

	in project location.
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With this addendum, it is maintained that with the implementation of the planned mitigation measures, monitoring programs, and contingency plans as presented in the Adelaide Wind Energy Centre: Natural Heritage Environmental Impact Study (NRSI 2012a), *Adelaide Wind Energy Centre: Natural Heritage Assessment Addendum Report* (NRSI 2012b), and *Adelaide Wind Energy Centre: Natural Heritage Assessment Addendum II Report* (NRSI 2013), that there is unlikely to be any significant impacts to significant natural heritage features, including woodlands, wetlands, or significant wildlife habitat.

## 9.0 References

Natural Resource Solutions Inc. (NRSI). 2013. Adelaide Wind Energy Centre: Natural Heritage Assessment Addendum II Report. February 2013.

Natural Resource Solutions Inc. (NRSI). 2012a. Adelaide Wind Energy Centre: Natural Heritage Assessment. April 2012.

Natural Resource Solutions Inc. (NRSI). 2012b. Adelaide Wind Energy Centre: Natural Heritage Assessment Addendum Report. July 2012.

***DRAFT***

**ADELAIDE WIND ENERGY CENTRE  
Natural Heritage Assessment  
Addendum V Report**

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

Project No. 1230

Date: January 2014



**NATURAL RESOURCE SOLUTIONS INC.**

Aquatic, Terrestrial and Wetland Biologists

***DRAFT***

**ADELAIDE WIND ENERGY CENTRE  
*Natural Heritage Assessment Addendum V Report***

**Project Team:**

<b>Staff</b>	<b>Role</b>
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Report submitted on January 10, 2014



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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 Adelaide Wind Energy Centre's 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 7,854m<sup>2</sup>, 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 in 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 (EOS), 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). As a result of minor changes to the Adelaide Wind Energy Centre, several additional reports were prepared to address any changes to the original NHA. **Error! Reference source not found.** outlines these reports and their subsequent approval dates.

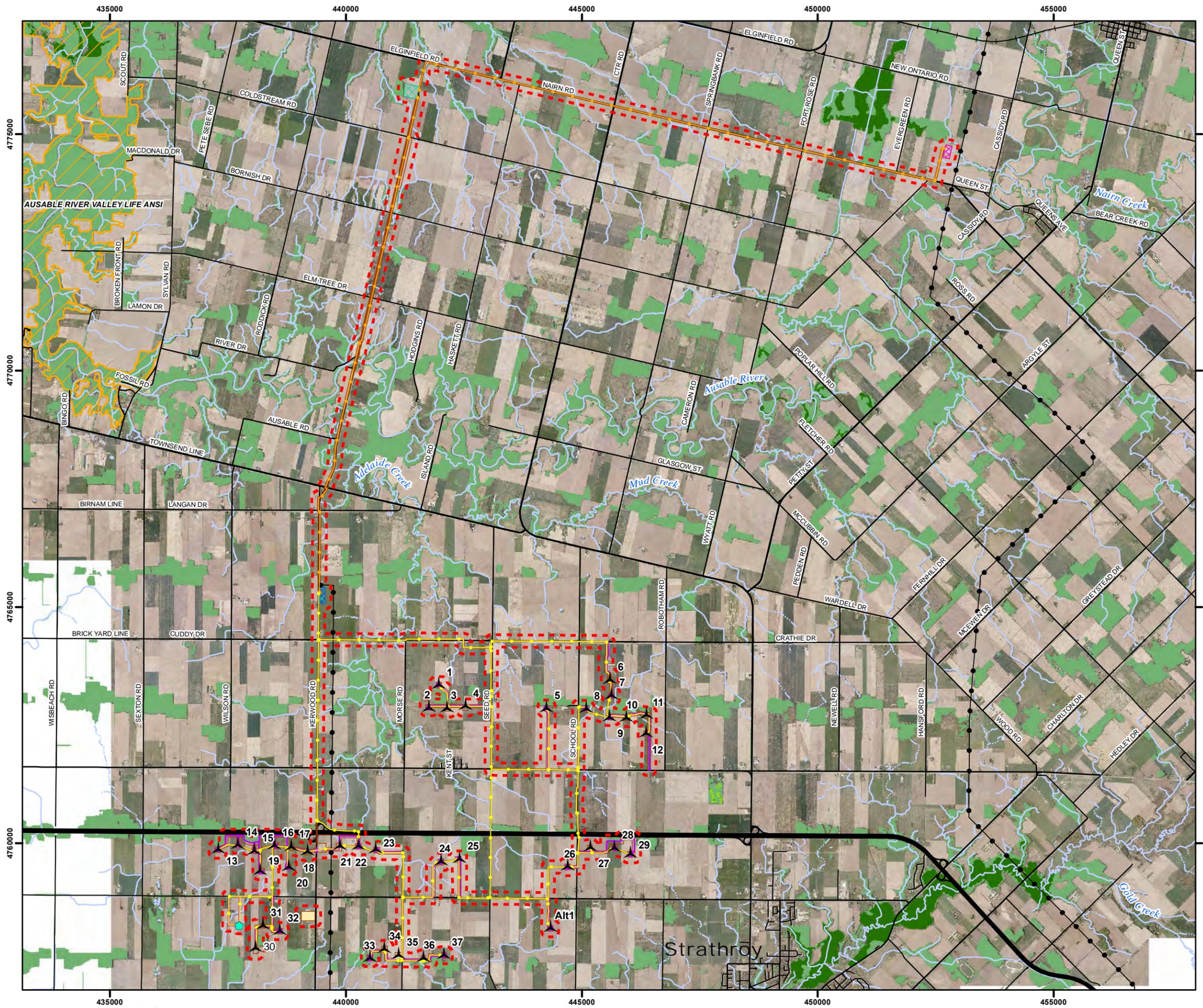
**Table 1. Natural Heritage Assessment Reports Approved for the Adelaide Wind Energy Centre**

NHA Report	Approval Date
Natural Heritage Assessment	April 12, 2012
Natural Heritage Assessment Addendum Report	August 20, 2012
Natural Heritage Assessment Addendum II Report	February 25, 2013
Natural Heritage Assessment Addendum III Report	Submitted to MOE September 24, 2013
Natural Heritage Assessment Addendum IV Report	Submitted to MOE November 8, 2013

This Addendum Report identifies and discusses minor layout changes that have been made to the Adelaide Wind Energy Centre project location. The updated project area and natural features are shown on Figure 1, with a detailed layout comparison of minor layout changes shown on Figure 2.

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
- Open Aquatic
- Provincially Significant Wetland (PSW)
- Other Wetland
- Wooded
- ANSI, Life Science
- ANSI, Earth Science

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Project: 1230 Date: December 10, 2013	NAD83 - UTM Zone 17 Scale: 1:80,000 (11x17")
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