst Island, Township of Loyalist, County of Lennox and
Addington
MTCS File No.: 16EA025

Dear Ms. Rivard:

This office has reviewed the above-mentioned addendum to the heritage assessment report (the "Addendum"), 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") to address changes to the project layout. 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, and replaces our previous comment letter from April 17, 2013.

The Addendum recommends the following:

RECOMMENDATIONS

Based on these findings, it was determined the recommendations contained within the *Heritage Assessment* should be modified to reflect areas where additional assessment was undertaken as well as those where recommendations are no longer valid. We ask that the MTCS review the attached figures illustrating the proposed Project modification as well as the impact assessment contained within this letter. Following review, if appropriate, we request revision of the confirmation letter received by Stantec on April 17, 2013, to incorporate the revised recommendations as follows:

BHR/CHL #	Address/Name	Recommended Mitigation
BHR 3 BHR 4 BHR 5 BHR 6 BHR 19	2400 South Shore Road 3500 South Shore Road 4125 South Shore Road 2750 Front Road 3475 Second Concession Road	<ul style="list-style-type: none"> • Avoid Project activities within a 50 m bufferzone of structures on the property. • In the event that Project activities within a 50 m bufferzone cannot be avoided, it is recommended that maximum acceptable vibration, or peak particle velocity (PPV), levels be determined by a qualified engineer prior to Project activities and that activities be monitored to ensure that maximum PPV levels are not exceeded. • All Project activities should cease if levels are exceeded until a solution can be determined.
CHL 4	Ferry Landscape	<ul style="list-style-type: none"> • Documentation of ferry landscape prior to the construction of permanent and temporary Project infrastructure.
CHL 1 CHL 3	Village of Stella St. Paul's Presbyterian Church	<ul style="list-style-type: none"> • Avoid Project activities within a 50 m bufferzone of any structures in the CHL. • In the event that Project activities within a 50 m bufferzone cannot be avoided, it is recommended that maximum acceptable vibration, or peak particle velocity (PPV), levels be determined by a qualified engineer prior to Project activities and that activities be monitored to ensure that maximum PPV levels are not exceeded. • Photographically record condition of burial vault and monitor its physical condition during construction process. • All Project activities should cease if levels are exceeded until a solution can be determined.

In order to lessen or avoid potential indirect negative impacts from construction vibrations on BHRs 4, 5, 6, and 19 and components of CHLs 1 and 3, the following recommendations have been made:

- Project activities should be avoided within 50m of identified BHRs and any structures or buildings within identified CHLs.
- If Project activities within a 50 m bufferzone cannot be avoided, maximum acceptable vibration levels, or peak particle velocity (PPV) levels, should be determined by a qualified engineer with previous experience working with built heritage resources under similar circumstances.
- Project activities within the 50 m bufferzone should be monitored to ensure that PPV levels are not exceeded.
- All Project activities should cease immediately if levels are exceeded until a solution can be determined.

With respect to the dry stone walls associated with BHRs 7 and 18, while potential impacts are not anticipated, the following recommendations have been made and should be applied to previously identified resources as well as those encountered during Project construction activities:

- It is recommended that Project activities be avoided within a 50 m bufferzone of any dry stone walls.
- In the event that Project activities cannot be avoided within 50 m of any dry stone wall, the wall should be documented prior to the commencement of said activities.
- 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 Project activities to ensure that no damage has occurred and any damage to the wall should be repaired immediately following Project activities.

Finally, prior to construction of shoreline Project infrastructure, views from the Ferry Landscape should be more thoroughly documented, particularly towards the proposed locations of new permanent and temporary infrastructure. This documentation should include, at the very least, a photographic record of existing conditions and views.

Based on the information contained in the Addendum and the heritage assessment 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,

Laura Hatcher

Team Lead (A) – Heritage Land Use Planning

416-314-3108

laura.e.hatcher@ontario.ca

cc. Sean Fairfield, Senior Project Manager
Algonquin Power

Agatha Garcia-Wright, Director
Environmental Approvals Access & Service Integration Branch, Ministry of the Environment

Sarah Paul, Director
Environmental Approvals Branch, Ministry of the Environment

Paula Kulpa, Manager (A)
Culture Services Unit, Ministry of Tourism, Culture and Sport

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.