

Figure 3

Adelaide Wind Energy Centre Project Area and Water Bodies (Northern Project Area)



Legend

- Project Area (120m)
- Non-Water Body
- Water Body
- ▲ Turbine
- ⬠ MET
- Access Road
- Collector System (Underground Cabling)
- Transmission Line (Aboveground Cabling)
- Project Location
- Staging Area
- Substation
- Operations & Maintenance Buildings
- Existing Transmission Line
- + Railroad
- Permanent
- - - Intermittent
- Waterbody
- Watershed
- Provincially Significant Wetland (PSW)
- Other Wetland
- ANSI, Life Science
- ANSI, Earth Science

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Map Produced by Natural Resource Solutions Inc. This map is proprietary and confidential and must not be duplicated or distributed by any means without express written permission of NRSI. Source: Data provided by MNR. Copyright: Queen's Printer Ontario

Project: 1230 Date: August 20, 2012	NAD83 - UTM Zone 17 Scale: 1:50,000 (11x17")
--	---

0 1,000 2,000 3,000 Metres

2.0 REA Requirements

Ontario Regulation (O. Reg.) 359/09 – *Renewable Energy Approvals Under Part V.0.1 of the Act*, (herein referred to as the REA Regulation) made under the *Environmental Protection Act (EPA)* identifies the requirements for the development of renewable energy projects in Ontario. In accordance with REA regulations, the Adelaide Wind Energy Centre, classified as a Class 4 wind facility, is required to complete a REA submission.

Section 31 (1) subject to subsection (2) of the REA Regulation requires proponents of Class 4 wind projects to undertake a water site investigation for the purpose of determining:

- (a) whether the results of the analysis summarized in the report prepared under subsection 30(2) are correct or require correction, and identifying any required corrections;
- (b) whether any additional water bodies exist, other than those identified in the records review;
- (c) the boundaries, located within 120m of the project location, of any water body that was identified in the records review or the site investigation; and
- (d) the distance from the project location to the boundaries determined under clause (c).

The REA Regulation has specific requirements if designated lake trout lakes are present within 300m of the Project site. These requirements were not deemed applicable to the Project as no such lakes were found during the Water Body Records Review Report (NRSI 2012).

Subsection (3) of Section 31 of the REA Regulations requires the proponent to prepare a report setting out the following:

1. A summary of any corrections to the report prepared under subsection 30 (2) and the determinations made as a result of conducting the site investigation under subsection (1).
2. Information relating to each water body identified in the records review and in the site investigation, including the type of water body, plant and animal composition and the ecosystem of the land and water investigated.
3. A map showing,
 - i. The boundaries mentioned in clause (1) (c) or (2) (c) and (d),
 - ii. The location and type of each water body identified in relation to the project location, and
 - iii. The distances mentioned in clause (1) (d) or (2) (e).

4. The dates and times of the beginning and completion of the site investigation.
5. The duration of the site investigation.
6. The weather conditions during the site investigation.
7. A summary of methods used to make observations for the purpose of the site investigation.
8. The name and qualifications of any person conducting the site investigation.
9. Field notes kept by the person conducting the site investigation.

3.0 Staff Roles

The requirements of the REA Regulation indicate that the name and qualifications of all staff participating in the site investigation should be included, and are thus provided below.

Andrew G. Ryckman, B.Sc.

Andrew is a Terrestrial and Wetland Biologist with 7 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 in this project was to act as project advisor, providing input on field work and reporting as well as liaising directly with several agency staff.

Valerie Stevenson, Dip. Env.

Valerie is an Aquatic Biologist with over 9 years of experience in the environmental field. Her expertise is within the areas of freshwater aquatic habitat, biology of freshwater fishes, benthic macroinvertebrate organisms, surface water and sediment quality. Valerie designs, coordinates, manages, analyzes and reports on a variety of aquatic biology monitoring and assessment projects. She also works regularly on multidisciplinary project teams where she contributes her aquatic biology expertise with an integrated understanding of all environment components.

Valerie was the primary author and coordinated the completion of all water body reports.

Ashley Favaro, M. Env. Sc.

Ashley is an Aquatic Biologist with 8 years of work experience in the environmental field. Her areas of expertise include fish community and aquatic habitat assessments. She is experienced in a variety of different field data collection methods and has completed surveys in a number of different habitat types including lakes, coastal wetlands, reservoirs, large rivers, and streams with warm and coldwater fish assemblages. Ashley is certified in the Ontario Stream Assessment Protocol (OSAP) (2005) as well as level 2 fish identification (2010) under the protocol. She is also well versed in a variety of benthic invertebrate sampling protocols including Ontario Benthos Biomonitoring Network (OBBN) and has experience with species identification. Ashley regularly contributes to reports and routinely reviews scientific literature in support of projects.

Ashley was responsible for compiling data and assisting in the completion of reports.

Blair Baldwin, B.Sc.

Blair has two years of experience as an Aquatic Biologist. His areas of expertise include fish habitat surveys, habitat mapping, and fish community assessments, but he also has experience with benthic invertebrate surveys and species identification.

Blair was responsible for conducting the site investigations and data compilation.

Brian Watson, F.W.T.

Brian is an Aquatic Biologist with more than one year of work experience in the environmental field. His areas of expertise are fish and fish habitat surveys, environmental monitoring, and benthic invertebrate surveys. Brian has completed the fish identification course through the Royal Ontario Museum (2011) and obtained his Ontario Benthos Biomonitoring Network Certificate (2010).

Brian was responsible for completing site investigations, data compilation and assisting in the completion of this report.

Gina MacVeigh, F.W.T.

Gina is an Aquatic Biologist with more than 5 years of work experience in the environmental field. Her areas of expertise are fish habitat surveys, habitat mapping, and fish community assessments, but she also has experience with benthic invertebrate surveys and species identification. Gina has been certified to the level two fish identification (2010) under the Ontario Stream Assessment protocol, and has also obtained her Ontario Benthic Biomonitoring Network Certificate (2009). She has also completed the Fish and Species at Risk Identification courses through the Royal Ontario Museum (2009).

Gina was responsible for conducting the site investigations and data compilation.

Michael Ewaschuk, B.Sc.

Michael has over 10 years of experience in the field of aquatic ecology working for government agencies, non-profit organizations, Remedial Action Plans (Hamilton Harbour and Bay of Quinte), and private consulting firms. Michael has worked extensively with the Headwater Classification Guidelines (CVC and TRCA March 2009), which provide methodology to assessing flow permanency in drainage features, which is a key distinction between a water body and non-water body in the REA guidelines.

Michael was responsible for site selection, coordination of field work, overseeing field staff, analyzing data, and assisted in the completion of the report.

Kaitlin Boddaert, Dip GIS

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 has

produced various digital maps and datasets for publication. She also has education and experience in the field of urban planning and is familiar with municipal mapping and procedures.

Kaitlin was responsible for creating all mapping for the water body reports.

4.0 Summary of Records Review

In accordance with the REA Regulation, NRSI has completed a comprehensive records review for the proposed Adelaide Wind Energy Center project area (NRSI 2012). The results of this records review have been summarized in Table 1 below. Full details are provided in the complete report (NRSI 2012).

Table 1. Summary of Records Review of the Adelaide Wind Energy Centre

Criteria	Associated Water Body Features
i. In a water body	<p>The records review has identified 38 potential water bodies to be overlapping the project location, including 37 within the large Ausable River watershed and 1 within the Sydenham River watershed.</p> <p>These overlaps typically represent proposed crossing locations for access roads, transmission line or cabling. All of these water bodies represent potential permanent or intermittent watercourses. All of which are designated as warmwater fisheries containing warmwater baitfish species, with the exception of Lenting Drain which is classified as a cool/coldwater watercourse.</p> <p>Each of these potential water bodies will be examined in more detail during the site investigation phase of this project.</p>
ii. Within 120 m of the average annual high water mark of a lake, other than a lake trout lake that is at or above development capacity	None
iii. Within 300 m of the average annual high water mark of a lake trout lake that is at or above development capacity	None
iv. Within 120 m of the average annual high water mark of a permanent or intermittent stream	<p>The records review has identified 54 potential water bodies located within 120m of the project location, including 47 within the large Ausable River watershed and 7 within the Sydenham River watershed. All of these water bodies represent potential permanent or intermittent watercourses. Most of these water bodies are designated as warmwater fisheries, with the exception of the Lenting Drain which is classified as cool/coldwater.</p>
iv. Within 120 m of a seepage area	None

5.0 Site Investigation Methodology

In accordance with the REA Regulation, comprehensive site investigations were carried out within the Adelaide Wind Energy Centre project area. These site investigations focused on confirming presence/absence and extent of water bodies identified during the records review, characterizing identified water bodies, as well as identifying any corrections to water body mapping required, including the identification of any previously unidentified features. Results of these site investigations will be used to identify proximity of water bodies to project components and identify requirements for mitigation and impact assessment. A summary of the site investigation methodology is found in following sections.

5.1 Survey Dates

In accordance with the REA Regulation, NRSI recorded dates, times, duration, and weather conditions during each site investigation. This information has been summarized in Table 2 below. Detailed descriptions of staff roles and qualifications can be found in Section 3.0 of this report, and completed site investigation field data forms have been included in Appendix I.

Table 2. Site Investigation Survey Details

Staff Name(s)	Date (2011 & 2012)	Duration (hrs)	Weather Conditions		
			Temp. (°C)	Beaufort Wind	Cloud Cover (%)
Gina MacVeigh	Sept 19, 2011	10	16	3	100
Gina MacVeigh	Sept 22, 2011	2	21	3	45
Blair Baldwin	Nov 2, 2011	10	17	2	30
Blair Baldwin	Nov 3, 2011	10	11	0	100
Blair Baldwin	March 30, 2012	4	7	5	90

5.2 Lakes and Lake Trout Lakes

No lakes or Lake Trout lakes were identified during the records review. As such, no targeted site investigations were undertaken to characterize this feature type. General presence/absence surveys to confirm the absence of lakes were undertaken.

5.3 Permanent and Intermittent Streams

Prior to field investigations, potential intermittent/permanent watercourses were identified through review of all available natural features mapping as part of the records review (NRSI 2012). Field investigations were focused on confirming presence of these features as well as any additional watercourse features that may not be shown on existing mapping.

Once a watercourse was identified during site investigations, it was further assessed to determine if it meets the definition of a “water body” within the REA Regulation. Under this definition, a water body includes intermittent/permanent watercourses only, and does not include grassed waterways, temporary channels for surface drainage, such as furrows or shallow channels that can be tilled and driven through, rock chutes and spillways, or roadside ditches (that do not contain a permanent or intermittent stream).

Once a watercourse was identified as an intermittent/permanent watercourse, specific water body data was gathered during the site investigations. This involved walking the entire extent of each feature identified within the project area (where site access permitted), and in many cases beyond to confirm its point of origin. For each feature, NRSI biologists collected a wide range of field information, including (but not limited to) wetted width, water depth, substrate, vegetation and habitat present, and any groundwater indicators. At each location, photographs and specific UTM coordinates were also taken.

5.4 Seepage Areas

No seepage areas were identified through the records review, however, their presence was still considered in the site investigation (NRSI 2012). Site investigations were carried out to identify potential seepage areas within the project area. These investigations were conducted concurrently with other water body site investigations as well as during wetland site assessments completed for the Natural Heritage Assessment, which also require the identification of potential seepage areas.

During site investigations, methods used to identify groundwater seepage areas include characterization of site-specific features including direct observations of groundwater upwelling, the presence of groundwater indicator plant species (e.g. watercress

(*Nasturtium officinale*), observance of dense patches of jewelweed (*Impatiens capensis*)), or iron-staining of soils and substrates.

6.0 Site Investigation Results

NRSI biologists completed a comprehensive site investigation of the aquatic resources within the Adelaide Wind Energy Centre project area. These surveys have been completed in accordance with the REA Regulation and the results have been summarized below.

6.1 Lakes

6.1.1 Lake Trout Lakes

Site investigations confirmed the absence of any Lake Trout lakes.

6.1.2 Other Lakes

Site investigations confirmed the absence of any lakes within the project area.

6.2 Permanent or Intermittent Watercourses

NRSI biologists have confirmed a total of 23 permanent or intermittent watercourses within the project area. Of these, 19 have been identified as overlapping the project location, including proposed crossing locations of access roads and/or cabling. The remaining water bodies (Morgan Drain, Ptsebe Trib F and J and Ausable Trib E) range in distance from the project location from 6m to 120m, without any direct overlap with project components. For the purposes of this report, these watercourses have been divided into their respective watersheds, Ausable River and Sydenham River and are discussed based on their associated drainage areas. The Ausable River watershed includes Adelaide Creek, Mud Creek, Lenting Drain, Big Swamp Drain, Ptsebe Creek and the main branch of the Ausable River. Within the Sydenham River watershed, watercourses discussed are associated with the Sydenham River itself. Where specific water body locations are discussed, a unique identifier (WB) has been attributed. These locations, as well as observed watercourses, are shown on Figures 2 and 3. Watercourses are discussed in Sections 6.2.1 and 6.2.2. Further site investigation information is also provided in Appendices I, II, and III in the form of field notes, photographs, and detailed water body characteristics, respectively.

6.2.1 Ausable River Watershed

6.2.1.1 Ausable River

The records review identified a total of 9 potential water bodies associated with the main branch of the Ausable River within the Adelaide Wind Energy Centre project area (NRSI 2012a).

NRSI biologists conducted site investigations on these 9 potential water bodies and have confirmed that 2 of these features have characteristics that are consistent with the designation of a water body, as defined by the REA Regulation. The remaining 7 do not meet the criteria to be classified as a water body. A summary of site conditions associated all features considered during the site investigation, including distances to project location, is provided in Table 3 below.

Table 3. Water Body Site Investigations Summary for Adelaide Wind Energy Centre Project Area – Ausable River Drainage Area

Water Body Feature Name	Water Body Location ID	Description of Water Body at Water Body Location	Water Body (Yes/No)	Distance to Project Location Component (m)	EIS Required (Yes/No)
Ausable River	WB41	intermittent/permanent water body, naturalized channel	Yes	WT - >120 AR - >120 OL - Crossing UL - >120 CA - Crossing BU - >120	Yes
Ausable Trib A	WB44	ephemeral, no surface water present, surface water inlet present	No	N/A	No
Ausable Trib B	WB45	ephemeral, poorly defined channel	No	N/A	No
Ausable Trib C	WB46	ephemeral, poorly defined channel	No	N/A	No
	WB47	ephemeral, poorly defined channel	No	N/A	No

Water Body Feature Name	Water Body Location ID	Description of Water Body at Water Body Location	Water Body (Yes/No)	Distance to Project Location Component (m)	EIS Required (Yes/No)
Ausable Trib D	WB40	ephemeral, poorly defined channel, no surface water present	No	N/A	No
Ausable Trib E	WB82	Intermittent/permanent water body, natural meandering watercourse	Yes	WT- >120 AR- >120 OL- >120 UL- >120 CA- 120 BU- 120	Yes
Ausable Trib F	WB83	no channel exists, tile drained	No	N/A	No
Ausable Trib G	WB81	no channel exists, tile drained	No	N/A	No
Ausable Trib H	WB15	no channel exists, tile drained	No	N/A	No

Legend

WT- Wind Turbine

AR- Road Access

OL- Overhead Line (transmission line)

UL- Underground Line

CA- Construction Activity (includes crane walk, and staging and disturbance areas)

BU- Building (includes substation and interconnection point)

N/A – Not Applicable

6.2.1.2 Adelaide Creek

The records review identified a total of 19 potential water bodies associated with the Adelaide Creek drainage area within the project area (NRSI 2012a).

NRSI biologists conducted site investigations on these 19 potential water bodies and have confirmed that 8 of these features have characteristics that justify consideration as water bodies, as defined by the REA Regulation. One of the 8 features, Seeds Drain, is considered a water body at some locations within the project area and a non-water body at other locations. The mix in water body consideration is due to the nature of headwater features and the resulting changes in permanency and definition of the feature. A summary of the characteristics of all 19 features considered as part of the site investigation, including distances to project location, is provided in Table 4 below.

Table 4. Water Body Site Investigations Summary for Adelaide Wind Energy Centre Project Area – Adelaide Creek Drainage Area

Water Body Feature Name	Water Body Location ID	Description of Water Body at Water Body Location	Water Body (Yes/No)	Distance to Project Location Component (m)	EIS Required (Yes/No)
Adelaide Creek	WB59	intermittent/permanent water body with naturalized channel	Yes	WT - >120 AR - >120 OL - Crossing UL - >120 CA - Crossing BU - >120	Yes
	WB60	intermittent/permanent water body with a defined channel	Yes	WT - >120 AR - >120 OL - Crossing UL - >120 CA - Crossing BU - >120	Yes
	WB58	intermittent/permanent water body with a defined channel	Yes	WT - >120 AR - >120 OL - >120 UL - 66 CA - 56 BU - >120	Yes
	WB34	intermittent/permanent water body with a defined channel, aquatic vegetation present	Yes	WT - >120 AR - >120 OL - >120 UL - Crossing CA - Crossing BU - >120	Yes
Adelaide Trib A	WB48	ephemeral, poorly defined channel	No	N/A	No
	WB61	ephemeral, poorly defined channel	No	N/A	No
Adelaide Trib B	WB1	ephemeral, grassed waterway, no defined channel	No	N/A	No
Adelaide Trib C	WB31	ephemeral, channelized drain	No	N/A	No
Adelaide Trib D	WB32	ephemeral, no water body feature present	No	N/A	No

Water Body Feature Name	Water Body Location ID	Description of Water Body at Water Body Location	Water Body (Yes/No)	Distance to Project Location Component (m)	EIS Required (Yes/No)
Adelaide Trib E	WB33	intermittent/permanent water body, channelized	Yes	WT - >120 AR - >120 OL - >120 UL - Crossing CA - Crossing BU - >120	Yes
Adelaide Trib F	WB64	ephemeral, grassed drainage ditch	No	N/A	No
Cleland Drain	WB2	intermittent/permanent water body, channelized	Yes	WT - >120 AR - >120 OL - >120 UL - Crossing CA - Crossing BU - >120	Yes
Brent Drain A	WB3	ephemeral, no surface water present, grassed waterway	No	N/A	No
Wilson Drain	WB4	intermittent/permanent water body, channelized	Yes	WT - >120 AR - >120 OL - >120 UL - Crossing CA - Crossing BU - >120	Yes
Brown Drain	WB7	ephemeral, poorly defined channel, grassed waterway	No	N/A	No
Brown Drain - Branch A	WB6	intermittent/permanent, channelized	No	N/A	No
	WB57	ephemeral, poorly defined channel	No	N/A	No
Brown Drain - Branch B	WB5	ephemeral, grassed water way	No	N/A	No
Morgan Drain	WB16	intermittent/permanent water body, channelized	Yes	WT- 100 AR - 22 OL - >120 UL - 16 CA - 6 BU - >120	Yes

Water Body Feature Name	Water Body Location ID	Description of Water Body at Water Body Location	Water Body (Yes/No)	Distance to Project Location Component (m)	EIS Required (Yes/No)
	WB17	intermittent/permanent water body, channelized	Yes	WT - 60 AR - 111 OL - >120 UL - 116 CA - 51 BU - >120	Yes
Morgan Drain-Branch A	WB14	intermittent/permanent water body, channelized	Yes	WT - >120 AR - >120 OL - >120 UL - Crossing CA - Crossing BU - >120	Yes
Down Drain	WB18	intermittent/permanent water body, channelized	Yes	WT - >120 AR - >120 OL - >120 UL - Crossing CA - Crossing BU - >120	Yes
Branton Drain	WB19	ephemeral, grassed water way, no surface water present	No	N/A	No
	WB20	ephemeral, no water body feature present	No	N/A	No
Rombout Drain	WB29	ephemeral, no water body feature present	No	N/A	No
Seeds Drain	WB30	intermittent/permanent water body, channelized	Yes	WT - >120 AR - >120 OL - >120 UL - Crossing CA - Crossing BU - >120	Yes
	WB38	ephemeral, channelized drain	No	N/A	No
	WB55	ephemeral, no water body feature present, tile inlet present	No	N/A	No
	WB56	ephemeral, no water body feature present, tile inlet present	No	N/A	No

Legend

WT- Wind Turbine
 AR- Road Access
 OL- Overhead Line (transmission line)
 UL- Underground Line
 CA- Construction Activity (includes crane walk, and staging and disturbance areas)
 BU- Building (includes substation and interconnection point)
 N/A- Not Applicable

6.2.1.3 Mud Creek

The records review has identified a total of 4 potential water bodies associated with the Mud Creek drainage area within the project area (NRSI 2012a). These features are designated as warmwater (Veliz 2001) with warmwater baitfish species (ABCA & DFO 2004, ABCA 2007).

NRSI biologists conducted site investigations on the identified water body features and have confirmed that 3 of the 4 identified features have characteristics that warrant consideration as a water body. A summary of site conditions associated with all features considered during the site investigation, including distances to project location, is provided in Table 5.

Table 5. Water Body Site Investigations Summary for Adelaide Wind Energy Centre Project Area – Mud Creek Drainage Area

Water Body Feature Name	Water Body Location ID	Description of Water Body at Water Body Location	Water Body (Yes/No)	Distance to Project Location Component (m)	EIS Required (Yes/No)
Dodman's Drain	WB22	intermittent/permanent water body, channelized	Yes	WT - 45 AR - 96 OL - >120 UL - Crossing CA - Crossing BU - >120	Yes
	WB51	intermittent/permanent water body, channelized	Yes	WT - >120 AR - >120 OL - >120 UL - 17 CA - 4 BU - >120	Yes
	WB39	intermittent/permanent water body, channelized	Yes	WT - >120 AR - >120 OL - >120 UL - Crossing CA - Crossing BU - >120	Yes

Water Body Feature Name	Water Body Location ID	Description of Water Body at Water Body Location	Water Body (Yes/No)	Distance to Project Location Component (m)	EIS Required (Yes/No)
	WB21	intermittent/permanent water body, channelized	Yes	WT - >120 AR - >120 OL - >120 UL - Crossing CA - Crossing BU - >120	Yes
Walker Drain	WB23	intermittent/permanent water body, channelized	Yes	WT - 48 AR - 100 OL - >120 UL - Crossing CA - Crossing BU - >120	Yes
Sutherland Drain	WB24	intermittent/permanent water body, channelized	Yes	WT - >120 AR - >120 OL - >120 UL - Crossing CA - Crossing BU - >120	Yes
	WB50	intermittent/permanent water body, channelized	Yes	WT - 37 AR - 87 OL - >120 UL - 100 CA - 26 BU - >120	Yes
Vangeffen Drain	WB25	ephemeral, no surface water present, poorly defined channel	No	N/A	No
	WB26	ephemeral, no surface water present, poorly defined channel	No	N/A	No
	WB49	ephemeral, poorly defined channel	No	N/A	No

Legend

WT- Wind Turbine
AR- Road Access
OL- Overhead Line (transmission line)
UL- Underground Line
CA- Construction Activity (includes crane walk, and staging and disturbance areas)
BU- Building (includes substation and interconnection point)
N/A- Not Applicable

6.2.1.4 Lenting Drain

The records review has identified the Lenting Drain as a potential watercourse within the project area (NRSI 2012a). Lenting Drain is unique in the area as it is designated as

cool/coldwater with the presence of sensitive coldwater salmonids species (SRCA & DFO 2004).

NRSI biologists conducted site investigations on the identified watercourse feature and have confirmed that the feature has characteristics that warrant consideration as a water body. A summary of site conditions associated with this feature, including distances to project location, is provided in Table 6 below.

Table 6. Water Body Site Investigations Summary for Adelaide Wind Energy Centre Project Area – Lenting Drain

Water Body Feature Name	Water Body Location ID	Description of Water Body at Water Body Location	Water Body (Yes/No)	Distance to Project Location Component (m)	EIS Required (Yes/No)
Lenting Drain	WB42	intermittent/permanent water body, channelized	Yes	WT - >120 AR - >120 OL - Crossing UL - >120 CA - Crossing BU - >120	Yes
	WB10	intermittent/permanent water body, channelized	Yes	WT - >120 AR - >120 OL - Crossing UL - >120 CA - Crossing BU - >120	Yes
	WB11	intermittent/permanent water body, channelized	Yes	WT - >120 AR - >120 OL - Crossing UL - >120 CA - Crossing BU - >120	Yes

Legend

- WT- Wind Turbine
- AR- Road Access
- OL- Overhead Line (transmission line)
- UL- Underground Line
- CA- Construction Activity (includes crane walk, and staging and disturbance areas)
- BU- Building (includes substation and interconnection point)
- N/A- Not Applicable

6.2.1.5 Big Swamp Drain

The records review has identified a single potential water body associated with the Big Swamp Drain within the project area, the Big Swamp Drain itself (NRSI 2012a).

NRSI biologists conducted site investigations on the identified water body feature and have confirmed the drain has characteristics that warrant consideration as a water body. A summary of site conditions associated with this feature, including distances to project location, is provided in Table 7.

Table 7. Water Body Site Investigations Summary for Adelaide Wind Energy Centre Project Area – Big Swamp Drain

Water Body Feature Name	Water Body Location ID	Description of Water Body at Water Body Location	Water Body (Yes/No)	Distance to Project Location Component (m)	EIS Required (Yes/No)
Big Swamp Drain	WB97	Intermittent/permanent watercourse, channelized drain	Yes	WT- >120 AR- >120 OL- Crossing UL- >120 CA- Crossing BU- >120	Yes

Legend

- WT- Wind Turbine
- AR- Road Access
- OL- Overhead Line (transmission line)
- UL- Underground Line
- CA- Construction Activity (includes crane walk, and staging and disturbance areas)
- BU- Building (includes substation and interconnection point)
- N/A- Not Applicable

6.2.1.6 Ptsebe Creek

The records review has identified a total of 13 potential watercourses associated with the Ptsebe Creek drainage area within the project area (NRSI 2012a).

NRSI biologists conducted site investigations on the identified watercourses features and have confirmed that 8 of these watercourses have characteristics that warrant consideration as a water body. A summary of site conditions associated with all features considered during the site investigation, including distances to project location, is provided in Table 8.

Table 8. Water Body Site Investigations Summary for Adelaide Wind Energy Centre Project Area – Ptsebe Creek

Water Body Feature Name	Water Body Location ID	Description of Water Body at Water Body Location	Water Body (Yes/No)	Distance to Project Location Component (m)	EIS Required (Yes/No)
Ptsebe Trib A	WB65	intermittent/permanent water body, channelized	Yes	WT - >120 AR - >120 OL - Crossing UL - >120 CA - Crossing BU - >120	Yes
	WB12	intermittent/permanent water body, channelized	Yes	WT - >120 AR - >120 OL - 82 UL - >120 CA - 55 BU - >120	Yes
	WB43	intermittent/permanent water body, channelized	Yes	WT - >120 AR - >120 OL - >120 UL - >120 CA - 114 BU - 114	Yes
Ptsebe Trib B	WB62	ephemeral, grassed drain	No	N/A	No
	WB63	ephemeral, grassed waterway	No	N/A	No
Ptsebe Trib C	WB35	ephemeral, poorly defined channel	No	N/A	No
Ptsebe Trib D	WB79	intermittent/permanent water body, aquatic vegetation	Yes	WT- >120 AR- >120 OL- Crossing UL- >120 CA- Crossing BU- >120	Yes
	WB80	intermittent/permanent water body, aquatic vegetation	Yes	WT- >120 AR- >120 OL- 56 UL- >120 CA- 44 BU- >120	Yes
Ptsebe Trib E	WB78	intermittent/permanent water body, fish observed	Yes	WT- >120 AR- >120 OL- Crossing UL- >120 CA- Crossing BU- >120	Yes