Environment

NextEra Energy Canada, ULC

Addendum to the Design and Operations Report – Bluewater Wind Energy Centre

Prepared by:

AECOM
300 – 300 Town Centre Boulevard 905 477 8400 tel
Markham, ON, Canada L3R 5Z6 905 477 1456 fax
www.aecom.com

Project Number:

60155032

Date:

March, 2013

Table of Contents

List of Figures

List of Tables

Glossary of Terms

EIS ..... Environmental Impact Study
MNR ..... Ontario Ministry of Natural Resources
NextEra ..... NextEra Energy Canada, ULC
O.Reg. 359/09 ..... Ontario Regulation 359/09
The Project ..... Bluewater Wind Energy Centre
REA ..... Renewable Energy Approval

1. Introduction

Varna Wind, Inc., a wholly owned subsidiary of NextEra Energy Canada, ULC (NextEra) is proposing to construct a wind energy centre project in the Municipalities of Bluewater and Huron East in Huron County, Ontario. The following sections of this Addendum describe the proposed modifications to this Project and resulting updates to the Design and Operations Report.

1.1 The Proponent

The Project will be owned and operated by Varna Wind, Inc., a subsidiary of NextEra. NextEra's indirect parent company is NextEra Energy Resources, LLC. The proponent has not changed from the initial REA submission.

The primary contacts for the Project are as follows:

Project Proponent	Project Consultant
Nicole Geneau Director NextEra Energy Canada, ULC 390 Bay Street, Suite 1720 Toronto, ON M5H 2Y2 Phone:…..1-416-364-9714 Email: .....Bluewater.Wind@NextEraEnergy.com Website: ..www.NextEraEnergyCanada.com	Marc Rose Senior Environmental Planner AECOM 300-300 Town Centre Blvd. Markham, Ontario L3R 5Z6 Phone: .....905-477-8400 x388 Email:.....marc.rose@aecom.com

1.2 Project Study Area

The proposed Project is located in Huron County, within the Municipalities of Bluewater and Huron East (refer to Figure 2-1). The Project Study Area has not changed from the initial REA submission.

The following co-ordinates define the external boundaries of the Project Study Area:

Longitude	Latitude
-81.680043	43.553413
-81.350138	43.534437
-81.402727	43.471275
-81.679229	43.433866

2. Proposed Project Modifications

NextEra is proposing modifications to the Project. These proposed Project modifications are summarized in Table 2-1 and Figure 2-1.

Table 2-1 summarizes and documents the following about each of the proposed modifications:

1. A description of the modification and a rationale for why the modification is proposed; and
2. New potential environmental effects and corresponding mitigation measures.

Figure 2-1 illustrates the modified Project Location.

Table 2-1 Summary of Project Modifications

Label on Figure 2-1	Proposed Modification	Rationale for Proposed Modification	New Potential Environmental Effects	New Mitigation Measures
A	**A1:** Removal of Turbine 20 and associated access road and collection line, and provision of new access road to Turbine 19	Land owner no longer participating in project.	None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage.	N/A
	A2: Addition of meteorological (met) tower and associated infrastructure on private property	The met tower is required to obtain critical data to ensure the safe and efficient operation of the Project. As per amendment to O.Reg. 359/09, met towers are now considered to be part of a renewable energy generation facility and therefore this tower was added to the assessment.	None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage.	N/A
	A3: Relocation of collection line to Turbine 19 (from Turbine 21) – to travel west on north side of private property and north in the Goshen Line right-of-way	Relocation of the collection line is necessary following the removal of Turbine 20.	Cultural Heritage: • Locations 33 and 34 documented.	Cultural Heritage: • Stage 3 assessment of Locations 33 and 34.
B	**B1:** Relocation of access road to Turbine 9 – to be relocated to south side of private property – and minor shift to disturbance area associated with Turbine 10	As per land owner request for relocation of access road. Minimize impacts to current land use and agricultural practices.	None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage.	N/A
	B2: Addition of met tower and associated infrastructure on private property	The met tower is required to obtain critical data to ensure the safe and efficient operation of the Project. As per amendment to O.Reg. 359/09, met towers are now considered to be part of a renewable energy generation facility and therefore this tower was added to the assessment.	None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage.	N/A
C	**C1:** Realignment of access road and collection line to Turbine 17 – to travel directly back from Bronson Line	As per land owner request for separate access road. Minimize impacts to current land use and agricultural practices.	None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage.	N/A
	C2: Addition of crane path between Turbines 17 and 18 (located primarily within footprint of infrastructure that is being removed)	Proposed to reduce cost of construction. .	None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage.	N/A

	C3:
	Realignment of access road and collection line to Turbine 18 – to travel directly back from Bronson Line
		As per land owner request for separate access road.
		
		Minimize impacts to current land use and agricultural practices.
			Natural Heritage:
			• Access road proposed within 120 m of natural area 450. Feature previously studied; identified as Significant Woodland (Woodland E) and Generalized Candidate Significant Wildlife Habitat (Amphibian Woodland Breeding Habitat and Habitat for Species of Conservation Concern). Feature treated as Significant Amphibian Woodland Breeding Habitat (AWO-12) with commitment to complete pre-construction evaluation of significance studies. New potential effects associated with access road construction near this feature include:
			  • Accidental intrusion into natural feature resulting in habitat damage;
			  • Disruption of amphibians moving to breeding pools and home range;
			  • Possible indirect effects on breeding pool condition through changes to surface water drainage patterns resulting from access road construction; and
			  • Risk of mortality to amphibians moving between breeding pools and home range due to vehicular collisions along access road
				Natural Heritage:
				• For Amphibian Woodland Breeding Habitat AWO-12 (if determined to be significant), mitigation measures will be the same as described in the approved NHA for other access roads proposed near amphibian woodland breeding habitat features (Section 5.4).

	C4: Realignment of collection line at Bronson Line / Kippen Road to follow Bronson Line right of way	Land owner no longer participating in project.	None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage.	N/A
D	Realignment of access road to Turbine 31 – to travel directly back from Blind Line	As per land owner request for realignment of access road. Minimize impacts to current land use and agricultural practices.	None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage.	N/A

Table 2-1 Summary of Project Modifications

Label on Figure 2-1	Proposed Modification	Rationale for Proposed Modification	New Potential Environmental Effects	New Mitigation Measures

E	Realignment of collection line between Turbines 13, 14 and 24	Land owner no longer participating in project	Natural Heritage:
			• Collection line proposed to be installed beneath natural area 487 via directional drilling. Feature previously studied; identified as Significant Woodland (Woodland K), Candidate Significant Amphibian Woodland Breeding Habitat (AWO-06), and Generalized Candidate Significant Wildlife Habitat (Bat Maternity Colony, Mature Forest Stand, and Habitat for Species of Conservation Concern). New potential environmental effects associated with collection line installation under these features:
			  • Potential for unplanned intrusion into Significant Woodland Feature K in event of equipment malfunction due to installation of collection line via horizontal directional drilling; and
			  • Potential for unplanned intrusion into Significant Amphibian Woodland Breeding Habitat (AWO-06) and Generalized Candidate Significant Wildlife Habitat in natural area 487 in the event of equipment malfunction due to installation of collection line via horizontal directional drilling.
				Natural Heritage:
				• For Significant Woodland K, Amphibian Woodland Breeding Habitat AWO-06 (if determined to be significant) and Generalized Candidate Significant Wildlife Habitat in natural area 487, additional mitigation measures included in the EIS that are the same as described in the approved NHA for collection line installation via directional drilling beneath other Significant Woodlands (Section 5.5) and Generalized Candidate Significant Wildlife Habitat (Section 5.3.2.1).
				•

			Water Bodies:
			• Effects associated with new crossing of a water body include:
			  • Release of pressurized drilling fluids into watercourses from fractures in substrate (also known as 'frac-out').
			  • Change to groundwater flow patterns, which may affect groundwater discharge to watercourses.
			  • Increase in erosion and sedimentation from the entry and exit drill holes required for the directional drilling activities.
			  • Release / discharge of sediment laden runoff from the construction area.
			  • Soil/water contamination by oils, grease and other materials from accidental spills and release of contaminants from equipment.
				Water Bodies:
				• Correct maintenance of machinery.
				• Minimize vehicle traffic on exposed soils and sensitive slopes.
				• Locate facilities where contaminants are handled at least 30 m away from water bodies.
				• Develop and implement an erosion and sediment control plan.
				• Develop a spill response plan.
				• Control soil / water contamination through best management practices.
				• Conduct all drilling by licensed drillers in accordance with Ontario Water Resources Act, R.S.O. 1990.
				• Locate drill entry and exit pits at least 30 m from water bodies.
				• Collect drill cuttings as they are generated, and place in a soil bin or bag for off-site disposal.
				• Ensure drill depth is at an appropriate depth below the water body to reduce the risk of a 'frac-out'.
				• Monitor water bodies for signs of surface disturbance.
				• Develop a 'frac-out' contingency plan.

F	**F1:** Relocation of transmission line from municipal right-of-way onto private property	Landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way.	None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage.	N/A

	F2:
	Relocation of transmission line from municipal right-of-way onto private property
		Landowner has agreed to participate in project.
		
		Avoid conflicts with existing infrastructure in the right-of-way.
			Natural Heritage:
			• Transmission line is proposed within natural area 514 (vegetation removal required). New site investigation and evaluation of significance studies completed; feature confirmed to be a Significant Woodland (Woodland AJ) and treated as a Significant Bat Maternity Colony (BMC-15) with commitment to complete pre-construction evaluation of significance studies. New potential effects associated with tree removal in these features include:
			  • Loss of up to 0.1 ha of forest cover in Significant Woodland Feature AJ;
			  • Clearing of vegetation for maintenance of the transmission line, resulting in accidental damage to Significant Woodland AJ;
			  • Displacement and/or mortality of nursing female and juvenile bats resulting from vegetation clearing for transmission line construction within Bat Maternity Colony BMC-15;
			  • Removal of confirmed significant cavity trees or other suitable cavity trees resulting from vegetation clearing for the transmission line within Bat Maternity Colony BMC-15; and
			  • Noise disturbance to and/or avoidance behaviour of bats during construction within Bat Maternity Colony BMC-15.
				Natural Heritage:
				• Establish an area of forest equal in area to the cleared area through tree planting and management (e.g., in partnership with a local Conservation Authority). Details of the afforestation plan will be provided to MNR in a Compensation Plan.
				• Perform vegetation clearing for construction outside of the breeding bird season and bat maternal period (May 1 to July 31). If this is not possible, MNR will be consulted regarding mitigation measures that may be required.
				• Clearly stake area to be cleared.
				• Fell trees with a chainsaw toward the construction area to reduce damage to adjacent vegetation being retained.
				• Damaged tree roots will be cut clean as soon as possible and exposed roots covered in approved topsoil. This work to be carried out under supervision of an Arborist or Forester.
				• Prepare a tree preservation plan which identifies specific trees to be removed and whether each tree contains a cavity suitable for potential use as a bat maternity colony.
				• For each suitable cavity tree to be removed, a bat house will be installed in the closest suitable woodland habitat (the remainder of the woodland for the affected habitat). Details will be determined through consultation with MNR.
				• Tree removal will occur during daylight hours.
				• Schedule vegetation clearing for operational maintenance to occur outside of the breeding bird season (May 1 to July 31). Undertake active nest surveys if vegetation removal must take place during this period.

	F3: Relocation of transmission line from municipal right-of-way onto private property	Landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way.	None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage.	N/A

Table 2-1 Summary of Project Modifications

Label on Figure 2-1	Proposed Modification	Rationale for Proposed Modification	New Potential Environmental Effects	New Mitigation Measures
G	**G1:** Relocation of transmission line from municipal right-of-way onto private property	Landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way.	None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage.	N/A
	G2: Relocation of transmission line from municipal right-of-way onto private property	Landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way.	Water Bodies: • No effects provided that transmission poles are set back 10-15 m from top of bank.	N/A
	G3: Relocation of transmission line from municipal right-of-way onto private property	Landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way.	None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage.	N/A
H	Relocation of transmission line from municipal right-of-way onto private property	Landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way.	None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage.	N/A
I	**I1:** Relocation of transmission line from municipal right-of-way onto private property	Landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way.	Natural Heritage: • None – no new natural heritage features within 120 m. Water Bodies: • No effects provided that transmission poles are set back 10-15 m from top of bank.	N/A

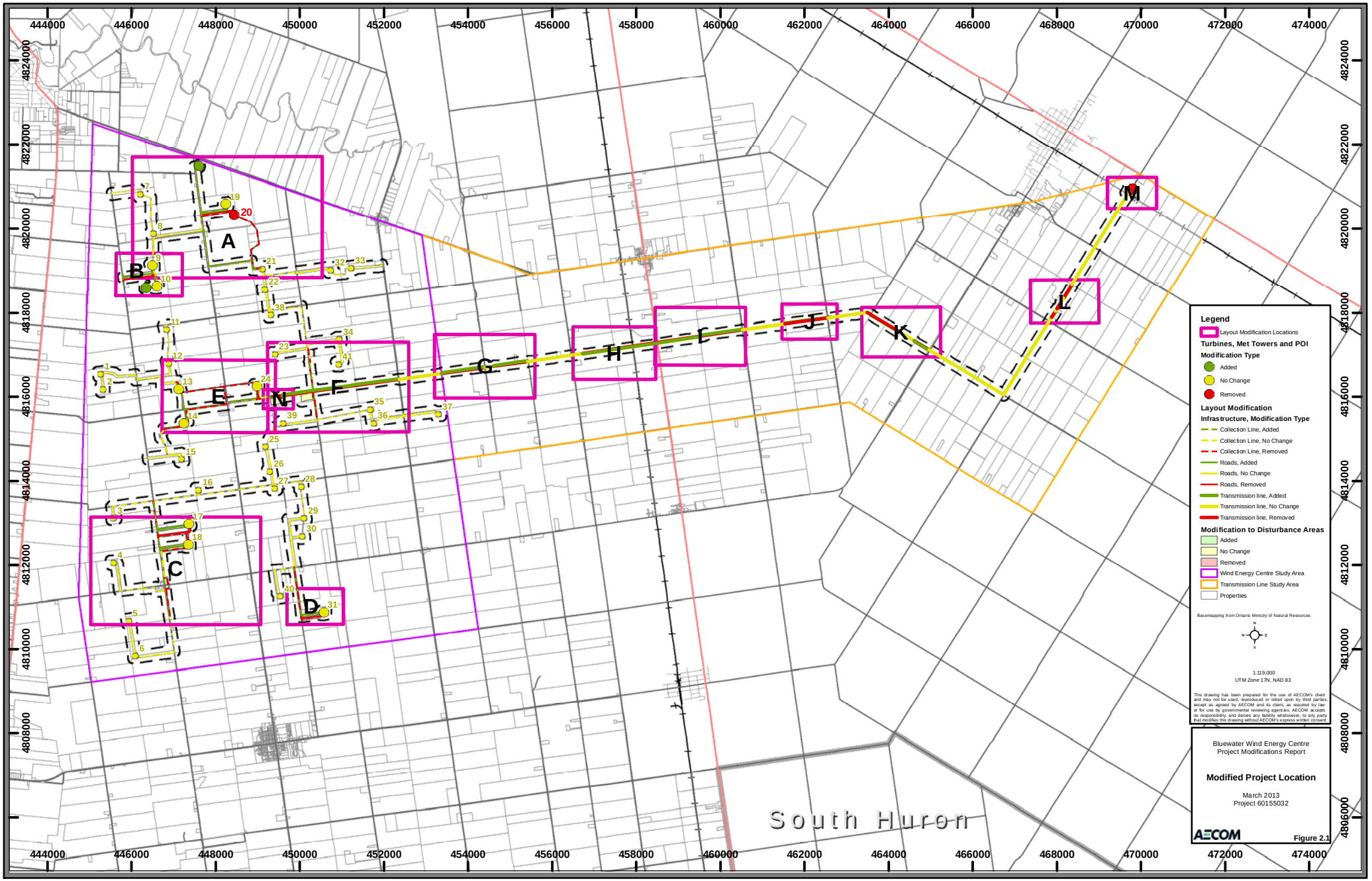
	I2:
	Relocation of transmission line from municipal right-of-way onto private property
		Landowner has agreed to participate in project.
		
		Avoid conflicts with existing infrastructure in the right-of-way.
			Natural Heritage:
			• Transmission line is proposed within natural area 551 (vegetation removal required). New site investigation and evaluation of significance studies completed; feature confirmed to be a Significant Woodland (Woodland AO) and Habitat for Bird Species of Conservation Concern (Red-Headed Woodpecker) (SCB-02). New potential effects associated with tree removal in these features include:
			  • Loss of up to 0.2 ha of forest cover in Significant Woodland Feature AO;
			  • Clearing of vegetation for maintenance of the transmission line, resulting in accidental damage to Significant Woodland AO;
			  • Removal of vegetation (up to 0.1 ha) within significant feature resulting in habitat damage from clearing for transmission line in Red-headed Woodpecker Habitat Feature SCB-02;
			  • Red-Headed Woodpecker Breeding Habitat Feature (SCB-02) may be disturbed by routine maintenance of the transmission line corridor; and
			  • Noise disturbance to breeding Red-headed Woodpeckers during transmission line construction within Red-headed Woodpecker Habitat Feature SCB-02.
			Water Bodies:
			• No effects provided that transmission poles are set back 10-15 m from top of bank.
				Natural Heritage:
				• Establish an area of forest equal in area to the cleared area through tree planting and management (e.g., in partnership with a local Conservation Authority). Details of the afforestation plan will be provided to MNR in a Compensation Plan.
				• Perform vegetation clearing for construction outside of the breeding bird season (May 1 to July 31). If this is not possible:
				  • maintain a 20 m buffer around any active Red-headed Woodpecker nest within which no vegetation removal will occur; and
				  • MNR will be consulted regarding mitigation measures that may be required.
				• Clearly stake area to be cleared.
				• Fell trees with a chainsaw toward the construction area to reduce damage to adjacent vegetation being retained.
				• Damaged tree roots will be cut clean as soon as possible and exposed roots covered in approved topsoil. This work to be carried out under supervision of an Arborist or Forester.
				• Minimize the area of tree removal within the natural area to the extent possible.
				• Remove trees by hand-held equipment and drag them out of the natural area to minimize soil disturbance. If possible, leave some woody debris to decompose naturally.
				• Any vehicles used within the natural area will have wide-based tires. Tracked vehicles will be avoided.
				• Schedule vegetation clearing for operational maintenance to occur outside of the breeding bird season (May 1 to July 31). If vegetation clearing takes place during this timing window, nest searches will be conducted by qualified Biologist.

J	**J1:**
	Relocation of transmission line from municipal right-of-way onto private property
		Landowner has agreed to participate in project.
		
		Avoid conflicts with existing infrastructure in the right-of-way.
			Natural Heritage:
			• Transmission line is proposed within natural area 555. New site investigation and evaluation of significance studies completed; feature confirmed to be a Significant Woodland (Woodland AP). New potential effects associated with tree removal in this feature include:
			  • Loss of up to 0.2 ha of forest cover in Significant Woodland Feature AP; and
			  • Clearing of vegetation for maintenance of the transmission line, resulting in accidental damage to Significant Woodland AP.
			Cultural Heritage:
			• Location 29 documented.
				Natural Heritage:
				• Establish an area of forest equal in area to the cleared area through tree planting and management (e.g., in partnership with a local Conservation Authority). Details of the afforestation plan will be provided to MNR in a Compensation Plan.
				• Perform vegetation clearing for construction outside of the breeding bird season (May 1 to July 31). If this is not possible, MNR will be consulted regarding mitigation measures that may be required.
				• Clearly stake area to be cleared.
				• Fell trees with a chainsaw toward the construction area to reduce damage to adjacent vegetation being retained.
				• Damaged tree roots will be cut clean as soon as possible and exposed roots covered in approved topsoil. This work to be carried out under supervision of an Arborist or Forester.
				• Schedule vegetation clearing for operational maintenance to occur outside of the breeding bird season (May 1 to July 31). Undertake active nest surveys if vegetation removal must take place during this period.
				Cultural Heritage:
				• Stage 3 assessment of Location 29.

	J2: Relocation of transmission line from municipal right-of-way to follow unopened municipal right-of-way	Avoid conflicts with existing infrastructure in the right-of-way.	Natural Heritage: • Transmission line is proposed within natural area 582. New site investigation and evaluation of significance studies completed; not a significant feature. Water Bodies: • No effects provided that transmission poles are set back 10-15 m from top of bank.	Natural Heritage: • N/A

Table 2-1 Summary of Project Modifications

Label on Figure 2-1	Proposed Modification	Rationale for Proposed Modification	New Potential Environmental Effects	New Mitigation Measures
K	**K1:** Relocation of transmission line from municipal right-of-way onto private property	Landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way.	None – no new natural heritage or water body features within 120 m. Area subsequently studied for cultural heritage – no new resources affected.	N/A
	K2: Relocation of transmission line from municipal right-of-way onto private property	Landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way.	Water Bodies: • No effects provided that transmission poles are set back 10-15 m from top of bank.	N/A
	K3: Relocation of transmission line from municipal right-of-way onto private property	Landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way.	None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage.	N/A
L	Relocation of transmission line from municipal right-of-way onto private property	Landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way.	Water Bodies: • No effects provided that transmission poles are set back 10-15 m from top of bank.	N/A
M	Relocation of Point of Interconnect (POI) from Seaforth substation property to private property	Land owner agreed to participate in the project Avoid conflicts with existing infrastructure.	None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage.	N/A
N	Relocation of substation within the same property parcel	Original location was in a floodplain.	None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage.	N/A


444000
446000
448000
450000
452000
454000
456000
458000
460000
462000
464000
466000
468000
470000
472000
474000
4824000
4822000
4820000
4818000
4816000
4814000
4812000
4810000
4808000
4806000
A
B
C
D
E
F
G
H
I
J
K
L
M
N
South Huron
Legend
Layout Modification Locations
Turbines, Met Towers and POI
Modification Type
Added
No Change
Removed
Layout Modification
Infrastructure, Modification Type
Collection Line, Added
Collection Line, No Change
Collection Line, Removed
Roads, Added
Roads, No Change
Roads, Removed
Transmission line, Added
Transmission line, No Change
Transmission line, Removed
Modification to Disturbance Areas
Added
No Change
Removed
Wind Energy Centre Study Area
Transmission Line Study Area
Properties
Basemapping from Ontario Ministry of Natural Resources
1:119,000
UTM Zone 17N, NAD 83
This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM's express written consent.
Bluewater Wind Energy Centre
Project Modifications Report
Modified Project Location
March 2013
Project 60155032
AECOM
Figure 2.1

3. Edits to the Design and Operations Report

Table 3-1 documents the edits to the Design and Operations Report resulting from the modifications described above.

Section / Page	Original Text	Revised Text
Section 1/ page 1	The Project will be referred to as the Bluewater Wind Energy Centre (the "Project") and will be located on private lands east of Highway 21 in the vicinity of the shoreline of Lake Huron. The wind turbine technology proposed for the Project is the 1.6 MW GE model wind turbine. Although NextEra is seeking a Renewable Energy Approval (REA) for 41 wind turbines, up to 37 turbines are proposed to be constructed for the Project.	The Project will be referred to as the Bluewater Wind Energy Centre (the "Project") and will be located primarily on private lands east of Highway 21 in the vicinity of the shoreline of Lake Huron. The wind turbine technology proposed for the Project is the 1.6 MW GE model wind turbine. Although NextEra is seeking a Renewable Energy Approval (REA) for ~~41~~ 40 wind turbines, up to 37 turbines are proposed to be constructed for the Project.
Section 1.2/page 1	Project Proponent Nicole Geneau Project Director NextEra Energy Canada, ULC 5500 North Service Road, Suite 205 Burlington, Ontario L7L 6W6 Phone: 1-887-257-7330	Project Proponent Nicole Geneau, Project Director NextEra Energy Canada, ULC ~~5500 North Service Road, Suite 205~~ ~~Burlington, Ontario L7L 6W6~~ ~~Phone: 1-887-257-7330~~ 390 Bay Street, Suite 1720, Toronto, ON M5H 2Y2 Phone: 1-416-364-9714
Section 2/page 6	Up to 41 1.6 MW GE model wind turbine generator locations and pad mounted step-up transformers are proposed for permitting (a maximum of 37 turbines will ultimately be constructed); Approximately 52 km of 34.5 kV underground electrical collection lines to connect the turbines to the proposed transformer substation Approximately 24 km of 115 kV transmission line proposed along Centennial Road and Hensall Road from the proposed transformer substation to the existing Hydro One Seaforth Transformer Station; Approximately 40 km of turbine access roads;	Up to ~~41~~ 40 1.6 MW GE model wind turbine generator locations and pad mounted step-up transformers are proposed for permitting (a maximum of 37 turbines will ultimately be constructed); Approximately 53 ~~52~~ km of 34.5 kV underground electrical collection lines to connect the turbines to the proposed transformer substation Approximately 24 km of 115 kV transmission line proposed along Centennial Road and Hensall Road from the proposed transformer substation to the breaker switch station at the Point of Interconnect (POI) with the existing Hydro One Seaforth Transformer Station; Approximately ~~40~~ 37 km of turbine access roads; Permanent meteorological towers.
Section 2/page 6	Figure 2-1: shows the locations of Project components including: wind turbines, access roads, the electrical collection system, 115 kV transmission line, the operations and maintenance building, the proposed transformer substation, Hydro One Seaforth Transformer Station and temporary laydown/storage areas.	Figure 2-1: shows the locations of Project components including: wind turbines, access roads, the electrical collection system, 115 kV transmission line, the operations and maintenance building, the proposed transformer substation and breaker switch station, Hydro One Seaforth Transformer Station and temporary laydown/storage areas.
Section 3.1/page 11	With a total nameplate capacity of 60 MW, the Project is categorized as a Class 4 facility. Although NextEra is seeking an REA for 41 wind turbines, up to 37 are proposed to be constructed for the Project.	With a total nameplate capacity of up to 60 MW, the Project is categorized as a Class 4 facility. Although NextEra is seeking an REA for ~~41~~ 40 wind turbines, up to 37 are proposed to be constructed for the Project.
Table 3-1/page 10	**Maximum Rotational Speed** 16.2 rpm	**Maximum Rotational Speed** 15.33 rpm
Section 3.4/page 11	The 115 kV electrical transmission line that will be built from the transformer substation to the connection point at the Hydro One Seaforth Transformer Station is proposed to be located within the existing road right-of-ways along Centennial Road and Hensall Road in the Municipalities of Bluewater and Huron East. The interconnection plan for any wind energy centre is subject to study, design and engineering by the Integrated Electricity System Operator which manages the province's electricity grid, Hydro One which owns the transmission lines, the local distribution company and the Ontario Energy Board, which regulates the industry through the Transmission System Code and the Distribution System Code.	The 115 kV electrical transmission line that will be built from the transformer substation to the connection point at the Hydro One Seaforth Transformer Station is proposed to be located within the existing road right-of-ways along Centennial Road and Hensall Road in the Municipalities of Bluewater and Huron East or on private property adjacent to the right-of-ways. The interconnection plan for any wind energy centre is subject to study, design and engineering by the ~~Integrated~~ Independent Electricity System Operator which manages the province's electricity grid, Hydro One which owns the transmission lines, the local distribution company and the Ontario Energy Board, which regulates the industry through the Transmission System Code and the Distribution System Code.
Section 3.5/ page 12	3.5 Transformer Substation	3.5 Transformer Substation and Breaker Switch Station The breaker switch station will occupy less than 0.4 hectares (1 acre) of land and is the connection point with the existing Seaforth Transformer Station.
Section 3.5/page 12	An operations building, approximately 30 m by 15 m in size, will be constructed on privately held lands or an existing suitable structure will be purchased/leased for the purpose of monitoring the day-to-day operations of the wind energy centre and supporting maintenance efforts.	An operations building, approximately 30 m by 15 m in size, will be constructed on privately held lands (i.e., on the same parcel as the substation) or an existing suitable structure will be purchased/leased for the purpose of monitoring the day-to-day operations of the wind energy centre and supporting maintenance efforts.
Section 6.1/page 18	n/a	A second phase of the Stage 2 archaeological assessment was conducted between April and September 2012 and incorporated studies on approximately 400 hectares of land in the transmission line corridor and wind energy centre study areas. The study resulted in the identification of 10 archaeological sites, including 3 pre contact Aboriginal and seven historic Euro-Canadian sites. Stage 3 archaeological assessments were recommended to further evaluate the cultural heritage value or interest of all the Euro-Canadian sites identified through the second phase of the Stage 2 archaeological assessment, while none of the pre-contact Aboriginal sites were recommended for further study. The additional Stage 2 archaeological assessment was submitted to the MTCS for sign-off on October 19, 2012.
Section 6.1/page 19	A Cultural Heritage Assessment was also completed to address built heritage and cultural heritage landscape resources related to the Euro-Canadian land use in the area dating prior to 1970. All work was carried out in accordance with the Ontario Heritage Act, the Provincial Policy Statement, and the Environmental Assessment Act. The report identified 76 structures (45 houses and 31 barns) as greater than 40 years old within the Project Study Area and as having general historical interest as they contribute to the character of the vernacular rural landscape. When applying the criteria set out in Ontario Regulation 9/06, none of these structures were determined to have cultural heritage value or interest. This report was submitted to the MTCS for review and comment. Sign-off from the Ministry confirming that the report is satisfactory was received on March 22, 2012.	A Cultural Heritage Assessment was also completed to address built heritage and cultural heritage landscape resources related to the Euro-Canadian land use in the area dating prior to 1970. All work was carried out in accordance with the Ontario Heritage Act, the Provincial Policy Statement, and the Environmental Assessment Act. The report identified ~~76~~78 structures (45 houses and ~~31~~33 barns) as greater than 40 years old within the Project Study Area and as having general historical interest as they contribute to the character of the vernacular rural landscape. When applying the criteria set out in Ontario Regulation 9/06, none of these structures were determined to have cultural heritage value or interest. This report was submitted to the MTCS for review and comment. Sign-off from the Ministry confirming that the report is satisfactory was received on March 22, 2012.
Table 6-1/ page 18	The following ten wetland units or wetland complexes were treated as significant and carried forward to the EIS: WET-01, WET-03, WET-04, WET-05, WET-06 WET-07, WET-08, WET-10, WET-12 and WET-13. The following 32 woodlands were determined to be significant or treated as significant and therefore carried forward to the EIS: D, E, F, G, H, K, L, M, N, O, P, Q, R, S, T, U, V, X, Y, AA, AE, AF, AH, AJ, AK, AL, AM, AO, AP, AQ, AR and AS. Features evaluated and determined to be significant:	The following nine ~~ten~~ wetland units or wetland complexes were treated as significant and carried forward to the EIS: WET-01, WET-03, WET-04, WET-05, ~~WET-06~~ WET-07, WET-08, WET-10, WET-12 and WET-13. The following 31 ~~32~~ woodlands were determined to be significant or treated as significant and therefore carried forward to the EIS: D, E, F, G, H, K, L, M, N, O, P, Q, R, S, T, U, ~~V,~~ X, Y, AA, AE, AF, AH, AJ, AK, AL, AM, AO, AP, AQ, AR and AS. Features evaluated and determined to be significant:

Section / Page	Original Text	Revised Text
	• Bat maternity colonies (BMC-01, BMC-07, BMC-08 and BMC-13); • Amphibian woodland breeding habitat (AWO-11); and • Rare vegetation communities (RVC-01) Features treated as significant for the purpose of this submission (a determination as to whether the mitigation measures described in the EIS will be applied will be made based on the outcome of evaluation of significance studies to be completed prior to construction): • Reptile hibernacula (RH-01 and RH-02); • Bat maternity colonies (BMC-02, BMC-03, BMC-10, BMC-12, and BMC-14; • Amphibian woodland breeding habitat (AWO-03, AWO-04, AWO-05, AWO-06 and AWO-08; and • Amphibian wetland breeding habitat (AWE-01). The following candidate significant wildlife habitats were identified within the 120 m Area of Investigation however not within 120 m of qualifying project infrastructure, and were therefore carried forward to the EIS as *Generalized Candidate Significant Wildlife Habitat*: • Waterfowl nesting areas (Natural Area 537); • Reptile hibernacula (Natural Area 541); • Bat maternity roosts (Natural Areas 426, 439, 456, 475, 487, 488, 494, 512, 514, 520, 539,537 545, 551, 552, 555, 556 and 561); • Amphibian woodland breeding habitat (Natural Areas 450, 463, 483, 510, 534, 537 and 541); • Amphibian wetland breeding habitat (Natural Areas 494, 564 and 565); • Old growth and mature forest stands (Natural Areas 456, 483, 487, 510, 514, 537, 541 and 542); • Woodland raptor nesting habitat (Woodland Unit N); • Seeps and springs (Natural Areas 437, 439, 463, 510, 518, 532, 534, 537 and 539); • Marsh bird breeding habitat (Natural Area 495); and • Habitats of species of conservation concern (numerous).	• Bat maternity colonies (BMC-01, BMC-07, BMC-08 and BMC-13); • Amphibian woodland breeding habitat (AWO-11); ~~and~~ • Rare vegetation communities (RVC-01); <u>and</u> • <u>Habitat for Birds of Species Conservation Concern (Red-headed Woodpecker) (SCB-02).</u> Features treated as significant for the purpose of this submission (a determination as to whether the mitigation measures described in the EIS will be applied will be made based on the outcome of evaluation of significance studies to be completed prior to construction): • Reptile hibernacula (RH-01 and RH-02); • Bat maternity colonies (BMC-02, BMC-03, BMC-10, BMC-12, ~~and~~ BMC-14<u>, and BMC-15</u>); • Amphibian woodland breeding habitat (AWO-03, AWO-04, AWO-05, AWO-06 ~~and~~ AWO-08 <u>and AWO-12</u>); and • Amphibian wetland breeding habitat (AWE-01). The following candidate significant wildlife habitats were identified within the 120 m Area of Investigation however not within 120 m of qualifying project infrastructure, and were therefore carried forward to the EIS as *Generalized Candidate Significant Wildlife Habitat*: • ~~Waterfowl nesting areas (Natural Area 537);~~ • Reptile hibernacula (Natural Area 541); • Bat maternity roosts (Natural Areas 426, 439, 456, 475, 487, 488, 494, 512, 514, 520, ~~537~~ 539, 545, 551, 552, 555, 556 and 561); • Amphibian woodland breeding habitat (Natural Areas ~~450~~, 463, 483, 510, 534, ~~537~~ and 541); • Amphibian wetland breeding habitat (Natural Areas 494, 564 and 565); • Old growth and mature forest stands (Natural Areas 456, 483, 487, 510, 514, ~~537~~, 541 and 542); • Woodland raptor nesting habitat (Woodland Unit N); • Seeps and springs (Natural Areas 437, 439, 463, 510, 518, 532, 534, ~~537~~ and 539); • Marsh bird breeding habitat (Natural Area 495); and • Habitats of species of conservation concern (numerous).
Section 6.2.1/ page 19	n/a •No anticipated operational effects to amphibian woodland breeding habitat (Features AWO-03, AWO-04, AWO-05, AWO-06, AWO-08, AWO-11) although potential exists for amphibian mortality due to vehicular collisions along nearby access roads during operations;	<u>•Absence of confirmed significant cavity trees or other suitable, but not studied, cavity trees removed during construction of the transmission line within Bat Maternity Colony Features BMC-15;</u> <u>•Red-Headed Woodpecker Breeding Habitat Feature (SCB-02) may be disturbed by routine maintenance of the transmission line corridor;</u> <u>•Absence of vegetation within Red-Headed Woodpecker Breeding Habitat Feature (SCB-02) resulting from clearing for the transmission line;</u> <u>•Loss of forest cover (up to 0.5 ha) through vegetation clearing in Significant Woodlands (AJ, AO and AP due to transmission line establishment;</u> <u>•Clearing of vegetation for maintenance of the transmission line, resulting in accidental damage to Significant Woodlands (AJ, AO and AP);</u> •No anticipated operational effects to amphibian woodland breeding habitat (Features AWO-03, AWO-04, AWO-05, AWO-06, AWO-08, AWO-11 <u>and AWO-12</u>) although potential exists for amphibian mortality due to vehicular collisions along nearby access roads during operations; <u>and</u>
Table 6-2/page 21	n/a	**Potential Effect** <u>Absence of confirmed significant cavity trees or other suitable, but not studied, cavity trees removed during construction of an access road within Bat Maternity Colony (BMC-15).</u> **Performance Objective** <u>•Protection of bat roosting habitat.</u> **Mitigation Strategy** <u>•For each suitable cavity tree to be removed, a bat house will be installed in the closest suitable woodland habitat (the remainder of the woodland for the affected habitat).</u> <u>•Details of bat box construction and placement will be provided to MNR for approval prior to installation.</u> <u>•If a significant maternity colony must be removed, timing, location, and bat house design will be of utmost importance for the colony to successfully re-establish, and will be discussed with the MNR.</u> **Residual Effects** <u>•Significance of residual effects will be determined based on the results of post-construction monitoring.</u> **Monitoring Plan and Contingency Measures** <u>•Conduct 3 years of post-construction visual monitoring of any bat boxes installed by a qualified Biologist, to determine the success of the implemented mitigation measures.</u> <u>•Conduct 3 years of post-construction monitoring of all remaining cavity trees within BMC-15 (if determined to be significant) following pre-construction survey methods, as described in July 2011 version of Bats and Bat Habitats: Guidelines for Wind Power Projects by a qualified Biologist, including:</u> <u>•Conduct monitoring of roost trees through exit surveys through June.</u> <u>•Conduct active visual and acoustic monitoring at the cavity opening or crevice from 30 minutes before dusk until 60 minutes after dusk in June.</u> <u>•Contingency Measures:</u> <u>•If significant declines or disappearance of species is detected, determine whether likely to have been caused by the project. If so, corrective measures will be taken, to be determined through consultation with MNR.</u>

Section / Page	Original Text	Revised Text
Table 6-2/page 22	n/a	**Potential Effects** Risk of amphibian mortality on access roads. **Mitigation Strategy** • Advise operations staff to go slowly while driving roads in proximity to these features at nights between April 1 and June 30 and any rainy nights from spring to early autumn, where possible. • Maintain wildlife crossing signs and limit speed of vehicles near crossings. **Residual Effects** • Risk of amphibian mortality reduced through mitigation measures. • Low likelihood of occurring and limited magnitude due to limited volume of maintenance vehicles. **Monitoring Plan and Contingency Measures** • Conduct 3 years post-construction amphibian call surveys (frogs and toads) and egg mass or adult surveys (salamanders) to assess any potential changes in amphibian breeding populations or species distribution.
Table 6-2/page 23	n/a	**Potential Effect** Red-Headed Woodpecker Breeding Habitat (SCB-02) may be disturbed by routine maintenance of the transmission line corridor. **Performance Objective** •No displacement of breeding Red-Headed Woodpeckers from habitat. •No destruction of nesting habitat. **Mitigation Strategy** •Perform maintenance operations such as vegetation clearing outside the breeding season of May 1 to July 31. If vegetation clearing takes place during this timing window, nest searches will be conducted by qualified Biologist. **Residual Effects** •If routine maintenance operations such as vegetation trimming and clearing are conducted outside the breeding season of May 1 to July 31 there will be minimal residual effects from maintenance of the transmission line. •Nesting in utility poles has been recorded for Red-Headed Woodpecker, thus there is a possibility that the poles could provide future nesting habitat. **Monitoring Plan and Contingency Measures** •If vegetation removal occurs during the breeding season, it will be supervised of by a qualified Biologist to ensure no destruction of nesting habitat. •No additional monitoring or contingency measures required if timing window is applied.
Table 6-2/page 23	n/a	**Potential Effect** Absence of vegetation within Red-Headed Woodpecker Breeding Habitat (SCB-02) removed during construction of the transmission line. **Performance Objective** •No displacement of breeding Red-headed Woodpeckers from habitat. •No destruction of nesting habitat. **Mitigation Strategy** •Vegetation clearing will take place outside the breeding season of May 1 to July 31. •If vegetation clearing takes place during this timing window, nest searches will be conducted by qualified Biologist. **Residual Effects** •Some permanent vegetation removal within the woodland containing the Red-Headed Woodpecker nesting site will occur. •Significance of residual effects will be determined based on the results of post-construction monitoring. **Monitoring Plan and Contingency Measures** •Conduct 3 years of post-construction monitoring for Feature SCB-02, according to protocol described for pre-construction surveys following the Forest Bird Monitoring Protocol including: •Point counts within the woodlot on three separate visits during the period of May 15 – July 10. •Examine utility poles for signs of nesting by Red-Headed Woodpecker. •The findings of post-construction monitoring will be reported back to MNR on an annual basis for the first 3 years of operation. Contingency Measures •If significant declines or disappearance of species is detected, determine whether likely to have been caused by the project. If so, corrective measures will be taken, to be determined through consultation with MNR.

Section / Page	Original Text	Revised Text
Table 6-2/ page 24	n/a	**Potential Effect** Loss of forest cover (up to 0.5 ha) through vegetation clearing in Significant Woodlands due to transmission line establishment. **Performance Objective** •No loss of forest cover over time. **Mitigation Strategy** •Establish an area of forest equal in area to the cleared area (up to 0.5 ha; to be determine d through a post-construction site inspection) through tree planting and management (e.g., in partnership with a local Conservation Authority). Details of the afforestation plan will be provided to MNR in a Compensation Plan. **Residual Effects** •Clearing of vegetation will occur for the transmission line. •Loss of forest cover minimized through afforestation over time. •Limited residual effects. **Monitoring Plan and Contingency Measures** •Conduct post-planting inventory of planted are to determine success of establishment (may be undertaken by partner organization). Contingency Measures: •If plantation is not establishing for any number of reasons, conduct silvicultural intervention including, but not limited to: fill planting, cleaning, re-planting or thinning (may be undertaken by partner organization).
Table 6-2/page 24	n/a	**Potential Effect** Clearing of vegetation for maintenance of the transmission line, resulting in accidental damage to Significant Woodlands. **Performance Objective** •Minimize accidental damage to significant woodlands. **Mitigation Strategy** •Perform vegetation clearing outside of the breeding bird season (May 1st to July 31st). Undertake active nest surveys if vegetation removal must take place during this period. •Clearly stake area to be cleared. **Residual Effects** •Minimal effects to significant woodlands during maintenance. **Monitoring Plan and Contingency Measures** •Removal of tree limbs on adjacent trees being retained will be carried out under supervision of an Arborist or Forester.
Table 6-5/ page 29	Install a 5 m high noise barrier around the transformer substation to comply with MOE noise limits.	~~• Install a 5 m high noise barrier around the transformer substation to comply with MOE noise limits~~
Table 6-6/ page 31	• Minimize length of access roads where possible. • Compensate landowners on Project Location as per land lease agreement. • Limit road width during operations to 6m	• Minimize length of access roads where possible. • Compensate landowners on Project Location as per land lease agreement. • ~~Limit road width during operations to 6m~~
Appendix B	**(Transformer Substation UTM Co-ordinates)** **Easting** 449471 **Northing** 4815930	**(Transformer Substation UTM Co-ordinates)** **Easting** ~~449471~~449415 **Northing** ~~4815930~~4815904

4. Summary and Conclusions

The Project modifications described in this Addendum do not change the overall conclusion of the Design and Operations Report which states that “this Project can be operated without any significant adverse residual effects. Post-construction monitoring related to effects on wildlife, including birds and bats, will be undertaken to confirm this conclusion”.