

# Welcome

**to the  
Final Public Open House  
for the  
Amherst Island Wind Energy Project**

Thank you for coming. We are happy to share with you information about this clean, renewable energy project.

Please take some time to review the display boards and feel free to ask the Project Team any questions you may have.

We invite you to complete a questionnaire providing your questions and comments.

## Purpose of this Public Open House

- Update you on the status of the proposed Project
- Present the findings of the Draft Renewable Energy Approval (REA) Reports that were released to the Public in December 2012.
- Answer questions regarding the Draft REA Reports and the Project in general.
- Collect your input regarding the Project for consideration by the Project Team as the reports are finalized for submission to the Ministry of the Environment (MOE).



# Amherst Island Wind Energy Project

## Who Are We

Algonquin Power Co. ("APCo") is a respected and socially responsible participant in the renewable energy and sustainable infrastructure sectors - APCo owns and operates generating stations across North America including wind energy and hydroelectric facilities. The Amherst Island Wind Energy Project is being developed by Windlectric Inc., a subsidiary of Algonquin. Gaia Power Inc. (Kingston, Ontario) is the original developer of the Amherst Island Wind Energy Project.

Windlectric has retained Stantec Consulting Ltd. to prepare the Renewable Energy Approval (REA) application, as required under O. Reg. 359/09. For this project, Stantec is providing professional consulting services in environmental sciences, consultation and project management.

The entire study team for the Project includes:

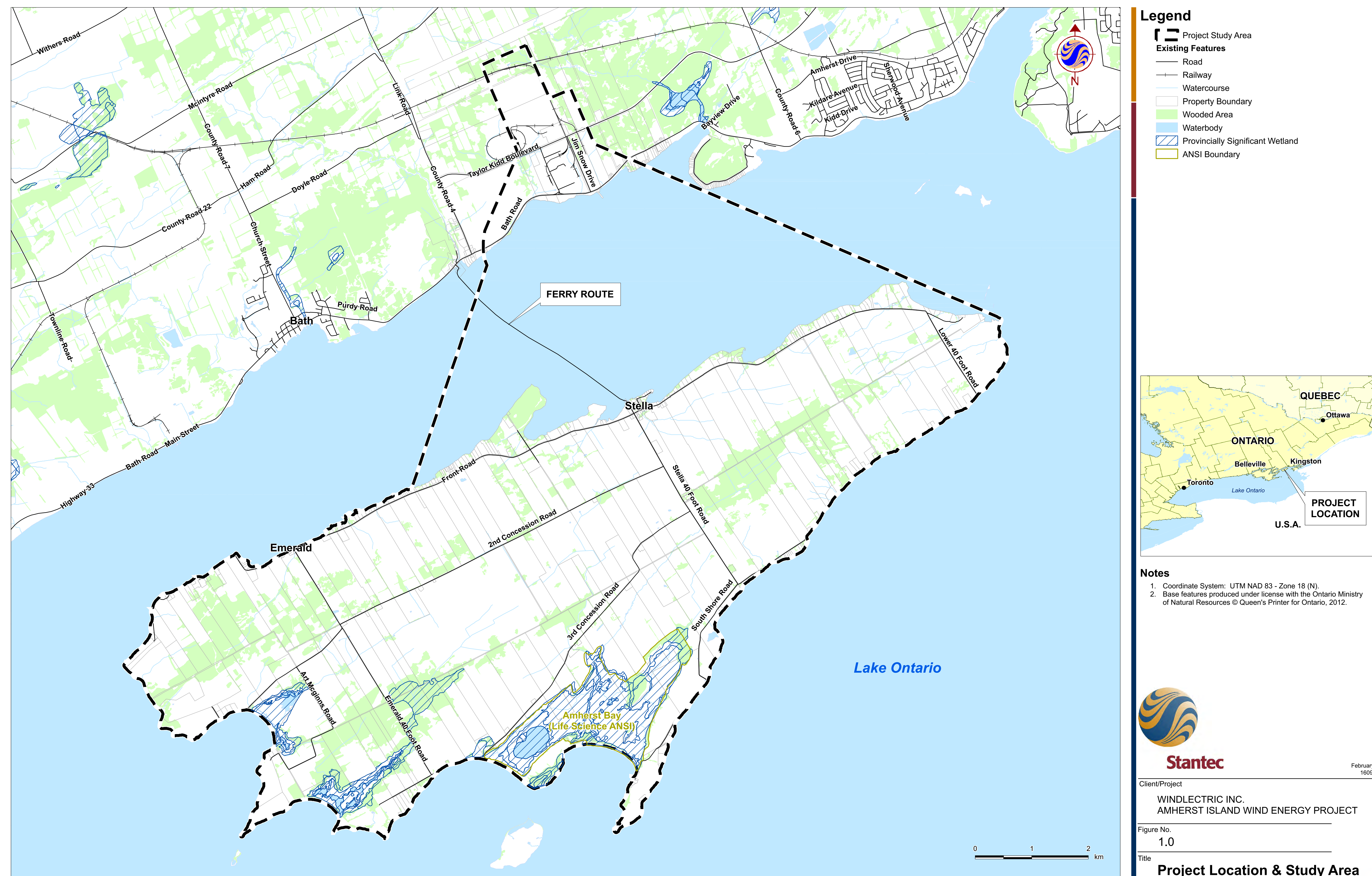
Stantec Consulting Ltd. - Renewable Energy Approval Process  
HATCH Consulting - Engineering  
Intrinsic - Health



# Amherst Island Wind Energy Project

## Project Overview

- The Project has been awarded a Power Purchase Agreement (FIT contract) with the Ontario Power Authority.
- Proposed project includes up to 36 wind turbines.
- The final layout will result in a total installed nameplate capacity of approximately 56 - 75 MW.



## Project Overview

Basic project components include:

- Up to 36 wind turbines. The layout includes 34 Siemens SWT-2.3-113 2300 kW and two (2) Siemens SWT-2.3-113 2221 kW model wind turbines.
- 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 and control of the wind turbines;
- A 115kV transmission line;
- Truck turnaround areas;
- A submarine cable;
- An operations and maintenance building;
- Permanent dock on the island;
- A substation on the island and a switching station on the mainland;
- An un-serviced storage shed;
- One connection point to the existing electrical system;
- Cable vaults;
- 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 and entrances.

Temporary components during construction may include staging areas for the turbines, access roads, met tower(s), collector lines and a transmission line as well as crane paths, a temporary dock, site office(s), batch plant, central staging areas, and associated water crossings.

All Project components are on privately owned land and/or within municipal road allowances.



## Alternative Project Configurations

The Proponent has elected to assess and seek approval for some alternative Project configurations. The REA application process will consider:

- two alternative mainland transmission line routes;
- two alternative switching station locations and corresponding point of common coupling with the Hydro One Networks Inc. (HONI) line;
- three alternative 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 four 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.

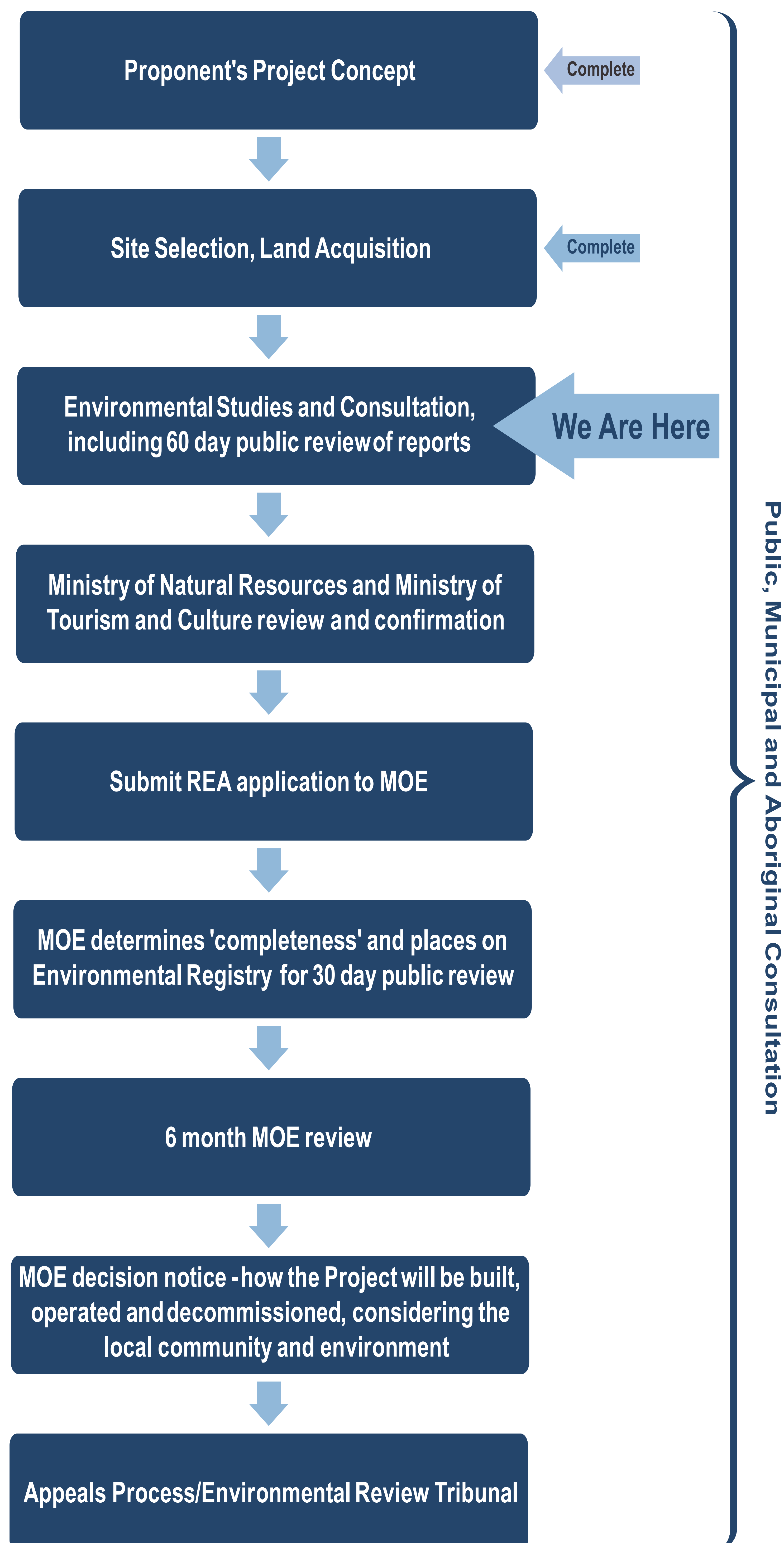


## Renewable Energy Approval Process

- The *Green Energy and Green Economy Act (GEA)*, and related amendments to other provincial legislation, received Royal Assent in the Ontario Legislature on May 14, 2009.
- The Project will require a Renewable Energy Approval (REA) according to Ontario Regulation 359/09 (REA under Part V0.1 of the Act) under the *Environmental Protection Act*. This regulation became law on September 24, 2009, was amended on January 1, 2011, and replaces the previous Ontario Environmental Assessment Act process for wind projects.

### Permitting and Approvals

- All non-REA approvals (Conservation Authority, Municipal, *Endangered Species Act*, if required) will be obtained prior to construction.
- Application for permits and approvals occurs outside of the REA process.



## Site Selection

Why choose Amherst Island?

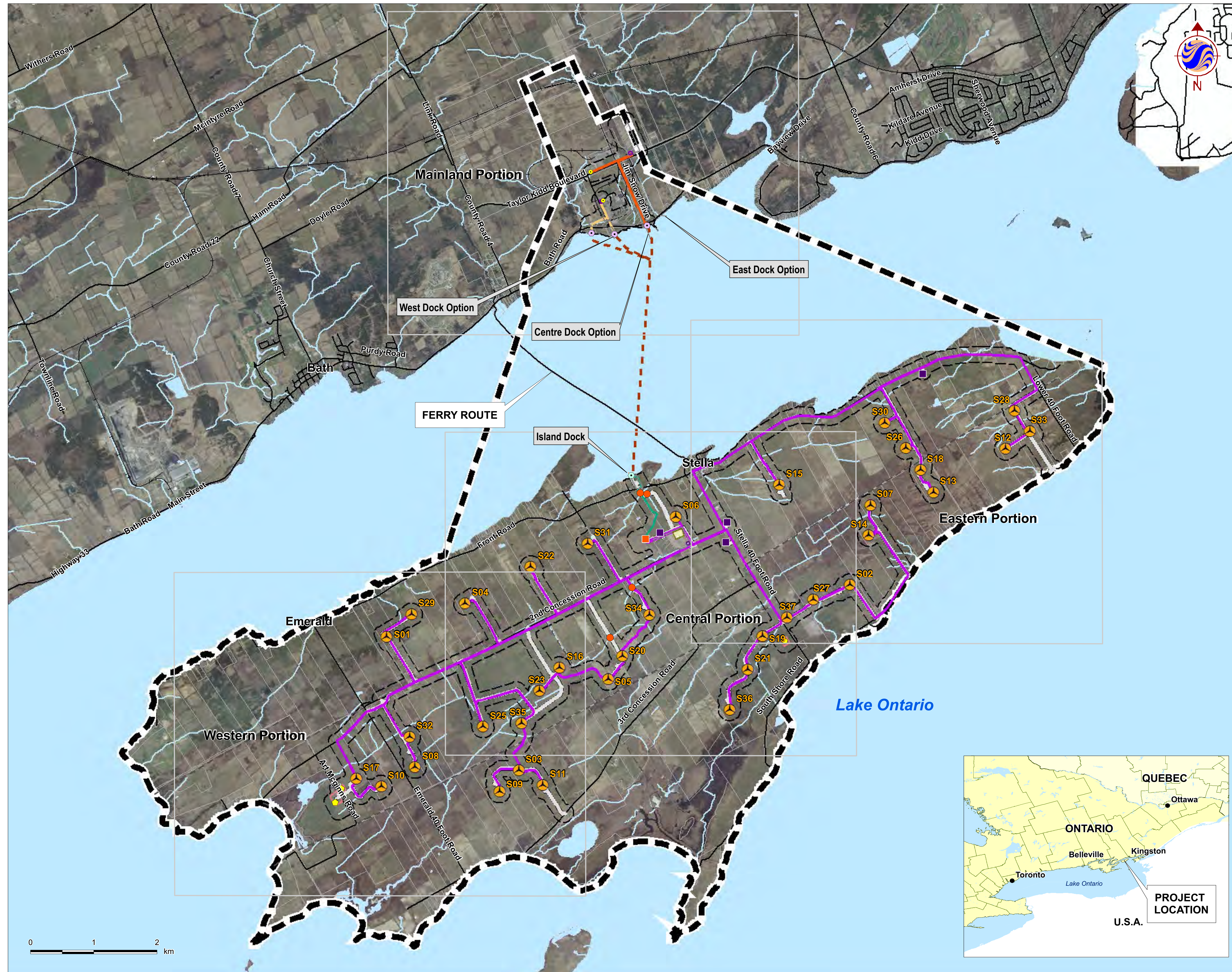
- Good wind regime;
- Electrical interconnection – the Project has access to connect to existing transmission capacity on the Hydro One provincial grid;
- Compatible land uses – agricultural land requiring a small footprint for Project components; and
- Flat topography for the Project Study Area.





# Amherst Island Wind Energy Project

## Project Location - Overview



### Legend

- Project Study Area
- 120m Zone of Investigation
- Project Components**
- Turbine
- Met Tower (Potential Location)
- Substation (Potential Location)
- Access Road
- Collector Lines
- Submarine Cable Path
- Operation and Maintenance Building (Potential Location)
- Potential Culvert Location
- Point of Common Coupling
- Mainland Cable Vault (Potential Location)
- Island Cable Vault
- Constructible Area
- Mainland Dock (Potential Location)
- Island Dock
- Batch Plant (Potential Location)
- Site Office (Potential Location)
- Storage Shed
- Transmission Lines**
- 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
- Waterbody
- Property Boundary
- Tile Portion

### Notes

1. Coordinate System: UTM NAD 83 - Zone 18 (N).
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Client/Project

WINDLECTRIC INC.  
AMHERST ISLAND WIND ENERGY PROJECT

Figure No.

2.0

Title

**Study Area - Overview**



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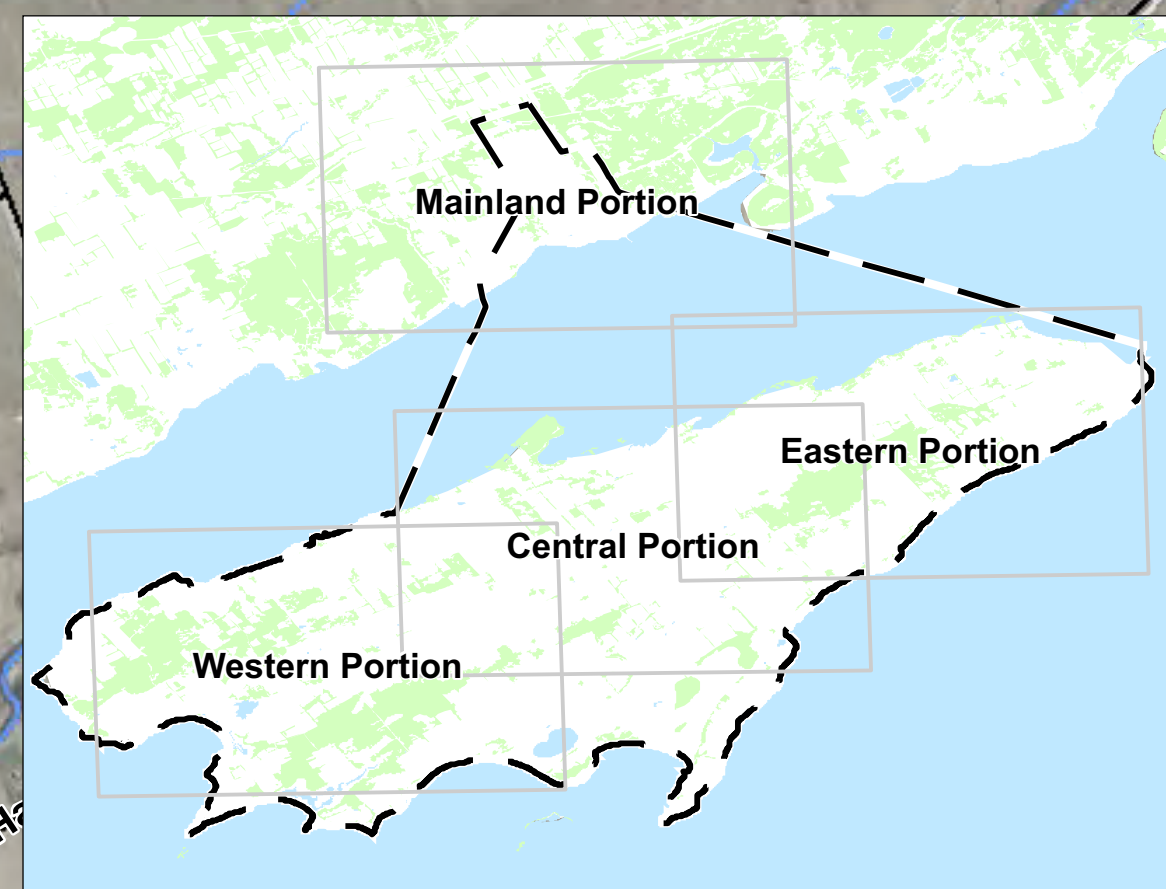
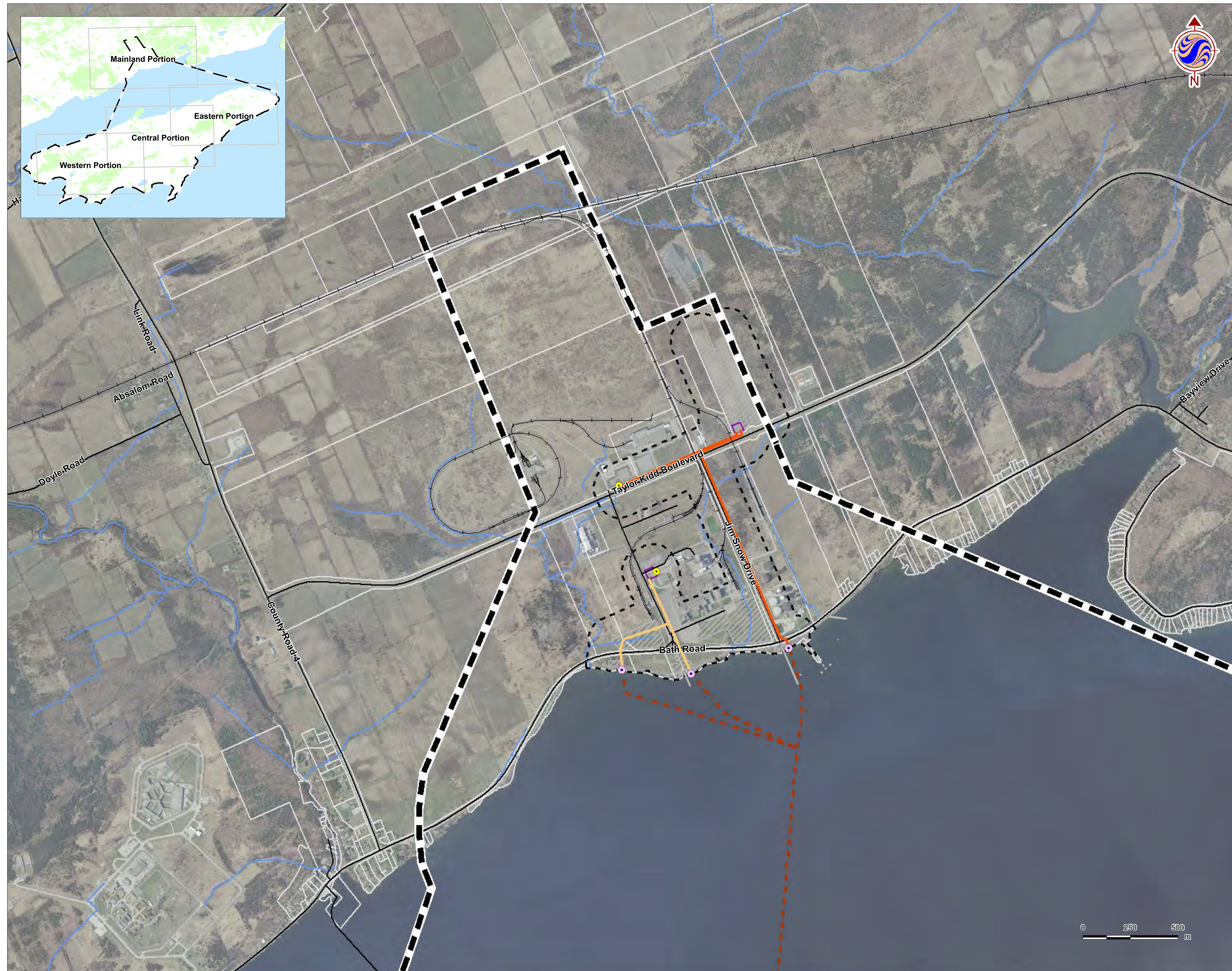
Windlectric Inc.

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Revised: 2013-02-14 By: cweeks

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# Amherst Island Wind Energy Project

## Project Location - Mainland Portion



### Legend

- Study Area
- 120m Zone of Investigation
- Project Components**
- Turbine
- Met Tower (Potential Location)
- Access Road
- Collector Lines
- Laydown Area and Crane Path
- Submarine Cable Path
- Operation and Maintenance Building (Potential Location)
- Storage Shed
- Turbine Blade Tips
- Substation (Potential Location)
- Potential Culvert Location
- Point of Common Coupling
- Mainland Cable Vault (Potential Location)
- Island Cable Vault
- Constructible Area
- Mainland Dock (Potential Location)
- Island Dock
- Batch Plant (Potential Location)
- Site Office (Potential Location)
- Transmission Lines**
- 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 (modified by Stantec)
- Property Line

### Notes

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Figure No.

2.0 (4 of 4)

Title

**Study Area Layout**



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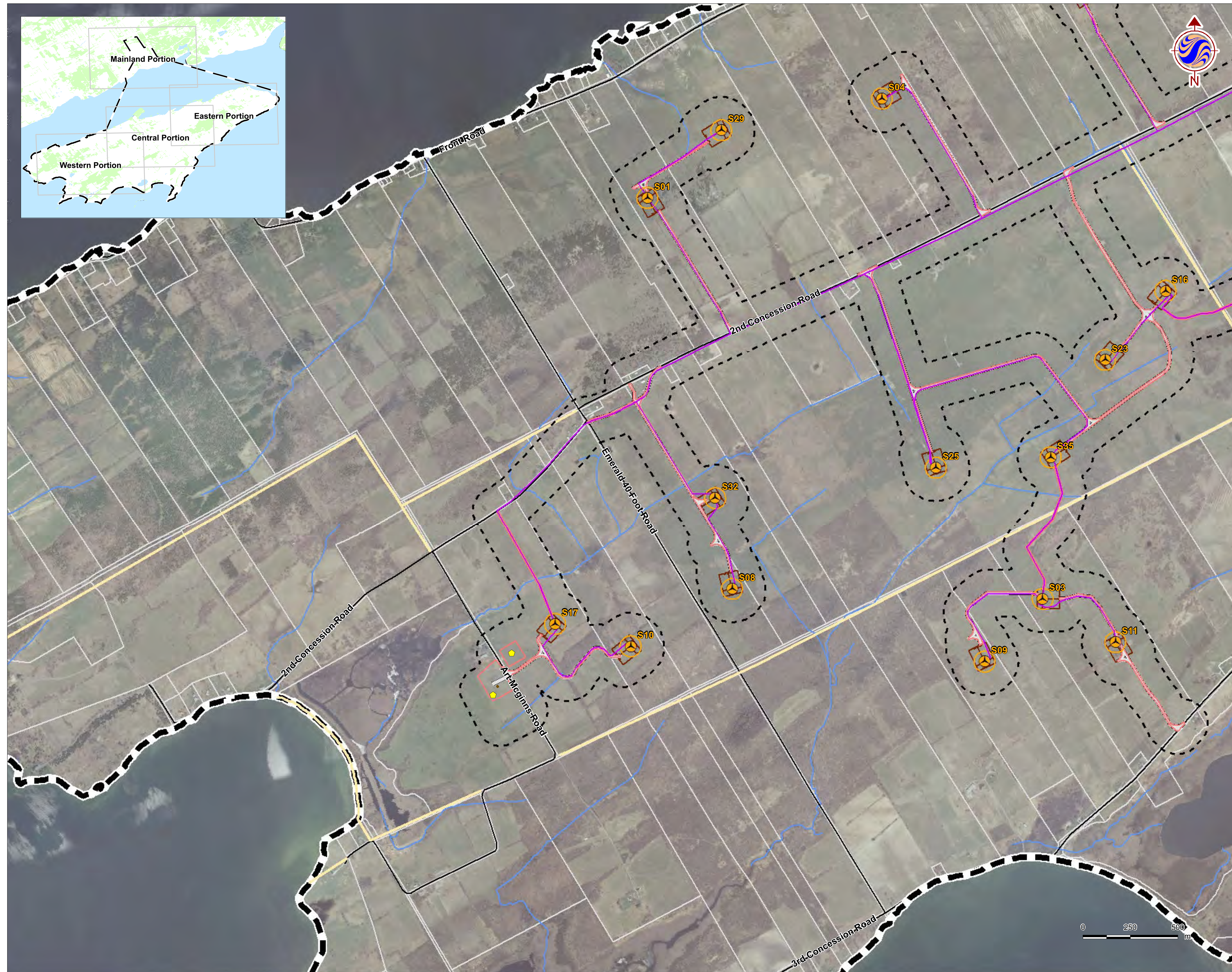
**Windlectric Inc.**

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Revised: 2013-02-14 By: cweeks

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# Amherst Island Wind Energy Project

## Project Location - Western Portion



### Legend

- Study Area
- 120m Zone of Investigation
- Project Components**
- Turbine
- Met Tower (Potential Location)
- Access Road
- Collector Lines
- Laydown Area and Crane Path
- Submarine Cable Path
- Operation and Maintenance Building (Potential Location)
- Storage Shed
- Turbine Blade Tips
- Substation (Potential Location)
- Potential Culvert Location
- Point of Common Coupling
- Mainland Cable Vault (Potential Location)
- Island Cable Vault
- Constructible Area
- Mainland Dock (Potential Location)
- Island Dock
- Batch Plant (Potential Location)
- Site Office (Potential Location)
- Transmission Lines**
- 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 (modified by Stantec)
- Property Line

### Notes

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Figure No.

2.0 (1 of 4)

Title

**Study Area Layout**

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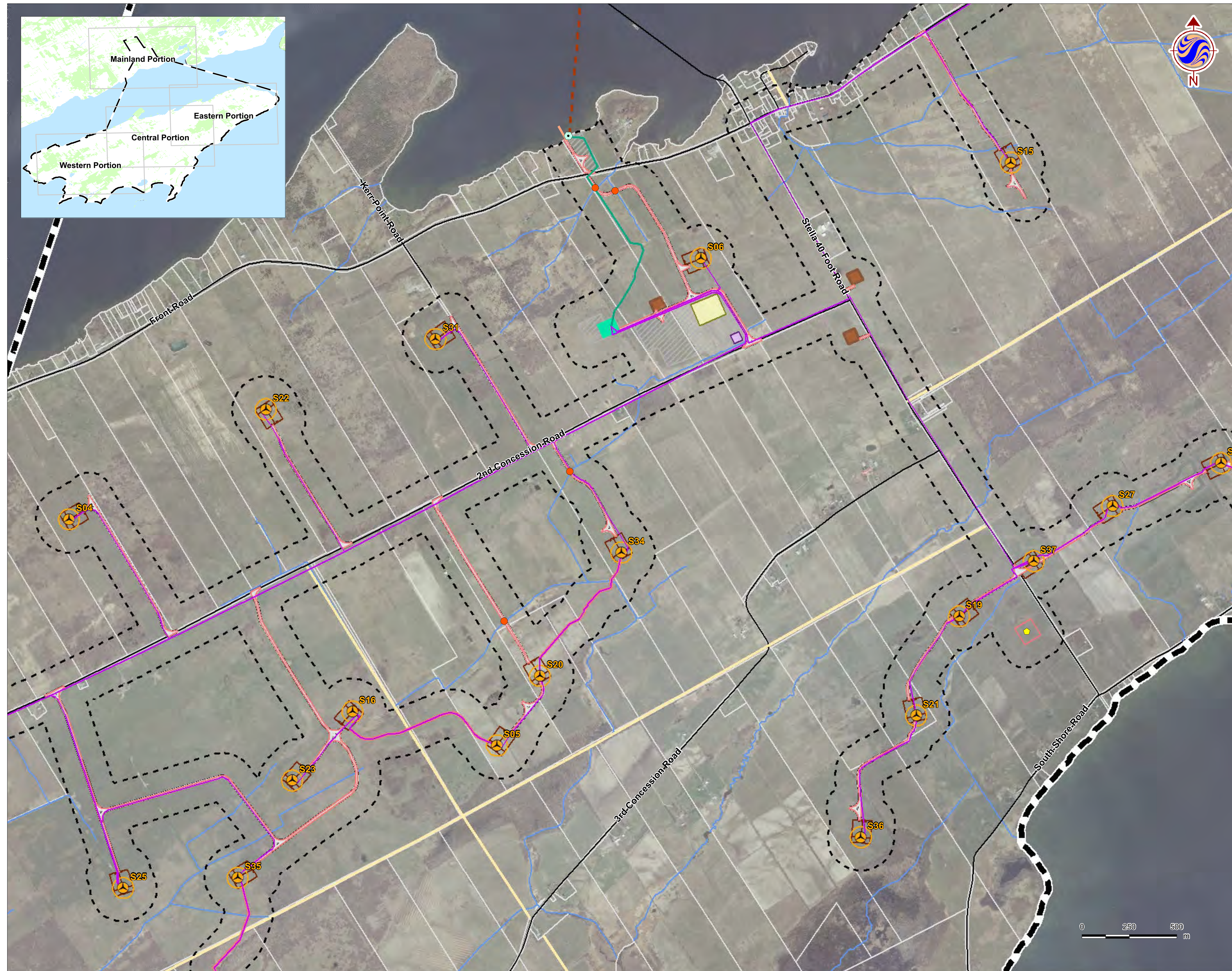
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Windlectric Inc.

# Amherst Island Wind Energy Project

## Project Location - Central Portion



### Legend

- Study Area
- 120m Zone of Investigation
- Project Components**
- Turbine
- Met Tower (Potential Location)
- Access Road
- Collector Lines
- Laydown Area and Crane Path
- Submarine Cable Path
- Operation and Maintenance Building (Potential Location)
- Storage Shed
- Turbine Blade Tips
- Substation (Potential Location)
- Potential Culvert Location
- Point of Common Coupling
- Mainland Cable Vault (Potential Location)
- Island Cable Vault
- Constructible Area
- Mainland Dock (Potential Location)
- Island Dock
- Batch Plant (Potential Location)
- Site Office (Potential Location)
- Transmission Lines**
- 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 (modified by Stantec)
- Property Line

### Notes

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Figure No.

2.0 (2 of 4)

Title

**Study Area Layout**



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# Amherst Island Wind Energy Project

## Project Location - Eastern Portion



### Legend

- Study Area
- 120m Zone of Investigation
- Project Components**
- Turbine
- Met Tower (Potential Location)
- Access Road
- Collector Lines
- Laydown Area and Crane Path
- Submarine Cable Path
- Operation and Maintenance Building (Potential Location)
- Storage Shed
- Turbine Blade Tips
- Substation (Potential Location)
- Potential Culvert Location
- Point of Common Coupling
- Mainland Cable Vault (Potential Location)
- Island Cable Vault
- Constructible Area
- Mainland Dock (Potential Location)
- Island Dock
- Batch Plant (Potential Location)
- Site Office (Potential Location)
- Transmission Lines**
- 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 (modified by Stantec)
- Property Line

### Notes

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AMHERST ISLAND WIND ENERGY PROJECT

Figure No.

2.0 (3 of 4)

Title

**Study Area Layout**



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Windlectric Inc.

## Renewable Energy Approval Process Reports

The following reports have been prepared in draft and will be submitted in final version as part of the REA application:

- Project Description Report
- Construction Plan Report
- Design and Operations Report
- Natural Heritage Assessment & Environmental Impact Study (includes technical studies for wildlife and wildlife habitat)
- Stage 1 and 2 Archaeological Assessment Reports
- Underwater Archaeological Assessment Report
- Property Line Setback Assessment Report
- Protected Properties Report and Heritage Assessment Report
- Water Body Assessment Report
- Wind Turbine Specifications Report
- Noise Impact Assessment Report
- Decommissioning Plan Report
- Consultation Report (will be prepared for final submission)

All reports, with the exception of the Consultation Report and Property Line Setback Assessment Report, have been made available in draft form for public review and comment at least 60 days before this Final Public Meeting. The approach used to release the Property Line Setback Assessment Report was approved by the MOE. Notification of the release of the draft reports was provided by mail, in newspapers, and on the Project website.

## Changes Since Release of the Draft REA Report

Since the release of the Draft REA Reports in December 2012, changes have been made to the Project and/or the Draft REA Reports. Key changes are described below:

Topic	Information in Draft REA Reports (December 2012)	Updated Information to be included in REA Application	Available Information
Property Line Setbacks	Description of adherence to property line setbacks was not included.	Draft Property Line Setback Assessment Report.	Report posted to Project website on February 6, 2013.  Hard copy of report distributed to Township and County for public viewing.  Report available tonight for public viewing.
Natural Heritage Assessment/Environmental Impact Study	A written comment from MNR, required by O.Reg 359/09 for inclusion in the REA application, had not been received for addenda to the NHA/EIS, and was therefore not included in the Draft REA Reports.	MNR has provided written comments which will be included in the REA application.	Written confirmation letter was provided by the MNR on December 14, 2012.

# Amherst Island Wind Energy Project

## Project Schedule

### Tasks and Proposed Dates

Ongoing consultation with government agencies and local community members, Aboriginal communities, Loyalist Township (in the County of Lennox and Addington).

If project approved.





## Construction

- Anticipated to begin in Q3 2014.
- Generally, the areas that would be directly impacted during construction are:
  - **Turbine locations:** Approximately 100 m x 100 m around each turbine location encompassing the turbine tower, foundation, crane pad (approximately 25m and 60m) and temporary construction area. Each turbine will have a 6-19m diameter, poured-in-place reinforced concrete foundation (dependent on ground conditions), buried to a depth of approximately 2-5m.
  - **Access roads:** Up to 6m wide during construction, reduced to 5 m for operations. The construction area for access roads will be approximately 10 m wide including additional area for access road movement and workspace for construction purposes.
  - **Access road entrances:** The entrances off Township or County roads will have a radius of approximately 50 m, reduced to 10-15 m for operations.
  - **Electrical collector lines:** 10m wide corridor wherever possible. New 34.5kV collector lines (underground and/or overhead) from transformers at the base of each turbine to the substation. Located within access road corridors and road allowances wherever possible.
  - **115 kV On land and Submarine Transmission Line:** Will carry electricity from the substation to a switching station on the mainland. The on-land transmission line will be underground and/or overhead.
  - **Substation:** Prepared area of approximately 80 m x 100 m in size including the grounding grid, protection and control buildings, sound attenuation wall, stormwater management features, and temporary construction area.
  - **Switching Station:** Prepared area of 2500m<sup>2</sup> in size including the grounding grid, protection and control buildings, stormwater management features, and temporary construction area.
  - **Operations and Maintenance Building:** Situated on a building area of approximately 1100m<sup>2</sup>. The entire operation and maintenance building footprint is approximately 4900 m<sup>2</sup> including onsite storage and parking space.
  - **Temporary Batch Plant:** Prepared area will be approximately 120 m x 150 m.
  - **Temporary Site Offices:** The prepared area for the site office(s) will be approximately 50 m x 50 m. The area surrounding the site office(s) will serve as an area for parking.
  - **Temporary Crane Paths:** 10m wide corridor between some turbine locations.
  - **Temporary Staging Areas:** Vary in size from as small as approximately 30 m x 50 m to as large as approximately 25 acres.
  - **Met Towers:** The constructible area to install a 100 m met tower would be approximately 150 m x 150 m. The constructible area to install a 60 m met tower would be approximately 100 m x 100 m.

For the local community, the majority of potential disturbance during construction would relate to dust, noise, and traffic.

**Dust** - Windlectric will use industry best practices which may include dust suppressants, protecting stockpiles, and enforcing low speed limits for trucks on site.

**Noise** - Construction activity will take place generally during regular construction hours with extended hours as necessary.

**Traffic** - A Traffic Management Plan (with Public Safety considered) will be developed which will identify and deal with specific traffic planning issues including the management of traffic and the delivery of materials.

## Operations and Maintenance

- Windlectric may hire a specialized Contractor to undertake on-going operations and maintenance of the wind turbines but will have full-time staff overseeing the activities.
- Operation activities include daily monitoring of the wind turbines and function of the substation and switching station, maintenance activities, and monitoring of meteorological data.
- An on-line system will monitor the Project 24 hours a day to identify any issues for quick response.
- An Emergency Response and Communications Plan will be developed prior to operation.

## Decommissioning

- Project components are expected to be in service for the term of the 20 year Ontario Power Authority Feed-In Tariff contract. At that point, a decision will be made to continue operations, update equipment (called 'repowering'), or decommission.
- Decommissioning involves removal of all project components, as appropriate, for reuse or recycling wherever possible, and restoring the land to pre-construction conditions, using relevant environmental protection and mitigation measures.
- Windlectric is responsible for all aspects of the decommissioning of the Project including the associated costs.

## Natural Heritage Assessment (NHA)

The Natural Heritage Assessment included comprehensive field studies of vegetation, woodlands, wetlands, wildlife, and wildlife habitat.

The following natural features were identified as significant in the Project Location, requiring an Environmental Impact Study:

- 20 Significant Wetlands
- 15 Significant Woodlands
- Raptor Wintering Areas
- Turtle Overwintering Area
- Migratory Land bird Stopover Areas
- Old Growth Forest
- Amphibian Breeding Areas (Woodland and Wetland)
- Marsh Breeding Bird Area
- Woodland Area-Sensitive Breeding Bird Habitat
- Open Country Breeding Bird Habitat and Short-eared Owl Habitat
- Shrub/Early Successional Bird Breeding Habitat



The Environmental Impact Study identified impact to significant natural heritage features from construction and operation of the facility. Mitigation measures are detailed in this report.

**Confirmation of the NHA was received from the Ministry of Natural Resources (MNR) on December 14, 2012.**

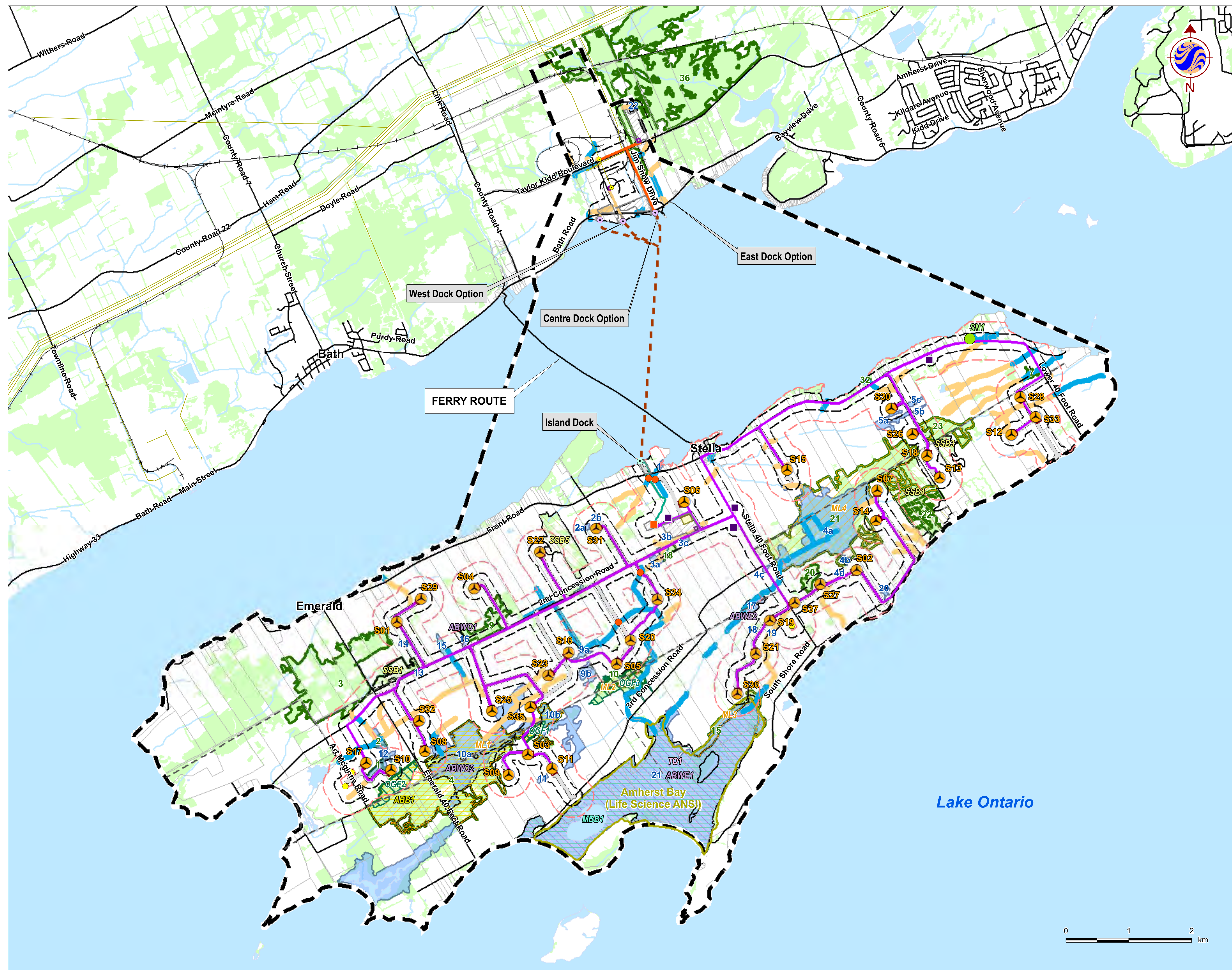
## Important Bird Area

Windlectric recognizes the distinct nature of the area, which has been identified as an Important Bird Area (IBA). The significance of the IBA was considered in developing the field studies that were completed for the Project. The extensive field investigations of breeding, migratory and wintering bird life within the IBA were used to identify potential impacts and to develop avoidance and mitigation measures.

***MNR has prescriptive guidelines for post-construction monitoring of bird and bat mortality, including thresholds. Mandatory mitigation is required for facilities that exceed thresholds which may include temporary turbine shutdown. The Environmental Effects Monitoring Plan includes post-construction monitoring for birds and bats.***

# Amherst Island Wind Energy Project

## Significant Natural Features and Waterbodies



**Legend**

<ul style="list-style-type: none"> <li>Project Study Area</li> <li>300m Zone of Investigation</li> <li>120m Zone of Investigation</li> </ul>	<ul style="list-style-type: none"> <li>Existing Features</li> <li>Road</li> <li>Unopened Road Allowance</li> <li>Railway</li> <li>Hydro Line</li> <li>Watercourse</li> <li>Waterbody</li> <li>Wooded Area</li> <li>ANSI Boundary</li> <li>Property Boundary</li> </ul>
<ul style="list-style-type: none"> <li><b>Project Components</b></li> <li>Turbine</li> <li>Met Tower (Potential Location)</li> <li>Substation (Potential Location)</li> <li>Access Road</li> <li>Collector Lines</li> <li>Submarine Cable Path</li> <li>Laydown Area and Crane Path</li> <li>Operation and Maintenance Building (Potential Location)</li> <li>Potential Culvert Location</li> <li>Point of Common Coupling</li> <li>Mainland Cable Vault (Potential Location)</li> <li>Island Cable Vault</li> <li>Constructible Area</li> <li>Mainland Dock (Potential Location)</li> <li>Island Dock</li> <li>Batch Plant (Potential Location)</li> <li>Site Office (Potential Location)</li> <li>Storage Shed</li> <li><b>Transmission Lines</b></li> <li>Mainland Option 1</li> <li>Mainland Option 2</li> <li>Island Transmission Line</li> <li><b>Land Use</b></li> <li>Central Staging Area</li> <li>Switching Station (Potential Location)</li> </ul>	<ul style="list-style-type: none"> <li><b>REA Status</b></li> <li>REA Water Body</li> <li>Not a REA Water Body</li> <li><b>Significant Wildlife Habitat Features</b></li> <li>Snake Hibernacula (SN)</li> <li>Amphibian Breeding (ABWO &amp; ABWE)</li> <li>Area-Sensitive Breeding Bird (ABB)</li> <li>Marsh Breeding Bird (MBB)</li> <li>Shrub/Early Successional Bird Breeding (SSB)</li> <li>Turtle Overwintering (TO)</li> <li>Landbird Migratory Stopover Area (ML)</li> <li>Waterfowl Stopover &amp; Staging - Terrestrial (WT)</li> <li>Old Growth Forest (OGF)</li> <li>Significant Woodland</li> <li>Significant Wetland</li> </ul>

- Notes**
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AMHERST ISLAND WIND ENERGY PROJECT

Figure No.  
3

**DRAFT**

Title  
**Significant Natural Features,  
Wildlife Habitat and Waterbodies**

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Revised: 2013-02-25 By: cweeks



## Post-construction Monitoring at the Wolfe Island Wind Plant

The post-construction monitoring program, which assessed the impacts to birds and bats on Wolfe Island, was conducted for over three years starting in the spring of 2009 and concluding in the fall of 2012. The study represents one of the most extensive post-construction monitoring programs at a wind farm in North America. Studies completed included:

- Mortality to birds and bats;
- Disturbance to breeding grassland, marsh and forest birds;
- Disturbance to breeding, migratory and wintering raptors
- Disturbance to migratory and breeding waterfowl.

Results of the mortality monitoring found mortality rates of birds and bats that are not of concern at the population level. Specifically,

- Annual bird mortality ranged from 13.1 to 5.4 bird fatalities per turbine per year. Although higher compared to other wind farms in Ontario, this level of mortality is very low compared to other sources (e.g. window strikes, cats) of avian mortality on Wolfe Island and not a concern to the provincial or local population.
- For example, the level of Bobolink mortality at wind turbine equates to approximate 0.5% of the population that breeds within the wind farm and 0.005% of the Ontario breeding population.
- Annual raptor mortality ranged from 0.45 to 0.27 raptor fatalities per turbine per year. This level of mortality is average for wind farms in North America outside of California.
- Annual bat mortality ranged from 19.9 to 6.4 bat fatalities per turbine per year, which is in the middle of the range of bat fatality rates at other wind farms in North America.

The result of disturbance monitoring indicates that the Wolfe Island project area continues to support a healthy and vibrant bird community throughout the year.

- Bobolinks and other grassland birds continue to be abundant within the wind farm, nesting in close proximity to operational wind turbines.
- Marsh and forest birds continue to breed in wetlands and forest beside wind turbines. Sensitive species, such as Least Bittern, have been recorded in wetlands next to wind turbines.
- Raptors continue to nest within the wind farm, including Red-tailed Hawks, Ospreys and Northern Harriers, a sensitive grassland species. Short-eared Owls, a species of special concern, have also been recorded nesting within the wind farm.
- Wintering raptors continue to use the wind farm area in large numbers. For example, a one-day total of 67 Short-eared Owls were recorded within the wind farm in 2012. Regardless of the high numbers of owls within the wind farm, no owl fatalities have been observed.
- Waterfowl continue to breed in wetlands adjacent to wind turbines and, during migration, continue to feed in large numbers in fields amongst the turbines, as well as in the offshore bays surrounding the island.

## Water Body Assessment

### Scope of Assessment:

- Background information review;
- Site investigation to determine location and boundaries of water bodies; and,
- An aquatic habitat assessment.

### Key Findings:

- Project Location was described according to the following subwatersheds:

- *Northern Drainage*, i.e. All watercourses/ tributaries flowing to the north side of the island
- *Southern Drainage*, i.e. All watercourses/ tributaries flowing to the south side of the island
- *Western Drainage*, i.e. All watercourses/ tributaries flowing to the west end of the island
- *Eastern Drainage*, i.e. All watercourses/ tributaries flowing to the east end of the island
- *Mainland Drainage*, i.e. All watercourses/ tributaries flowing south to Lake Ontario



- In addition to watercourses and tributaries on land, Lake Ontario is within the Project Location.

Based on the current Wind Project layout and proposed environmental mitigation measures, there will be no net effects to water bodies within the Project Location.

***All required permits and approvals will be obtained in consultation with the Cataraqui Region Conservation Authority and the Department of Fisheries and Oceans. A Construction Contractor representative will be on-site during construction to ensure compliance with specifications, site plans and permits.***

## Public, Health and Safety

- Traffic Management Plan for safe management of traffic and delivery of materials along public roads and roads near the school.
- Limiting access to construction sites to minimize hazards to the public
- Implement an Emergency Response and Communications Plan with spill response plans and training, notification procedures, and necessary cleanup materials and equipment.
- Implement operations and maintenance protocols to minimize risks to public health and safety
- Install turbines that have undergone rigorous testing and analysis during design and certification to ensure safety
- Train operations staff on control systems to minimize accidents and malfunctions

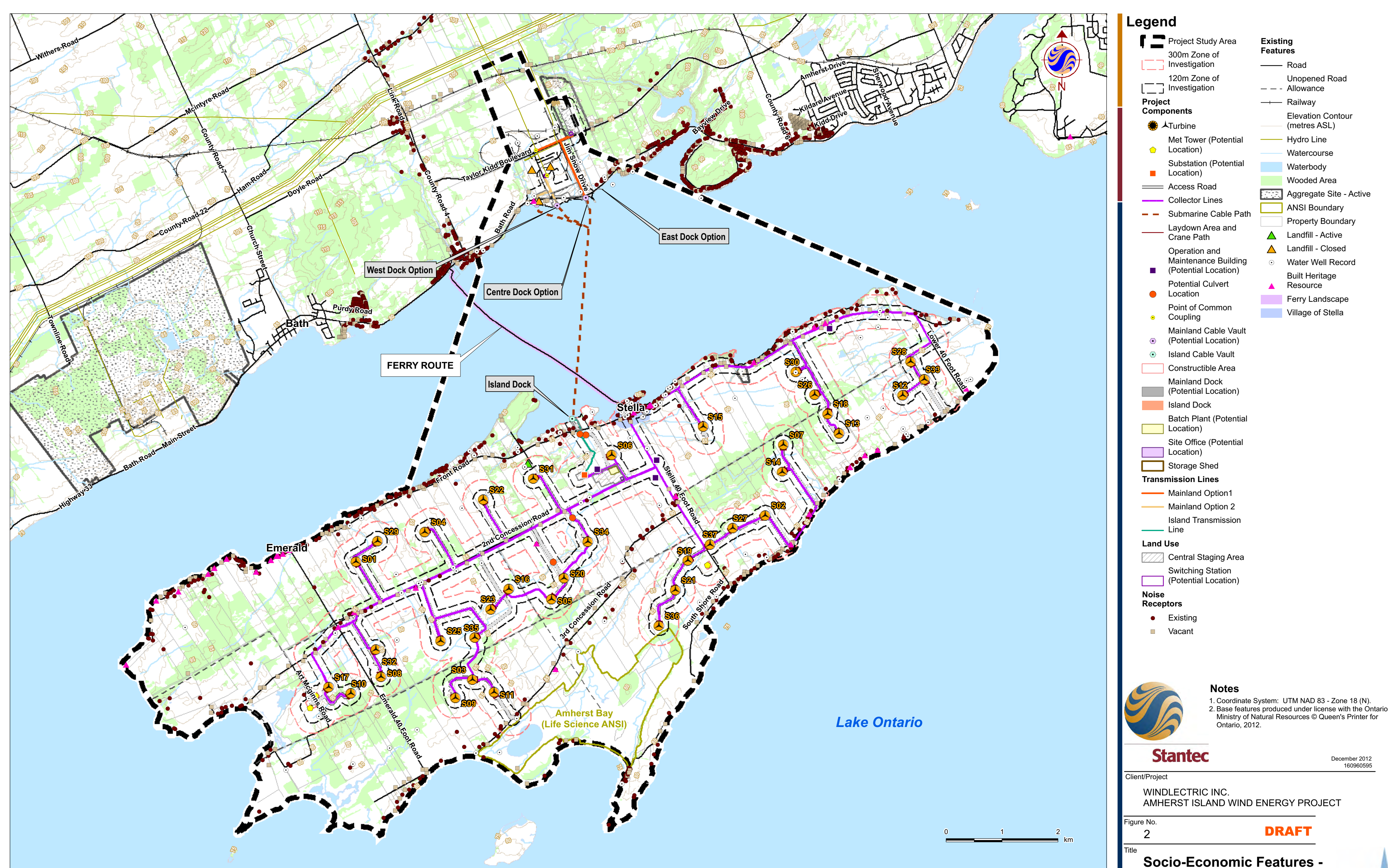


## Cultural Heritage and Archaeological Assessment

Heritage, Protected Properties, and Archaeological Assessment included a review of heritage and archaeological resources.

### Key findings:

- Three designated protected properties are located within the Study Area.
- 24 significant built heritage resources and 4 significant cultural heritage landscapes were identified that meet the criteria for determining cultural heritage value or interest.
- Potential negative impacts were identified for 8 significant built heritage resources and 3 of the significant cultural heritage landscapes. Mitigation will occur through monitoring of vibration levels during construction, appropriate siting of the Collector System and minimizing removal of trees along roads.
- Based on the results of the Stage 1 archaeological assessment, a majority of the Study Area has been identified as having elevated potential for previously undiscovered archaeological resources requiring the completion of a Stage 2 archaeological assessment.
- The Stage 2 archaeological assessment identified 7 sites for further archaeological assessment (Stage 3) prior to construction work beginning at the Site
- If archaeological resources are found during construction, they will be documented and/or removed from the area in accordance with Ministry of Tourism, Culture and Sport guidelines.

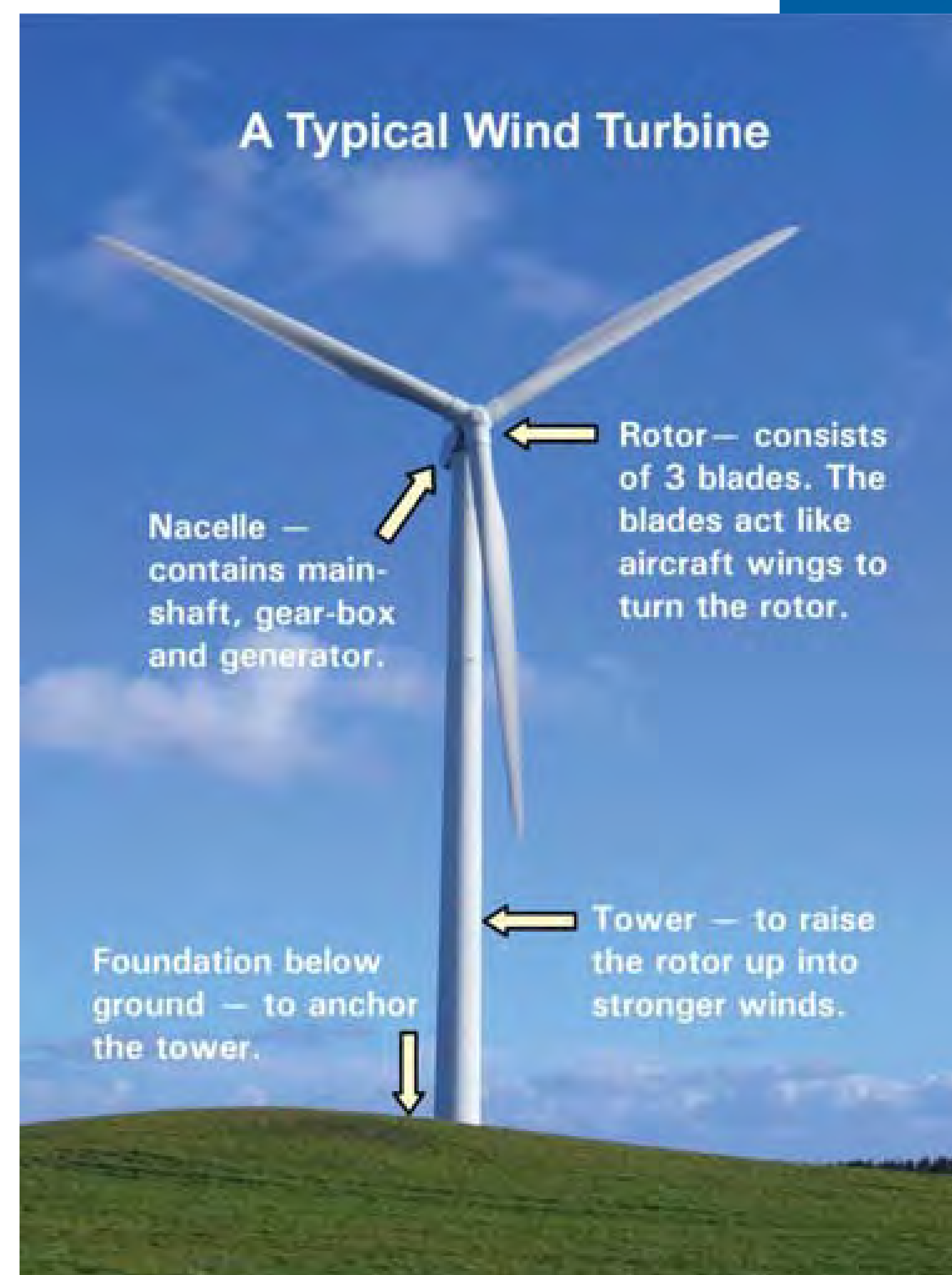




# Amherst Island Wind Energy Project

## Wind Turbine Details

- Siemens 2.3 -113
- Maximum nameplate capacity:  
34 Siemens SWT-2.3-113 2300 kW and  
two (2) Siemens SWT-2.3-113 2221 kW
- Tower height:
  - Hub: 99.5 m,
  - Blade length: 55 m
- Rotor sweep area: 10,000 m<sup>2</sup>
- Rotational speed: 6-13 rpm



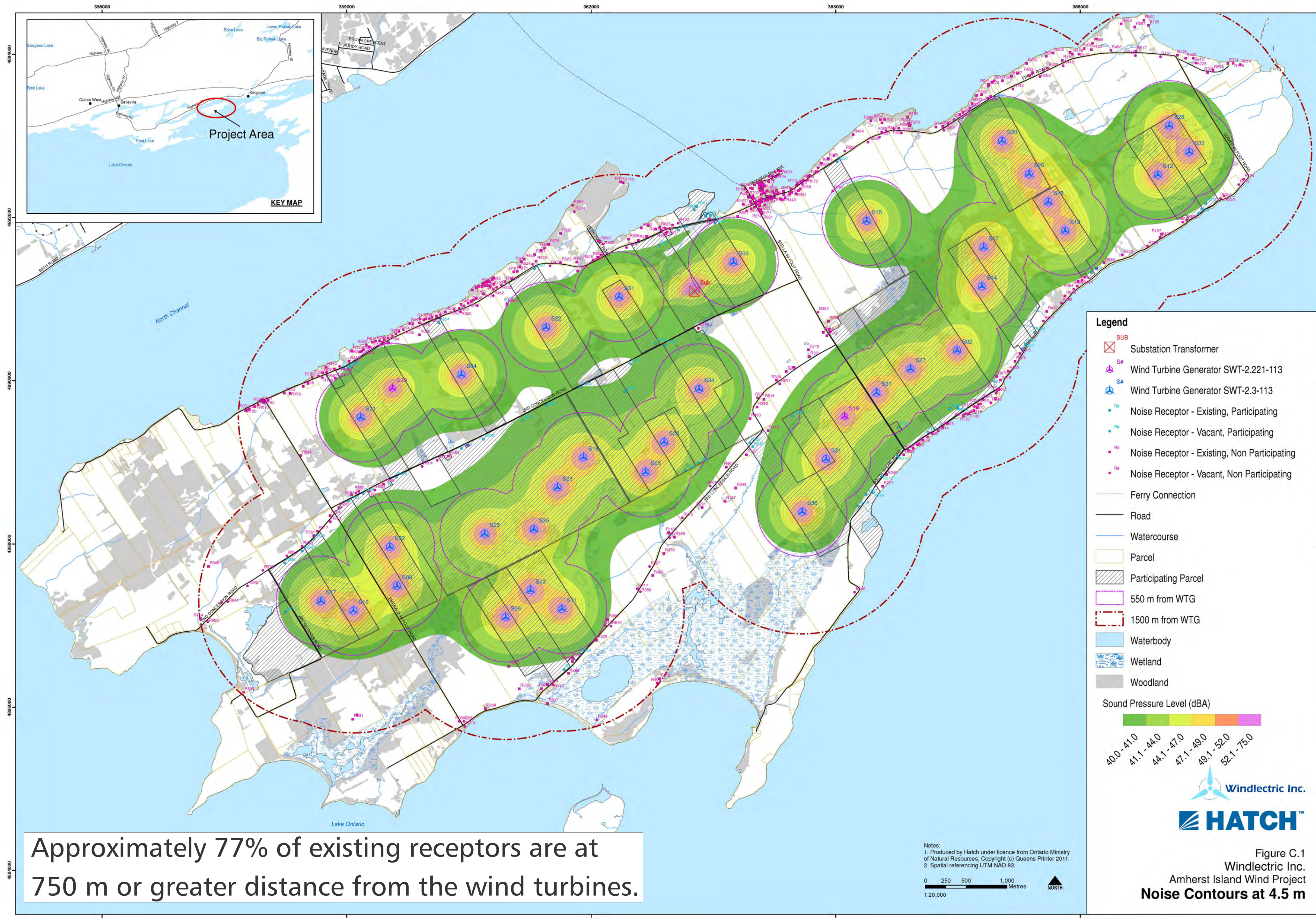
# Amherst Island Wind Energy Project

## Environmental Noise Impact Assessment

- There are two potential sources of sound typically associated with wind turbines:
  - Aerodynamic: Blades pass through the air and create a “swishing” sound
  - Mechanical: Originates from the gearbox and generator that are often housed in the nacelle. The turbines selected for this project is direct drive and do not have gearboxes.

- A Noise Assessment Report has been completed for the Project to ensure it complies with the MOE requirements. The report is included in the Design and Operations Report.

- Ontario uses an internationally accepted sound model, which is supported by experiences in the Province and in other jurisdictions.



- The local area is considered a rural site by the MOE - maximum allowable sound level of 40 dBA. Current MOE regulations require a turbine to be 550m or more from a non-participating receptor (for this area, a residential dwelling occupied by individuals or families who do not have an agreement with Windlectric to host Project infrastructure on their property), to achieve a maximum noise level of 40 dBA.

### Key Findings:

- Sound levels are predicted to be at or below the 40 dBA maximum criterion for all non-participating receptors.
- All turbines sited more than 550 m from all non-participating receptors.
- The only sound components of the project are the turbines and transformers.

*The Noise Assessment Report concluded that sound to be produced by the Project will be within the limits established by the MOE at all non-participating noise receptors.*

## Health and Windpower

- Many studies have been conducted world-wide to examine the relationship between wind turbines and possible human health effects (e.g., audible/inaudible noise, shadow flicker, electromagnetic fields (EMF)).
- **Audible / Inaudible Noise:** Ontario's Chief Medical Officer of Health (May 2010) conducted a review of the scientific literature related to wind turbines and public health. The review concluded that:

*"while some people living near wind turbines report symptoms such as dizziness, headaches, and sleep disturbance, the scientific evidence available to date does not demonstrate a direct causal link between wind turbine noise and adverse health effects. The sound level from wind turbines at common residential setbacks is not sufficient to cause hearing impairment or other direct health effects, although some people may find it annoying."*

- **Shadow flicker:** Scientific evidence suggests that shadow flicker from wind turbines does not pose a risk of photo-induced seizures; modern wind turbines simply don't rotate at a speed that has been linked to this condition (generally less than 20 rpm vs. over 60 rpm).
- **EMF:** Health Canada (2012) has stated: *"Health Canada does not consider that any precautionary measures are needed regarding daily exposures to EMFs at ELFs. There is no conclusive evidence of any harm caused by exposures at levels found in Canadian homes and schools, including those located just outside the boundaries of power line corridors"*.
- Overall, health and medical agencies agree that when sited properly, wind turbines are not causally related to adverse effects\*.
- Reports of annoyance by people living around wind turbines appear to be more related to variables like personal attitude and whether a person can see a turbine from their home and not a turbine-specific variable like noise.

*"Ontario doctors, nurses, and other health professionals support energy conservation combined with wind and solar power – to help us move away from coal"\*\*.*

- Scientists and medical experts around the world continue to publish research in this area. In fact, Health Canada will be undertaking a study of wind turbine projects across the country, with results expected in 2014. It is important to note that Health Canada has not called for a moratorium on new wind projects across Canada while they undertake their research. Through our health consultants, Windlectric is committed to keeping informed on this issue.

\* Chatham-Kent Public Health Unit, 2008; Australian Government, National Health and Medical Research Council, 2010; Australian Government, 2011; Massachusetts Department of Environmental Protection (MassDEP) and Massachusetts Department of Public Health (MDPH), 2012. \*\*Ontario College of Family Physicians, Registered Nurses Association of Ontario, Canadian Association of Physicians for the Environment, Physicians for Global Survival, the Asthma Society of Canada, and the Lung Association.



## Property Values

*The RE/MAX Market Trends Report - Farm Edition 2011 released September 12, 2011, found that agricultural property value has increased throughout Ontario, including areas such as Chatham-Kent where wind turbines have been installed for some time.*

Other recent studies have concluded:

“In the study area, where wind farms were clearly visible, there was no empirical evidence to indicate that rural residential properties realized lower sale prices than similar residential properties within the same area that were outside of the viewshed of a wind turbine.”

Canning Consultants Inc. and John Simmons Realty Ltd. (February 2010). Wind Energy Study - Effect on Real Estate Values in the Municipality of Chatham-Kent. Report prepared for the Canadian Wind Energy Association. Prepared for the Canadian Wind Energy Association in accordance with the Practice for the Appraisal Institute of . Canadian Uniform Standards for Professional Appraisal

“Research collected data on almost 7,500 sales of single family homes situated within 10 miles of 24 existing wind facilities in nine different US states. The conclusions of the study are drawn from eight different hedonic pricing models, as well as both repeat sales and sales volume models.

The various analyses are strongly consistent in that **none of the models uncovers conclusive evidence of the existence of any widespread property value impacts that might be present in communities surrounding wind energy facilities.** Specifically, **neither the view of the wind facilities, nor the distance of the home to those facilities, is found to have any consistent, measurable, and statistically significant effects on home sale prices.**

Although the analysis cannot dismiss the possibility that individual homes or small numbers of homes have been, or could be negatively impacted, it finds that if these impacts do exist, they are either too small and/or too infrequent to result in any widespread, statistically observable impact.”

Hoen, B., R. Wiser, P. Cappers, M. Thayer, and G. Sethi (December 2009). The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Hedonic Analysis. Ernest Orlando Lawrence Berkeley National Laboratory. Prepared for the US Office of Energy Efficiency and Renewable Energy. Prepared for the US Office of Energy Efficiency and Renewable Energy using a Hedonic Pricing Model used by economists and real estate professionals to assess the impacts of house and community characteristics on property values by investigating the sales prices of homes.

## Liaison Committee

Windlectric has established an Amherst Island Wind Energy Project Liaison Committee. The purpose of this Committee is: "To serve a role in providing two-way communications between the local community, Windlectric/Algonquin Power (the project owner/developer)."

This Committee, comprised of four interested Amherst Island residents, has met a number of times, and will continue to meet at key milestones during the REA process.

Terms of Reference, meeting notes and meeting agendas are posted on the Project website.



## Other Consultation Activities

Windlectric is consulting with the Ontario Ministry of Transport and the Ministry of Natural Resources with respect to the placement of project components on their lands. Specifically:

- Ministry of Natural Resources - Land Tenure (Disposition of Crown Land Authorization)
  - Permanent/ Temporary Docks/ Submarine Cable:
- Ministry of Transportation (MTO) – Encroachment Permit and Easement Agreement:
  - Land option for submarine cable, underground vault, and access to temporary dock (south of Jim Snow Drive and Highway #33).
  - Crossing of MTO ferry bubbler easement.

Authorizations from the MTO and MNR will be obtained prior to the commencement of construction.

- Drawings of the proposed activities that have been submitted to the MTO are provided at this open house.



## Building Local Economy and Supporting Community

### Municipal Agreements:

- Windlectric has voluntarily submitted a draft commitment agreement to the Township to contribute monies on an annual basis to provide a continuous, reliable source of income for the Township.
- The original draft agreement contribution to the fund will be based on a proposed fixed rate multiplied by the total size of the project.
- Township and Windlectric are currently negotiating the draft agreement.
- The original draft agreement proposed that the Township would receive an estimated \$7.5 million from the Community Benefit Fund over the lifespan of the project which could be allocated to new roads, repairs to old buildings or schools, upgrading community centres, refurbishing parking lots, building new parks or restoring the old ones. Windlectric proposes a portion of the Fund be allocated to Amherst Island specifically.
- An indemnity Agreement was signed with Township to reimburse their cost for hiring a third party consultant to review the Project REA documents.
- Windlectric is working with the Municipality on a draft Road User Agreement that will ensure the repair (if required) and maintenance of roads utilized by Windlectric on Amherst Island.



### Creating Jobs:

- Local businesses may be supported through goods and services procured by construction contractor workers (restaurants, accommodation, etc.).
- Windlectric and its contractors will employ maintenance staff in eastern Ontario.
- Locally-provided trades could include heavy equipment operators, truck drivers, pipefitters, electricians, ironworkers, millwrights and carpenters.
- The Project assists in Ontario's goal to create over 50,000 "green-collar" jobs.

### Supporting Farmers and the Municipal Economy:

- Landowners with Project infrastructure on their property will receive lease payments from Windlectric (turbines, substations, access roads, etc.).
- Farm operations can continue adjacent to Project infrastructure.
- Following decommissioning, agricultural areas will be restored, and normal farming practices can resume.
- Subject to landowner approval and private property restrictions, hunting and other recreational uses can continue adjacent to Project infrastructure.
- Tax payments to the municipality of approximately \$100,000 to \$150,000 annually in new tax revenues to Loyalist Township.



## We Want Your Feedback!

Opportunities for feedback:

- Pick up and fill out a questionnaire. You can return it to the front table tonight or mail it in at a later date with a postage paid envelope. Comments provided at the open house become part of the consultation report submitted to the MOE.
- Call the Project Team to share your comments, toll-free at 1-855-466-8068.
- Email your thoughts to [windlelectric@amherstislandwindproject.com](mailto:windlelectric@amherstislandwindproject.com).
- Visit us on the web at [www.amherstislandwindproject.com](http://www.amherstislandwindproject.com) for additional project details.
- All comments received by March 15, 2013 will be included in the Consultation Record to be submitted to the MOE.

Copies of the display boards from the Public Open House and the Draft REA Reports are available on the Project website.

