

APPENDIX A NATURAL HERITAGE ADDENDUM

ADELAIDE WIND ENERGY CENTRE
Natural Heritage Assessment
Addendum III Report

Prepared for:
NextEra Energy Canada, ULC
390 Bay Street, Suite 1720
Toronto, ON M5H 2Y2

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Natural Heritage Assessment Addendum III Report

Project Team:

Staff	Role
Andrew Ryckman	Project Manager/Biologist
Charlotte Moore	Terrestrial and Wetland Biologist
Kaitlin Boddaert	GIS Technician

Report submitted on September 24, 2013



Andrew G. Ryckman

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1.0 Project Description

Natural Resource Solutions Inc. (NRSI) was retained in April 2011 by GL-Garrad Hassan on behalf of NextEra Energy Canada, ULC (NextEra) to conduct a natural environment resource assessment in accordance with the Renewable Energy Approval (REA) Regulation, Ontario Regulation 359/09. This assessment included a records review, site investigation, evaluation of significance, and impact assessment of any potentially significant natural features or wildlife habitats at a proposed 59.9MW wind energy generating facility in the Township of Adelaide Metcalfe in Middlesex County, Ontario. The analysis of the natural heritage features and biological factors affecting the proposed site is one issue being considered. Other factors, such as land ownership, social impacts, and cultural impacts are also being assessed by other team members, and will be addressed under separate covers as outlined by the REA Regulation.

The Adelaide Wind Energy Centre ('the project') will be owned and operated by Kerwood Wind Inc., a wholly-owned subsidiary of NextEra. The proposed project is located approximately 13km northwest of the Town of Strathroy, Ontario. The general project area is roughly bordered by Centre Road, Townsend Line, Sexton Road, and Napperton Drive. In addition, a transmission line is proposed to run north along Kerwood Road from Cuddy Drive to Nairn Road. This transmission line is then proposed to continue eastward along Nairn Road to an existing 500kV line and substation located west of Petty Street. The location of the project area was defined early in the planning process for the proposed wind energy facility, based on the availability of wind resources, approximate area required for the proposed project, and availability of existing infrastructure for connection to the electrical grid. See Figure 1 for a map of the project area and natural features.

The Adelaide Wind Energy Centre facility is proposed to be 59.9 MW in size, consisting of 37 GE 1.6-100 (1.62MW) turbines, with 38 turbines being permitted. The proposed GE 1.6-100 turbine is a 3-bladed, upwind, horizontal-axis turbine. The total rotor diameter of the turbine is 100m, resulting in a swept area of 7,854m², and is designed to operate at between 9.75 and 16.18 revolutions per minute (rpm). The turbine rotor and nacelle are mounted on top of an 80m tubular tower which is manufactured in sections from steel plate. Each turbine is mounted on a steel reinforced concrete foundation and

equipped with a transformer, located outside the base of the tower. In addition to turbines, this proposed wind facility also consists of supporting infrastructure, including temporary lay-down areas, crane pads, access roads, substation locations, and connector, and distribution lines.

As identified the REA Regulation, the proposed layout of these features is collectively referred to as the 'project location'. For the purposes of this report, NRSI will refer to the areas within 120m of the project location as the 'project area'.

The records review, site investigation, evaluation of significance, and environmental impact study (EIS) for the Adelaide Wind Energy Centre were completed by NRSI over the course of 2011/2012 as part of the Natural Heritage Assessment (NHA). The original Adelaide Wind Energy Centre NHA (NRSI 2012a) confirmation was granted on April 12, 2012 by the Ministry of Natural Resources' (MNR) Renewable Energy Operations Team (REOT). Since this original confirmation, minor adjustments to the project layout were proposed and new information on natural features has been discovered. Consideration of these has been addressed in two subsequent addendums to the original NHA. NRSI completed the *Adelaide Wind Energy Centre Natural Heritage Assessment Addendum Report (2012b)*, which was approved by the MNR on August 20, 2012. The *Adelaide Wind Energy Centre: Natural Heritage Assessment Addendum II Report (NRSI 2013)* was approved by the MNR on February 21, 2013.

This third addendum document identifies and discusses minor layout changes that have been made to the Adelaide Wind Energy Centre project location since receiving previous confirmation from the MNR on the original NHA and subsequent 2 addendums. The updated project layout addressed in this report is provided on Figure 1.

2.0 Staff Roles

The requirements of the REA process indicate that the name and qualifications of staff participating in the NHA should be provided. This staffing information is provided in the Adelaide Wind Energy Centre NHA (NRSI 2012a) and the qualifications and roles of key staff participating in this addendum to the Adelaide Wind Energy Centre NHA have been outlined below.

Andrew Ryckman, B.Sc.

Andrew is a Terrestrial and Wetland Biologist with 8 years of environmental experience. He routinely manages the natural heritage aspects of renewable energy projects, with specific expertise relating to bats and herpetofauna. Andrew is certified in Ecological Land Classification (2010), and has successfully completed a Bat Conservation International (BCI) Acoustic Monitoring Workshop (2008).

Andrew's role was to act as the project manager, overseeing all aspects of the Natural Heritage Assessment, including all associated field work and reporting. He was the main contact point for agency staff and assisted with the preparation of all corresponding reports including this addendum.

Charlotte Moore, B.E.S.

Charlotte is a Terrestrial and Wetland Biologist with 3 years of experience in butterfly ecology and various other environmental projects. Charlotte has completed her Bachelor of Environmental Studies and is a candidate for a Master of Environmental Studies (2013) at the University of Waterloo. Other environmental projects Charlotte has worked on include the use of Ecological Land Classification (ELC), bat habitat assessments, breeding bird surveys and reptile studies. Charlotte is certified in the Ontario Wetland Evaluation System (2012).

Charlotte reviewed the changes to the Adelaide Wind Energy Centre's layout and prepared this report.

Kaitlin Boddaert, GIS-UP

Kaitlin specializes in delivering mapping services using GIS applications and assists with NRSI's spatial technologies. Her project experience includes, but is not limited to; the collection and creation of various datasets, the geocoding of addresses, the use of AutoCAD with integration into GIS, and the use of hard and soft data through scanning and georeferencing into digital format.

Kaitlin's role in the Project was as GIS technician. She reviewed and collected all available background mapping sources, digitized information gathered from site investigations, and integrated this information to generate this project's mapping.

3.0 Overview of Project Changes

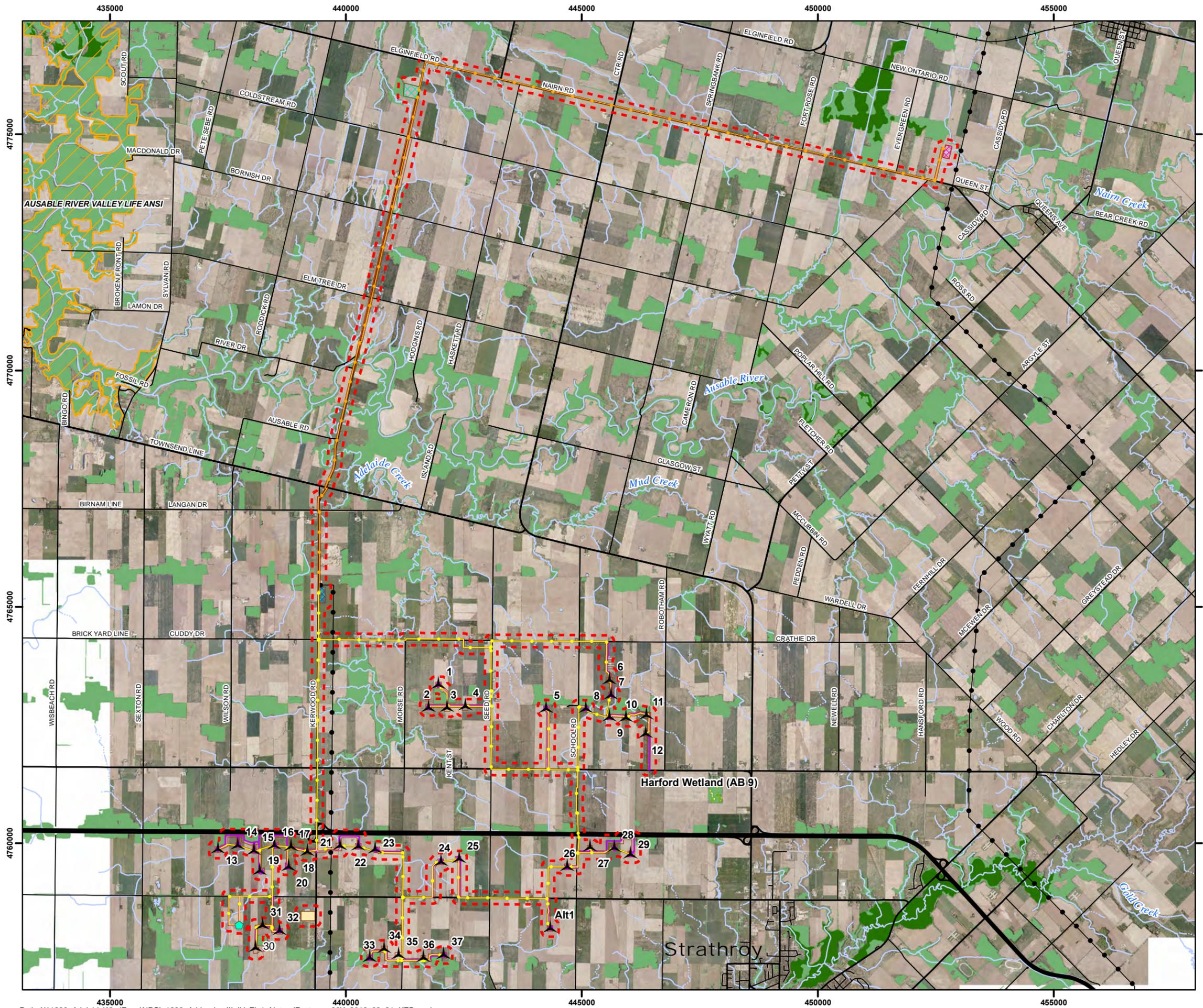
Since the approval of the NHA and subsequent NHA Addendum and Addendum II reports, minor changes have been made to the project layout, resulting in a review of the considerations made as part of the Adelaide Wind Energy Centre NHA. This change relates to a slight adjustment to the transmission line.

A visual overlay of the differences between the footprint of the approved layout as part of the NHA Addendum Report (NRSI 2012b) submission and the currently proposed footprint of the Addendum III Report is provided on Figures 2-4. Also shown in this figure are significant woodlands, wetlands, generalized significant wildlife habitat and significant wildlife habitat (if any).

Since the Adelaide Wind Energy Centre Addendum II Report approval, there has not been any newly obtained information relating to candidate significant wildlife habitat and there have not been any additional changes in the project layout aside from those discussed in this report.

Figure 1

Adelaide Wind Energy Centre Project Area and Natural Features



Legend

- Project Area (120m Buffer)
- Turbine
- MET Station
- Access Road
- Collector System
- Interconnection Line
- Project Location
- Interconnection Facilities
- Substation
- Operations and Maintenance Buildings
- Existing Transmission Line
- Railroad
- Highway
- Primary Road
- Secondary Road
- Intermittent Watercourse
- Permanent Watercourse
- Waterbody
- Provincially Significant Wetland (PSW)
- Other Wetland
- Wooded
- ANSI, Life Science
- ANSI, Earth Science



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