

## **APPENDIX C      BUILT HERITAGE ADDENDUM B**

# ADELAIDE WIND ENERGY CENTRE

## ADDENDUM B, HERITAGE ASSESSMENT

July 2012



**GL** Garrad Hassan



**TECHNICAL NOTE**

<b>Title</b>	<b>Adelaide Wind Energy Centre – Addendum B, Heritage Assessment</b>
<b>Client</b>	NextEra Energy Canada, ULC
<b>Contact</b>	Ben Greenhouse
<b>Document No.</b>	2012-1009-CAMO-T-01
<b>Issue</b>	A
<b>Classification</b>	Client’s Discretion
<b>Author</b>	N. O’Blenes
<b>Checked</b>	D.Boudreau
<b>Approved</b>	P. Henn

**History**

<b>Issue</b>	<b>Date</b>	<b>Summary</b>
A	31 July 2012	Original release

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## 1 INTRODUCTION

The Adelaide Wind Energy Centre (the “Project”) was previously being developed by Air Energy TCI Inc., the North American subsidiary of TCI Renewables Ltd. The name of the Project at that time was the Adelaide Wind Farm. The Project has been acquired by Kerwood Wind, Inc. and is now being developed as the Adelaide Wind Energy Centre which is subject to Ontario Regulation 359/09 (Renewable Energy Approvals (REA) [1] under Part V.0.1 of the Ontario Environmental Protection Act (EPA)) and Regulation 521/10 [2]. Kerwood Wind, Inc. was awarded a Feed-in-Tariff (FIT) Contract for this Project in July 2011 and is seeking a Renewable Energy Approval from the Ontario Ministry of the Environment (MOE). Kerwood Wind, Inc. is a wholly-owned subsidiary of NextEra Energy Canada ULC (NextEra). The parent company of NextEra Energy Canada ULC is NextEra Energy Resources, LLC. GL Garrad Hassan Canada Inc. a GL Group member operating under the GL Garrad Hassan brand (hereafter “GL GH”) has been retained by NextEra Energy Canada, ULC to assist with the REA application process.

A Heritage Resource Assessment was completed by Golder Associates in September 2010 [3] and submitted to the Ministry of Tourism, Culture and Sport (MTCS) for acceptance; the assessment considered 40 turbine locations, their access roads, collector system, and substation. An MTCS confirmation letter was provided to Mr. Thomas Bird (NextEra Energy Canada, ULC) in September 2010 (MTCS DPR File No. 39EA022) for this assessment. Following issuance of the MTCS confirmation letter the study area for the proposed development changed, namely by adding a transmission corridor, and the turbine layout was slightly modified. An addendum to the September 2010 report (Appendix C) was submitted to the MTCS on 30 March 2012 highlighting the changes and corresponding studies. Correspondence was received from the MTCS on 5 April 2012 stating that the MTCS has reviewed the re-submitted maps illustrating the location of the proposed changes along with the additional background research and site information for the additional lands which fall outside the original heritage assessment. MTCS finds that the mitigation recommendations of the original heritage assessment still apply to this project and the comments MTCS has previously provided still apply.

Subsequently, through stakeholder consultation the layout has been further modified, mainly due to the optimization of roads and collection system design, the relocation of 2 turbine positions, relocation of the point of interconnect substation and of the transmission line from municipal right-of-way onto private property in a section of the route located south of the switchyard. For comparative purposes, the extent of the Project component adjustments is summarized in tabular and map formats in Table 1 and Appendix A, respectively, for MTCS’ review. Built heritage structures identified as “Structures A and B” as presented on the comparison mapping correlate directly with the structures identified in Appendix A and Appendix B of the 2010 Golder report.

**Table 1: Project layout comparison: 2012 vs. 2011**

2011 Layout Turbine/ID	2010 Layout Turbine/ID	2011 Distance Moved [m]	2012 Distance Moved [m]	Comments
1	2	20.0	0	
2	1	0.0	62.0	Turbine only
3	3A	42.1	0	
4	4A	24.0	0	
5	5	0.0	0	
6	38	180.0	0	
7	7	11.0	0	
8	6	28.0	0	
9	8	40.0	0	
10	9	42.0	0	
11	11	31.0	0	
12	10	0.0	0	
13	33A	51.4	0	
14	12	0.0	195.0	Access road
15	13	0.0	0	
16	16	18.0	0	
17	18	0.0	0	
18	19	0.0	0	
19	15	11.0	0	
20	21A	20.0	0	
21	20	28.0	0	
22	22	0.0	0	
23	24	19.3	0	
N/A	27	N/A	0	
24	29	166.3	770.0	Collection only
25	31	26.0	770.0	Collection only
26	40A	23.2	28.0	Collection only
27	34	0.0	24.0	Collection only
N/A	35	N/A	0	
28	36	0.0	0	
29	37	0.0	0	
30	39	9.0	0	Access road to meteorological tower removed
31	14	0.0	0	
32	17	0.0	0	
33	23A	30.6	128.0	Access road and collection
34	25A	0.3	0	
35	26A	0.3	5.0	Turbine only
36	28	0.0	0	

2011 Layout Turbine/ID	2010 Layout Turbine/ID	2011 Distance Moved [m]	2012 Distance Moved [m]	Comments
37	30	18.0	45.0	Collection only
38	32	100.0	10.0	Collection only
Transmission Route	n/a	n/a	50.0	T-Line moved 50 m out of ROW
Point of Interconnect Substation		n/a	520 m	Substation moved to northwest corner of property
Meteorological Tower			New	Tower location, roads and collection
Collection to Substation	n/a	n/a	149.0	Collection only

**Table 2: Transmission route coordinates**

Site	Easting	Northing
Adelaide Substation	439495	4765334
Intersection Kerwood and Nairn Roads	441680	4776525
Parkhill TS (point of interconnection)	452869	4773932
Switchyard	441374	4775877

## 2      RESULTS

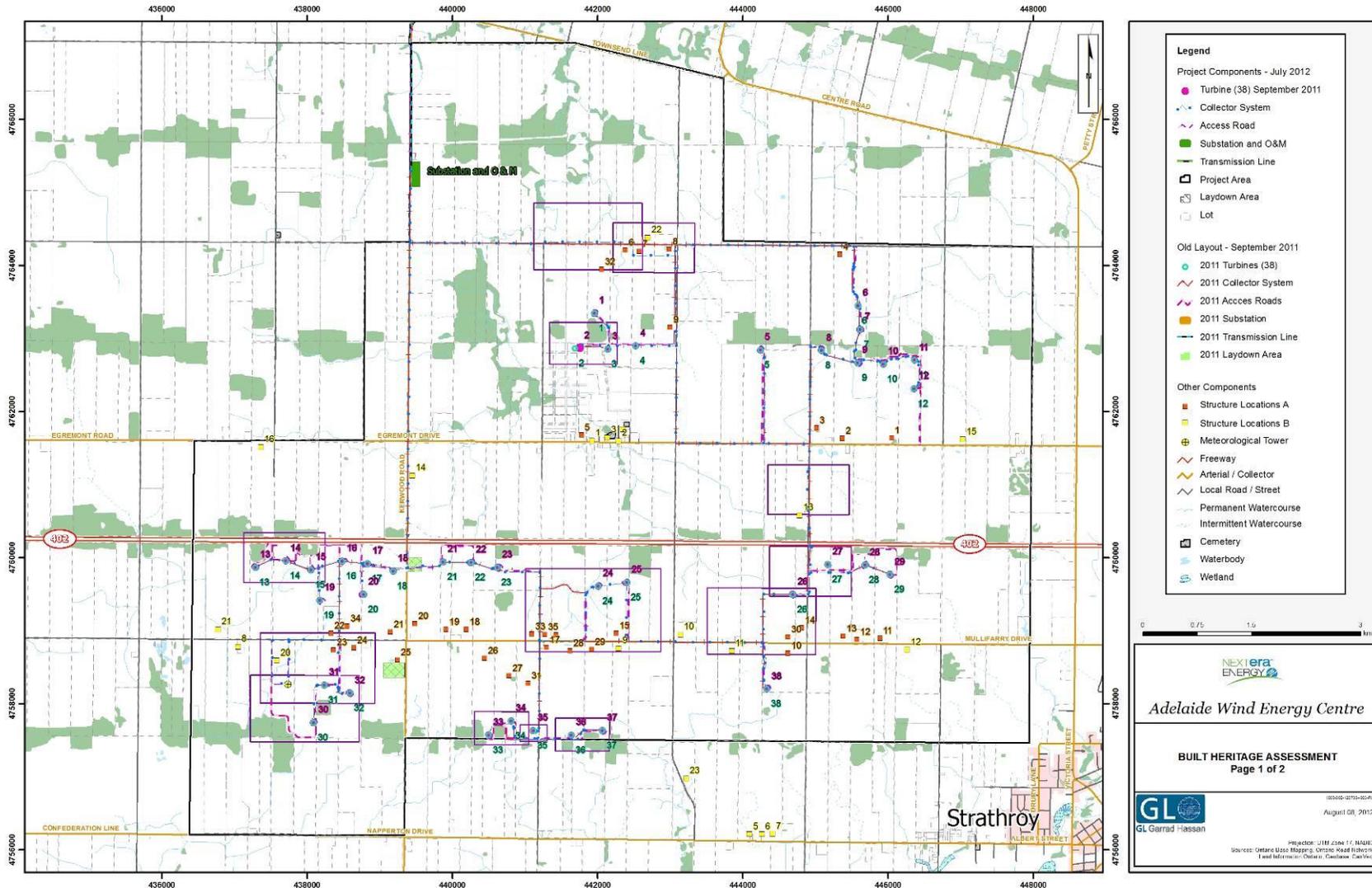
A Heritage Assessment of the revised Project layout changes was undertaken by Scarlett Janusas Archaeological and Heritage Consulting and Education (SJAHCE). A site visit was conducted on 30 July 2012 to evaluate the change in Project layout and to confirm that these changes will not result in a negative impact on cultural heritage features.

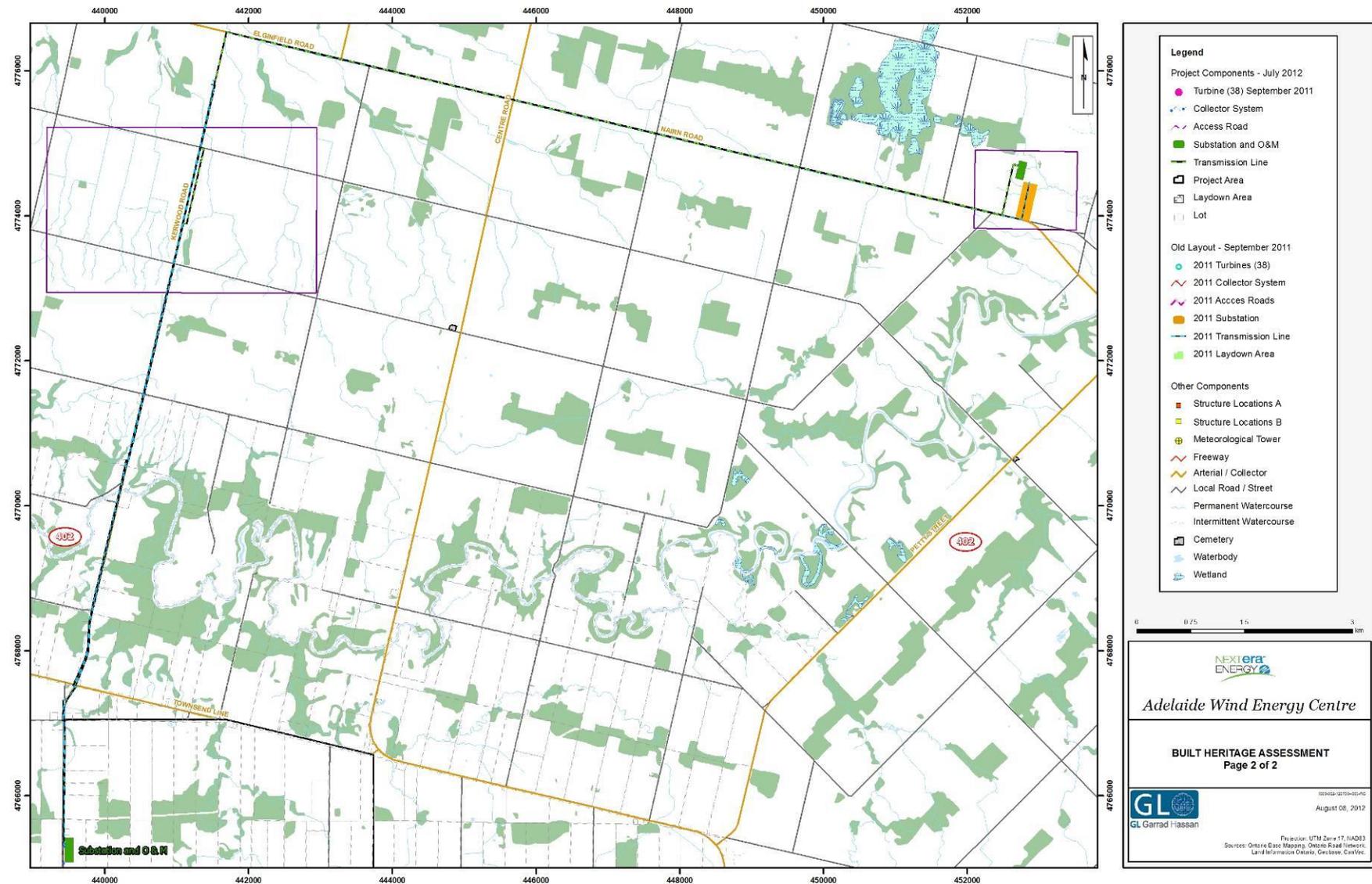
In summary, the changes made to the Project layout as presented in Table 1 have been considered. All turbine positions that have been modified have remained within the original study area and therefore have been evaluated accordingly for potential impact on cultural heritage features. The modification of the transmission route has also been adequately studied, a field visit by SJAHCE confirmed that there were no heritage resources present on these lands that could be impacted by the revised layout of the transmission line in addition to previous background studies of the surrounding lands. In conclusion, the revised component locations for the Project do not directly or indirectly impact any protected properties or potential cultural heritage features of significance or interest.

### 3      **REFERENCES**

- [1]      *Ontario Regulation 359/09*, made under the *Environmental Protection Act*, Renewable Energy Approvals under Part 1.0 of the Act.
- [2]      *Ontario Regulation 521/10*, made under the *Environmental Protection Act*, Renewable Energy Approvals under Part 1.0 of the Act.
- [3]      Adelaide Wind Farm, Heritage Assessment, Golder Associates, September 2010.

## APPENDIX A BUILT HERITAGE ASSESSMENT





## **APPENDIX B      MTCS CORRESPONDENCE**

**From:** [Hatcher, Laura \(MTC\)](#)  
**To:** [Thomas.Bird@fpl.com](mailto:Thomas.Bird@fpl.com)  
**Cc:** [Nancy O'Blenes](#)  
**Subject:** Adelaide Wind Energy Centre - March 30, 2012 revisions to project layout  
**Date:** Thursday, April 05, 2012 12:02:33 PM

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Dear Mr. Bird,

This email is regarding the proposed changes to the Adelaide Wind Energy Centre layout, which were submitted to the Ministry of Tourism, Culture and Sport (MTCS) on March 30, 2012 by GL Garrad Hassan.

On September 10, 2010, MTCS issued written comments on the heritage assessment report for the project, expressing our satisfaction with the report and the mitigation recommendations made in that report.

MTCS has reviewed the re-submitted maps illustrating the location of the proposed changes along with the additional background research and site information for the additional lands which fall outside the original heritage assessment. MTCS finds that the mitigation recommendations of the original heritage assessment still apply to this project and the comments MTCS has previously provided still apply as well.

If further changes to the project layout take place, please continue to keep our office informed.

Sincerely,

Laura

**Laura Hatcher**

Heritage Planner

Ministry of Tourism, Culture and Sport

Culture Division | Programs and Services Branch | Culture Services Unit

401 Bay Street, Suite 1700

Toronto, Ontario M7A 0A7

Tel. 416.314.3108 | Fax. 416.314.7175

## **APPENDIX C      ADDENDUM, HERITAGE ASSESSMENT 2012**

# ADELAIDE WIND ENERGY CENTRE ADDENDUM, HERITAGE ASSESSMENT

March 2012



**GL** Garrad Hassan



**TECHNICAL NOTE**

<b>Title</b>	<b>Adelaide Wind Energy Centre – Addendum, Heritage Assessment</b>
<b>Client</b>	NextEra Energy Canada, ULC
<b>Contact</b>	Ben Greenhouse
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<b>Author</b>	N. O’Blenes
<b>Checked</b>	D. Boudreau
<b>Approved</b>	P. Henn

**History**

<b>Issue</b>	<b>Date</b>	<b>Summary</b>
A	14 February 2012	Original release
B	21 March 2012	Revised to include assessment of transmission route

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## 1 INTRODUCTION

The Adelaide Wind Energy Centre (the “Project”) was previously being developed by Air Energy TCI Inc., the North American subsidiary of TCI Renewables Ltd. The name of the Project at that time was the Adelaide Wind Farm. The Project has been acquired by Kerwood Wind, Inc. and is now being developed as the Adelaide Wind Energy Centre which is subject to Ontario Regulation 359/09 (Renewable Energy Approvals (REA) [1] under Part V.0.1 of the Ontario Environmental Protection Act (EPA)) and Regulation 521/10 [2]. Kerwood Wind, Inc. was awarded a Feed-in-Tariff (FIT) Contract for this Project in July 2011 and is seeking a Renewable Energy Approval from the Ontario Ministry of the Environment (MOE). Kerwood Wind, Inc. is a wholly-owned subsidiary of NextEra Energy Canada ULC (NextEra). The parent company of NextEra Energy Canada ULC is NextEra Energy Resources, LLC. GL Garrad Hassan Canada Inc. a GL Group member operating under the GL Garrad Hassan brand (hereafter “GL GH”) has been retained by NextEra Energy Canada, ULC to assist with the REA application process.

A Heritage Resource Assessment was completed by Golder Associates in September 2010 (Appendix C) and submitted to the Ministry of Tourism, Culture and Sport (MTCS) for acceptance; the assessment considered 40 turbine locations, their access roads, collector system and substation. An MTCS confirmation letter was provided to Mr. Thomas Bird (NextEra Energy Canada, ULC) in September 2010 (MTCS DPR File No. 39EA022 Appendix B) for this assessment. Subsequent to issuance of the MTCS confirmation letter the study area for the proposed development changed, namely by adding a transmission corridor, and the turbine layout was slightly modified. This addendum to the initial Heritage Assessment provides an analysis of the revised turbine layout and additional transmission route. For comparative purposes, the extent of the Project component adjustments is summarized in tabular and map formats in Table 1 and Appendix A, respectively, for MTCS’ review. Structures A (cultural structures on participating parcels with turbine related activities) and B (cultural structures located on participating parcels with no turbine related activities) as presented on the comparison mapping correlate directly with the structures illustrated in Appendix A and Appendix B of the 2010 Golder report.

The transmission route for the Project is approximately 24 km long. The proposed 115 kV transmission line will travel north from the Project substation utilizing existing rights-of-way along Kerwood Road to a proponent-owned switchyard located to the southwest of the intersection of Kerwood and Nairn Roads then east along Nairn Road to a proponent-owned substation at the point of interconnect that is common to three of NextEra’s wind projects (Adelaide, Bornish, and Jericho). It is important to note that the transmission line from the switchyard to the second substation is also common to the three aforementioned NextEra projects. The transmission line components will be installed on municipal road rights-of-way, either replacing existing Hydro One pole infrastructure to support additional requirements, and/or supplementing existing Hydro One poles with new poles, on either side of the municipal road rights-of-way, but not on both sides. The point of interconnect (POI) will be located on private agricultural land approximately 24 km northeast of the Project. In addition to the revised study area, the new layout includes 2 fewer turbines. The approximate coordinates of the transmission route and associated infrastructure are indicated below in Table 2 followed by a map of the Project study area illustrating the transmission route and POI (Figure 1).

**Table 1: Project layout comparison: 2011 vs. 2010**

2011 Layout Turbine/ID	2010 Layout Turbine/ID	Distance Moved [m]	Comments
1	2	20.0	turbine only
2	1	0.0	
3	3A	42.1	turbine only
4	4A	24.0	turbine only
5	5	0.0	
6	38	180.0	turbine and access road
7	7	11.0	
8	6	28.0	turbine only
9	8	40.0	turbine only
10	9	42.0	turbine only
11	11	31.0	turbine only
12	10	0.0	
13	33A	51.4	turbine and collection
14	12	0.0	collection only
15	13	0.0	collection only
16	16	18.0	collection only
17	18	0.0	
18	19	0.0	
19	15	11.0	turbine only
20	21A	20.0	turbine only
21	20	28.0	turbine and collection
22	22	0.0	
23	24	19.3	turbine only
N/A	27	N/A	turbine removed from revised layout
24	29	166.3	turbine moved to the south, reduced roads and collection
25	31	26.0	turbine only
26	40A	23.2	collection only
27	34	0.0	
N/A	35	N/A	turbine removed from revised layout
28	36	0.0	collection only
29	37	0.0	collection only
30	39	9.0	turbine only
31	14	0.0	
32	17	0.0	
33	23A	30.6	turbine and collection
34	25A	0.3	
35	26A	0.3	
36	28	0.0	collection only
37	30	18.0	
38	32	100.0	turbine, road and collection
Transmission Route	NA	New	north and east of wind energy centre location approximately 24 km , refer to Figure 1 and Table 2 for details

<b>2011 Layout Turbine/ID</b>	<b>2010 Layout Turbine/ID</b>	<b>Distance Moved [m]</b>	<b>Comments</b>
Point of Interconnect	NA	New	northeast of wind energy centre, refer to Figure 1 and Table 2 for details
Adelaide Substation	NA	New	Northwest corner of wind energy centre study area, refer to Figure 1 and Table 2 for details.
Switchyard	NA	New	Approximately 11.5 km north of the wind energy centre

**Table 2: Transmission route coordinates**

<b>Site</b>	<b>Easting</b>	<b>Northing</b>
Adelaide Substation	439495	4765334
Intersection Kerwood and Nairn Roads	441680	4776525
Parkhill TS (point of interconnection)	452869	4773932
Switchyard	441374	4775877