

Jericho Wind, Inc.

Revision to the Design and Operations Report – Jericho Wind Energy Centre

Prepared by:

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Glossary of Terms

| | |
|------------------|---------------------------------------|
| EIS | Environmental Impact Study |
| MNR..... | Ontario Ministry of Natural Resources |
| NextEra | NextEra Energy Canada, ULC |
| NHA | Natural Heritage Assessment |
| The Project..... | Jericho Wind Energy Centre |
| REA..... | Renewable Energy Approval |

1. Introduction

Jericho Wind, Inc. (Jericho) is proposing to construct a wind energy project in the Municipality of Lambton Shores and the Township of Warwick, in Lambton County, Ontario and in the Municipality of North Middlesex, in Middlesex County, Ontario. The following sections of this Renewable Energy Approval (REA) Revision Report 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 Jericho, a wholly owned subsidiary of NextEra Energy Canada, ULC (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 |
|---|--|
| Ross D. Groffman Director, Development NextEra Energy Canada, ULC 390 Bay Street, Suite 1720 Toronto, Ontario, M5H 2Y2 <i>Phone:.....416.364.9714</i> <i>Email:Jericho.Wind@NextEraEnergy.com</i> <i>Website:www.NextEraEnergyCanada.com</i> | Marc Rose Senior Environmental Planner AECOM 300-300 Town Centre Blvd. Markham, Ontario L3R 5Z6 <i>Phone:905-477-8400 x388</i> <i>Email:.....marc.rose@aecom.com</i> |

1.2 Project Study Area

The proposed Project is located in the Municipality of Lambton Shores and the Township of Warwick, in Lambton County, Ontario and in the Municipality of North Middlesex, in Middlesex County, Ontario (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:

UTM Coordinates

| Easting | Northing |
|---------|----------|
| 420938 | 4761752 |
| 419681 | 4780912 |
| 456597 | 4777307 |
| 453312 | 4766484 |

2. Proposed Project Modifications

Jericho is proposing modifications to the Project. These proposed Project modifications are categorized as follows:

- Construction disturbance area modified to reduce or eliminate impacts to archaeological resources;
- New infrastructure or construction disturbance area added or changed to optimize project design/constructability;
- Turbine and associated infrastructure removed.

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 (please note that most of the mitigation measures were previously identified in the original REA submission, and that new mitigation measures are shown in ***italicized bold*** in the table).

Figure 2-1 illustrates the modified Project Location. **Appendix A** contains a series of figures showing the details for each of the modifications.

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 (Mitigation measures not included in the original REA are shown in <i>italicized bold</i>) |
|---------------------|--|--|--|---|
| A1 | Addition of Turbine 106 and associated access road and collection line, extending north east from Turbine 4. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | <p><u>Natural Heritage:</u></p> <ul style="list-style-type: none"> Access road is 24 m from a new Rare Vegetation Community Feature RVC-05 not previously described in the NHA. There are no potential effects to this feature associated with the access road during operation. Access road and collection line are within 120 m of new Generalized Candidate Significant Wildlife Habitat Feature (Insect Species of Conservation Concern Habitat, Plant Species of Conservation Concern Habitat, and Red-headed Woodpecker Habitat) in Natural Area 290, not previously described in the NHA. There are no potential effects on this feature associated with the access road and collection line during operation. <p><u>Water Bodies:</u></p> <ul style="list-style-type: none"> Effects associated with new crossing of a water body (Feature ID R4.16-D) include: <ul style="list-style-type: none"> Increase in impervious surfaces from presence of turbine foundation and access roads, resulting in increased water temperatures, increased surface runoff and stream peak flows, and reduced infiltration, base flows and upwelling. Soil/water contamination by oils, grease and other materials from accidental spills and release of contaminants from equipment. Obstruction of lateral flows in watercourses and other water bodies due to design of culverts and debris build-up at water crossings. | <p><u>Natural Heritage:</u></p> <ul style="list-style-type: none"> N/A <p><u>Water Bodies:</u></p> <ul style="list-style-type: none"> Regularly maintain vehicles and other equipment. 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. Design culverts to accommodate high flows of the watercourse. Inspect culverts during routine maintenance activities for buildup of debris. |
| A2 | Relocation of access road to Turbine 4 to travel north east from Jericho Road, and relocation of collection line to Turbine 4 near Kennedy Line. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| A3 | Relocation of access road and collection line to Turbine 6 to travel west from Northville Road and then north to Turbine 6; relocation of Turbine 6 construction disturbance area to the north. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| A4 | Relocation of Turbine 19 construction disturbance area 19 m to the southwest and addition of access road construction disturbance area near Jericho Road. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| A5 | Removal of access road and collection line to Turbine 24, addition of access road disturbance area between Turbine 22 and Turbine 24 and relocation of collection line to the access road disturbance area for Turbine 22. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| A6 | Removal of a portion of construction disturbance area for access road and collection line to Turbines 21, 23 and 25. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| A7 | Removal of Turbine 5 and associated access road and collection line. | Turbine and associated infrastructure removed. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| B1 | Relocation of Turbine 7 and associated construction disturbance area 148 m to the east. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| B2 | Addition of collection line in Gordon Road right-of-way, north of the road to Turbine 27. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | <p><u>Natural Heritage:</u></p> <ul style="list-style-type: none"> Collection line is within 120 m of new Generalized Candidate Significant Wildlife Habitat Feature (Plant Species of Conservation Concern Habitat and Red-headed Woodpecker Habitat) in Natural Area 233, not previously described in the NHA. There are no potential effects on this feature associated with the collection line during operation. | <p><u>Natural Heritage:</u></p> <ul style="list-style-type: none"> N/A |
| B3 | Removal of Turbine 31 and associated access road and collection line. | Turbine and associated infrastructure removed. | <p><u>Natural Heritage:</u></p> <ul style="list-style-type: none"> Amphibian Woodland Breeding Habitat Feature AWO-16 in Natural Area 250 was changed to Generalized Candidate Significant Wildlife Habitat because it is more than 120 m away from a proposed access road. There are no potential effects on this feature associated with operation of the project. | N/A |
| B4 | Addition of Turbine 32 construction disturbance area 34 m to the north and removal of the southeast portion of construction disturbance area. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | 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 (Mitigation measures not included in the original REA are shown in <i>italicized bold</i>) |
|---------------------|--|--|--|---|
| C1 | Relocation of Turbine 26 and associated construction disturbance area 101 m east. Access road relocated to travel north through the substation construction disturbance area and collection line relocated to the southern property boundary; and addition of construction disturbance area in Thompson Line right-of-way. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | <p><u>Water Bodies:</u></p> <ul style="list-style-type: none"> • Effects associated with new crossing of a water body (Feature ID R4.16-A) include: <ul style="list-style-type: none"> • Increase in impervious surfaces from presence of access road, resulting in increased water temperatures, increased surface runoff and stream peak flows, and reduced infiltration, base flows and upwelling. • Soil/water contamination by oils, grease and other materials from maintenance activities. <p><u>Natural Heritage:</u></p> <ul style="list-style-type: none"> • Generalized Candidate Significant Wildlife Habitat in Natural Area 173 was changed to Amphibian Woodland Breeding Habitat Feature AWO-22¹ because it is >0.1 m from a proposed access road. New potential effects on this feature associated with the access road during operation include: <ul style="list-style-type: none"> • Risk of road mortality to amphibians moving between breeding pools and home range. • Amphibian Woodland Breeding Habitat Feature AWO-20 in Natural Area 172 was changed to Generalized Candidate Significant Wildlife Habitat because it is more than 120 m away from a proposed access road. There are no potential effects on this feature associated with operation of the project. • Collection line is within 120 m of new Generalized Candidate Significant Wildlife Habitat Feature (Plant Species of Conservation Concern Habitat) in Natural Area 172, not previously described in the NHA. There are no potential effects on this feature associated with the collection line during operation. | <p><u>Water Bodies:</u></p> <ul style="list-style-type: none"> • 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. <p><u>Natural Heritage:</u></p> <ul style="list-style-type: none"> • For operation of the access road within >0.1 m of Amphibian Woodland Breeding Habitat Feature AWO-22: <ul style="list-style-type: none"> • Advise operations staff to avoid driving roads in proximity to this feature at night between April 1 and June 30, and any rainy nights from spring to early autumn, wherever possible. • Maintain wildlife crossing signs and limit speed of vehicles near crossings (30 km/hr). • 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 (if feature determined to be significant) by a qualified Biologist, using the protocol described in Section 4.3.2.1 of the NHA. • Report the findings of post-construction monitoring to MNR on an annual basis for the first 3 years of operation. • Contingency Measure: 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. |
| C2 | Relocation of access road to Turbine 18 31 m to the north. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| C3 | Addition of construction disturbance area for access road and collection line to Turbine 41. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| C4 | Addition of a spare 170 mVA transformer (XMR) to be stored within the existing footprint of the Jericho substation. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | No new potential environmental effects as the transformer will be used as a backup for the primary transformer. | N/A |
| D1 | Addition of construction disturbance area in the Northville Road right-of-way in two locations for collection line between Turbines 45 and 46. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| D2 | Removal of a portion of construction disturbance area for access road and collection line to Turbine 56. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| D3 | Relocation of Turbine 46 access road to travel north from Cedar Point Line and collection to travel east along the southern property boundary; and addition of construction disturbance area for collection line in the Northville Road right-of-way. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | <p><u>Water Bodies:</u></p> <ul style="list-style-type: none"> • Effects associated with water body present in 120 m buffer for access road and collection line (Feature ID R4E and R4D) include: <ul style="list-style-type: none"> • Increase in impervious surfaces from presence of access road, resulting in increased water temperatures, increased surface runoff and stream peak flows, and reduced infiltration, base flows and upwelling. | N/A |
| D4 | Addition of Turbine 112 and associated access road and collection line, extending south from Turbine 59. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | <p><u>Natural Heritage:</u></p> <ul style="list-style-type: none"> • Turbine construction disturbance area is within 120 m of a new Generalized Candidate Significant Wildlife Habitat Feature (Plant Species of Conservation Concern Habitat and Red-headed Woodpecker Habitat) in Natural Area 145, not previously described in the NHA. There are no potential effects on this feature associated with operation of the turbine. | N/A |
| D5 | Addition of construction disturbance area on private property to the north of Thompson Line to allow for installation of collection line and/or transmission line. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| D6 | Addition of transmission line construction disturbance area on private property to allow for transmission line installation either in the Thompson Line right-of-way or on private property, within the disturbance area proposed to host collection line. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |

1. Additional field studies are required to evaluate the significance of this feature. For the purposes of this submission, this feature has been treated as significant and potential effects, mitigation measures and monitoring commitments related to this feature are described. However, these will only be implemented if the feature is deemed to be significant based on the results of pre-construction surveys.

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 (Mitigation measures not included in the original REA are shown in <i>italicized bold</i>) |
|---------------------|---|--|---|--|
| D7 | Addition of collection line disturbance area on private property to allow for collection line installation either in the Thompson Line right-of-way or on private property, within the disturbance area proposed to host the transmission line. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| D8 | Addition of collection line disturbance area on private property to allow for collection line installation either in the Thompson Line right-of-way or on private property, within the disturbance area proposed to host the transmission line. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| D9 | Addition of collection line disturbance area on private property to allow for collection line installation either in the Thompson Line right-of-way or on private property, within the disturbance area proposed to host the transmission line. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| D10 | Relocation of transmission line construction disturbance area within natural areas located in the Thompson Line right-of-way. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | <u>Natural Heritage:</u> <ul style="list-style-type: none"> The transmission line is proposed in Significant Woodland Feature WOD-201. New potential effects on this feature associated with the transmission line during operation include: <ul style="list-style-type: none"> Risk of soil or water contamination from oil, gas, etc. during maintenance activities. | <u>Natural Heritage:</u> <ul style="list-style-type: none"> For operation of the transmission line within Significant Woodland Feature WOD-201: <ul style="list-style-type: none"> Develop and implement an emergency spills plan outlining steps to contain any spills during maintenance activities to avoid contamination of significant woodland. Contingency Measure: Report the details of the spill to MOE, including a description of any assessment and remediation undertaken. |
| E1 | Removal of Turbine 77 and associated access road and collection line / Removal and addition of portions of construction disturbance area for access road and collection line to Turbines 78, 79 and 107. | Turbine and associated infrastructure removed / Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| E2 | Addition of Turbine 107 and associated access road and collection line, extending south from Turbine 79. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| E3 | Relocation of Turbine 79 23 m to the east, within existing turbine construction disturbance area. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| E4 | Addition of construction disturbance area on private property to the north of Thompson Line to allow for installation of collection line and/or transmission line. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| E5 | Relocation of transmission line construction disturbance area within natural areas located in the Thompson Line road right-of-way. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| E6 | Relocation of transmission line construction disturbance area within natural areas located in the Thompson Line/Elginfield Road right-of-way. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | <u>Natural Heritage:</u> <ul style="list-style-type: none"> The transmission line is proposed in Significant Wetland Feature WET-050. New potential effects on this feature associated with the transmission line during operation include: <ul style="list-style-type: none"> Trimming of branches or selective tree removal during routine maintenance of the transmission line in Significant Wetland WET-050. | <u>Natural Heritage:</u> <ul style="list-style-type: none"> For operation of the transmission line in Significant Wetland Feature WET-050: <ul style="list-style-type: none"> Minimize vegetation removal in Significant Wetland, to the extent possible. Perform routine vegetation clearing outside of the breeding season for birds and amphibians (March 15 to July 31). If this is not possible, MNR will be consulted regarding mitigation measures that may be required. Remove trees or tree limbs by hand-held equipment within Significant Wetland to minimize soil compaction. Fell trees with a chainsaw away from the Significant Wetland to reduce damage to adjacent vegetation being retained. Carry out removal of tree limbs under supervision of an Arborist or Forester. Leave tree stumps and roots in place, to minimize disturbance to adjacent vegetation. Contingency Measure: Any damaged trees will be pruned through implementation of proper arboricultural techniques, under supervision of an Arborist or Forester. |
| F1 | Removal of a portion of construction disturbance area for access road and collection line to Turbine 43. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | 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 (Mitigation measures not included in the original REA are shown in <i>italicized bold</i>) |
|---------------------|---|--|--|---|
| F2 | Relocation of Turbine 44 access road 32 m to the west. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | <p><u>Natural Heritage:</u></p> <ul style="list-style-type: none"> Access road is 41 m from a new Significant Woodland Feature WOD-011, not previously described in the NHA. There are no potential effects to this feature associated with the access road during operation. Access road is within 120 m of new Generalized Candidate Significant Wildlife Habitat Feature (Plant Species of Conservation Concern Habitat) in Natural Area 117, not previously described in the NHA. There are no potential effects on this feature associated with the access road during operation. Access road is within 120 m of new Generalized Candidate Significant Wildlife Habitat Feature (Plant Species of Conservation Concern Habitat and Red-headed Woodpecker Habitat) in Natural Area 383, not previously described in the NHA. There are no potential effects on this feature associated with the access road during operation. | N/A |
| F3 | Relocation of Turbine 90 access road and collection line to the north, extending to Townsend Line and addition of collection line in the Townsend Line right-of-way. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | <p><u>Natural Heritage:</u></p> <ul style="list-style-type: none"> Access road is >0.1 m from a new Significant Woodland Feature WOD-097, not previously described in the NHA. New potential effects associated with the access road during operation include: <ul style="list-style-type: none"> Risk of soil or water contamination from oil, gas, etc. during maintenance activities. Access road is 5 m from a new Reptile Hibernaculum Feature RH-05², not previously described in the NHA. New potential effects associated with the access road during operation include: <ul style="list-style-type: none"> Possible mortality from vehicles using access road near RH-05. Access road is within 120 m of new Generalized Candidate Significant Wildlife Habitat Feature (Bat Maternity Colony, Plant Species of Conservation Concern Habitat, and Red-headed Woodpecker Habitat) in Natural Area 118, not previously described in the NHA. There are no potential effects on this feature associated with operation of the access road. Access road is within 120 m of new Generalized Candidate Significant Wildlife Habitat Feature (Bat Maternity Colony, Plant Species of Conservation Concern Habitat, and Red-headed Woodpecker Habitat) in Natural Area 119, not previously described in the NHA. There are no potential effects on this feature associated with operation of the access road. | <p><u>Natural Heritage:</u></p> <ul style="list-style-type: none"> For operation of the access road within >0.1 m of Significant Woodland Feature WOD-097: <ul style="list-style-type: none"> Develop and implement an emergency spills plan outlining steps to contain any spills during maintenance activities to avoid contamination of significant woodland. Contingency Measure: Report the details of the spill to MOE, including a description of any assessment and remediation undertaken. For operation of the access road within 5 m of Reptile Hibernaculum Feature RH-05: <ul style="list-style-type: none"> Advise operations staff to take extra care while driving access roads near feature RH-05. Erect long term drift fence between edge of habitat and road if hibernaculum determined to be large (>25 snakes). Conduct reptile hibernaculum surveys annually for 2 years post-construction to assess any potential changes in snake populations or species composition using protocol described for pre-construction survey (if features determined to be significant) by a qualified Biologist. Report the findings of the reptile hibernaculum monitoring program to MNR on an annual basis for the first 2 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. |
| F4 | Addition of Turbine 91 construction disturbance area 17 m to the west. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| F5 | Removal of a portion of construction disturbance area for access road and collection line to Turbine 92. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| F6 | Removal of a portion of construction disturbance area for access road and collection line to Turbines 96 and 97. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| G1 | Addition of Turbine 62 construction disturbance area to the west and addition of collection line disturbance area in two locations in the Northville Road right-of-way. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| G2 | Removal of the road and collection line to Turbine 63 and addition of road and collection line, extending west from Turbine 64 to Turbine 63. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | <p><u>Natural Heritage:</u></p> <ul style="list-style-type: none"> Access road and collection line are within 20 m of Significant Wetland Feature WET-063. New potential effects associated with the access road during operation include: <ul style="list-style-type: none"> Risk of soil or water contamination from oil, gas, etc. during maintenance activities. Access road is within 9 m of Amphibian Woodland Breeding Habitat Feature AWO-04. There are no new potential effects on this feature associated with the access road during operation. | <p><u>Natural Heritage:</u></p> <ul style="list-style-type: none"> For operation of the access road within 20 m of Significant Wetland Feature WET-063: <ul style="list-style-type: none"> Develop and implement an emergency spills plan outlining steps to contain any spills during maintenance activities to avoid contamination of significant wetland. Contingency Measure: Report the details of the spill to MOE, including a description of any assessment and remediation undertaken. For operation of the access road within 9 m of Amphibian Woodland Breeding Habitat Feature AWO-04: <ul style="list-style-type: none"> 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 (if feature determined to be significant) by a qualified Biologist, using the protocol described in Section 4.3.2.1 of the NHA. Report the findings of post-construction monitoring to MNR on an annual basis for the first 3 years of operation. |

2. Additional field studies are required to evaluate the significance of this feature. For the purposes of this submission, this feature has been treated as significant and potential effects, mitigation measures and monitoring commitments related to this feature are described. However, these will only be implemented if the feature is deemed to be significant based on the results of pre-construction surveys.

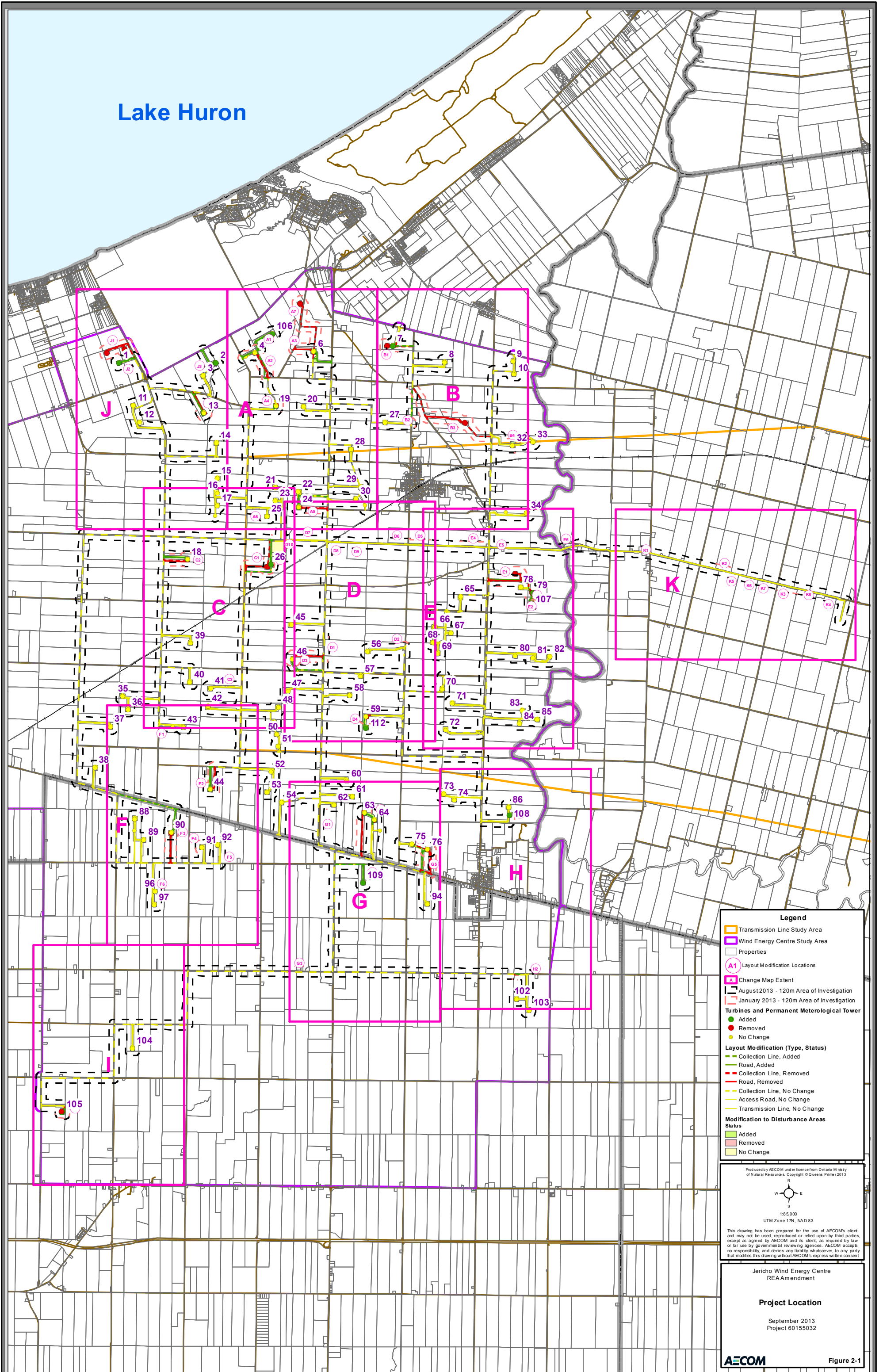
Table 2-1 Summary of Project Modifications

| Label on Figure 2-1 | Proposed Modification | Rationale for Proposed Modification | New Potential Environmental Effects | New Mitigation Measures (Mitigation measures not included in the original REA are shown in <i>italicized bold</i>) |
|---------------------|--|--|--|---|
| G3 | Removal of collection line construction disturbance area north of Birnam Line. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| G4 | Relocation of collection line between Turbines 76 and 75 20 m to the south. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| G5 | Relocation of Turbine 76 access road and collection line 134 m to the west. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| G6 | Addition of Turbine 109 and associated construction disturbance area, access road and collection line; addition of collection line in Hickory Creek Line right-of-way. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | <u>Water Bodies:</u> <ul style="list-style-type: none"> Effects associated with water body present within 120m buffer of turbine (Feature ID 9.29-F) include: <ul style="list-style-type: none"> Increase in impervious surfaces from presence of turbine foundation, resulting in increased water temperatures, increased surface runoff and stream peak flows, and reduced infiltration, base flows and upwelling. | N/A |
| H1 | Addition of Turbine 108 and associated construction disturbance area. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| H2 | Relocation of collection line from private property to Birnam Line right-of-way. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| I1 | Relocation of Turbine 105 20 m to the south and addition of construction disturbance area. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| J1 | Removal of Turbine 2 and associated access road and collection line. | Turbine and associated infrastructure removed | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| J2 | Relocation of Turbine 1 and associated construction disturbance area, access road and collection line. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | <u>Water Bodies:</u> <ul style="list-style-type: none"> Effects associated with water body present within 120 m buffer of turbine (Feature ID R5.8) include: <ul style="list-style-type: none"> Increase in impervious surfaces from presence of turbine foundation, resulting in increased water temperatures, increased surface runoff and stream peak flows, and reduced infiltration, base flows and upwelling. <u>Natural Heritage:</u> <ul style="list-style-type: none"> Turbine construction disturbance area is within 120 m of new Generalized Candidate Significant Wildlife Habitat Feature (Plant Species of Conservation Concern Habitat) in Natural Area 298, not previously described in the NHA. There are no potential effects on this feature associated with operation of the turbine. | N/A |
| J3 | Addition of Turbine 2 and associated construction disturbance area, access road and collection line. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | <u>Natural Heritage:</u> <ul style="list-style-type: none"> Turbine construction disturbance area is 30 m from a new Significant Woodland Feature WOD-265, not previously described in the NHA. New potential effects associated with the turbine during operation include: <ul style="list-style-type: none"> Risk of soil or water contamination from oil, gas, etc. during maintenance activities. Turbine construction disturbance area is within 120 m of new Generalized Candidate Significant Wildlife Habitat Feature (Plant Species of Conservation Concern Habitat, and Red-headed Woodpecker Habitat) in Natural Area 293, not previously described in the NHA. There are no potential effects on this feature associated with operation of the turbine. <u>Water Bodies:</u> <ul style="list-style-type: none"> Effects associated with new crossing of a water body (Feature ID R4-J) include: <ul style="list-style-type: none"> Increase in impervious surfaces from presence of turbine foundation and access roads, resulting in increased water temperatures, increased surface runoff and stream peak flows, and reduced infiltration, base flows and upwelling. | <u>Natural Heritage:</u> <ul style="list-style-type: none"> For operation of the turbine within 30 m of Significant Woodland Feature WOD-265: <ul style="list-style-type: none"> Develop and implement an emergency spills plan outlining steps to contain any spills during maintenance activities to avoid contamination of significant woodland. Contingency Measure: Report the details of the spill to MOE, including a description of any assessment and remediation undertaken. |
| J4 | Relocation of Turbine 13 construction disturbance area 14 m south west. | Construction disturbance area modified to reduce or eliminate impacts to archaeological resources. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| K1 | Relocation of transmission line construction disturbance area within natural areas located in the Elginfield Road right-of-way. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| K2 | Addition of transmission line of construction disturbance area on private property to the north of Elginfield Road, east of Pete Sebe Road. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | 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 (Mitigation measures not included in the original REA are shown in <i>italicized bold</i>) |
|----------------------------|--|--|---|---|
| K3 | Addition of transmission line construction disturbance area on private property to the south of Elginfield Road, east of Roddick Road. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| K4 | Addition of transmission line construction disturbance area on private property to the south of Elginfield Road, west of Kerwood Road. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| K5 | Relocation of transmission line construction disturbance area within natural areas located in the Elginfield Road right-of-way. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | <u>Natural Heritage:</u> <ul style="list-style-type: none"> The transmission line is proposed in Significant Woodland Feature WOD-181. New potential effects associated with transmission line operation in this feature include: <ul style="list-style-type: none"> Risk of soil or water contamination from oil, gas, etc. during maintenance activities. | <u>Natural Heritage:</u> <ul style="list-style-type: none"> For operation of the transmission line within Significant Woodland Feature WOD-181: <ul style="list-style-type: none"> Develop and implement an emergency spills plan outlining steps to contain any spills during maintenance activities to avoid contamination of significant woodland. Contingency Measure: Report the details of the spill to MOE, including a description of any assessment and remediation undertaken. |
| K6 | Relocation of transmission line construction disturbance area within natural areas located in the Elginfield Road right-of-way. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |
| K7 | Relocation of transmission line construction disturbance area within natural areas located in the Elginfield Road right-of-way. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | <u>Natural Heritage:</u> <ul style="list-style-type: none"> The transmission line is proposed in Significant Woodland Feature WOD-175. New potential effects associated with transmission line operation in this feature include: <ul style="list-style-type: none"> Risk of soil or water contamination from oil, gas, etc. during maintenance activities. | <u>Natural Heritage:</u> <ul style="list-style-type: none"> For operation of the transmission line within Significant Woodland Feature WOD-175: <ul style="list-style-type: none"> Develop and implement an emergency spills plan outlining steps to contain any spills during maintenance activities to avoid contamination of significant woodland. Contingency Measure: Report the details of the spill to MOE, including a description of any assessment and remediation undertaken. |
| K8 | Relocation of transmission line construction disturbance area within natural areas located in the Elginfield Road right-of-way. | Infrastructure or construction disturbance area added or changed to optimize project design/ constructability. | None – no new natural heritage or water body features within 120 m; area previously studied for cultural heritage. | N/A |

Lake Huron



Legend

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- A1 Layout Modification Locations
- Change Map Extent
- August 2013 - 120m Area of Investigation
- January 2013 - 120m Area of Investigation
- Turbines and Permanent Meteorological Tower**
 - Added
 - Removed
 - No Change
- Layout Modification (Type, Status)**
 - Collection Line, Added
 - Road, Added
 - Collection Line, Removed
 - Road, Removed
 - Collection Line, No Change
 - Access Road, No Change
 - Transmission Line, No Change
- Modification to Disturbance Areas Status**
 - Added
 - Removed
 - No Change

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1:85,000
UTM Zone 17N, NAD 83

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Jericho Wind Energy Centre
REAAmendment

Project Location

September 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. The table includes the text from the original REA submission and edits to the text (underlined text represents additions and strikethrough text represents deletions). Updated figures are included in **Appendix B** of this Revision Report. An updated Noise Assessment Report, Site Plan, and Parcel Boundary Setback Reduction Analysis have been included in this Revision Report as **Appendix C**, **Appendix D**, and **Appendix E** respectively.

Table 3-1 Edits to the Design and Operations Report

| Section / Page | Original Text | Revised Text <small>(Underlined text represents additions and strikethrough-text represents deletions. Mitigation measures not included in the original REA are shown in italicized bold)</small> |
|-----------------------|--|---|
| Section 2 / page 5 | <p>The proposed Project Location is shown on Figures 2-1, 2-2 and 2-3, and includes the components of the Project listed below:</p> <ul style="list-style-type: none"> 97 GE 1.6-100 Wind Turbine generator locations and pad mounted step-up transformers (however, only approximately 92 turbines will ultimately be constructed); | <p>The proposed Project Location is shown on Figures 2-1, 2-2 and 2-3, and includes the components of the Project listed below:</p> <ul style="list-style-type: none"> <u>97</u> 99 GE 1.6-100 Wind Turbine generator locations and pad mounted step-up transformers (however, only approximately 92 turbines will ultimately be constructed); |
| Section 3.1 / page 10 | <p>Although Jericho Wind, Inc. is seeking an REA for up to 97 turbine locations, approximately 92 turbines are proposed to be constructed for the Project.</p> | <p>Although Jericho Wind, Inc. is seeking an REA for up to <u>97</u> 99 turbine locations, approximately 92 turbines are proposed to be constructed for the Project.</p> |
| Section 3.5 / page 11 | <p>The substation equipment is expected to include an isolation switch, a circuit breaker, a step-up transformer, transmission switch gear, control housing, instrument transformers, grounding and metering equipment.</p> | <p>The substation equipment is expected to include an isolation switch, a circuit breaker, a <u>primary and backup</u> step-up transformer, transmission switch gear, control housing, instrument transformers, grounding and metering equipment.</p> |
| Section 6.1 / page 17 | <p>The potential effects, mitigation measures, residual effects and monitoring commitments regarding the natural heritage features (including significant wetlands, woodlands, and wildlife habitat) were identified and evaluated in the Natural Heritage Assessment Report and Environmental Impact Study (AECOM, 2013c) based on the <i>Natural Heritage Assessment Guide for Renewable Energy Projects</i> (Government of Ontario, 2012) and submitted to the Ontario Ministry of Natural Resources (MNR) for review and sign-off.</p> | <p>The potential effects, mitigation measures, residual effects and monitoring commitments regarding the natural heritage features (including significant wetlands, woodlands, and wildlife habitat) were identified and evaluated in the Natural Heritage Assessment Report and Environmental Impact Study (<u>NHA and EIS</u>) Report (AECOM, 2013c) based on the <i>Natural Heritage Assessment Guide for Renewable Energy Projects</i> (Government of Ontario, 2012) and submitted to the Ontario Ministry of Natural Resources (MNR) for review and sign-off. <u>AECOM also prepared two NHA and EIS Report Addenda in respect to refinements to the Project Location proposed after the original submission of the NHA and EIS to MNR. The MNR issued confirmation and re-confirmation letters on February 7, 2013 for the NHA and EIS Report as well as the two Addenda. AECOM subsequently prepared a third Addendum to the NHA and EIS, to address modifications to the Project Location proposed after MNR confirmation, which was submitted to MNR on August 19, 2013.</u></p> |
| Table 6-1 / page 18 | <p>Wetlands 29 wetland complexes were treated as significant and carried forward to the EIS.</p> <p>Significant Wildlife Habitat The following Significant Wildlife Habitat features were determined to be significant within the 120 m Area of Investigation and within 120 m of qualifying Project infrastructure, and were therefore carried forward to the EIS:</p> <ul style="list-style-type: none"> Bat Maternity Colonies; Rare Vegetation Communities; Habitat for Plant Species of Conservation Concern (multiple) ; and Habitat for Bird Species of Conservation Concern (Hooded Warbler). <p>The following features were treated as Significant Wildlife Habitat for the purpose of this submission and carried forward to the EIS (in some cases, a determination as to whether the mitigation measures described in the EIS will be applied will be made based on the outcome of pre-construction surveys):</p> <ul style="list-style-type: none"> Waterfowl Stopover and Staging Areas (terrestrial); Waterfowl Stopover and Staging Areas (aquatic); Raptor Wintering Area; Bat Maternity Colonies; Turtle Wintering Areas; Reptile Hibernacula; Deer Winter Congregation Areas; Bald Eagle and Osprey Nesting, Foraging, and Perching Habitat; Woodland Raptor Nesting Habitat; Turtle Nesting Habitat; Seeps and Springs; Amphibian Woodland Breeding Habitat; Amphibian Wetland Breeding Habitat; Woodland Area-sensitive Bird Breeding Habitat; and Amphibian Movement Corridors. | <p>Wetlands <u>29</u> 28 wetland complexes were treated as significant and carried forward to the EIS.</p> <p>Significant Wildlife Habitat The following Significant Wildlife Habitat features were determined to be significant within the 120 m Area of Investigation and within 120 m of qualifying Project infrastructure, and were therefore carried forward to the EIS:</p> <ul style="list-style-type: none"> Bat Maternity Colonies; Rare Vegetation Communities; <u>Turtle Wintering Areas;</u> Habitat for Plant Species of Conservation Concern (multiple) ; and Habitat for Bird Species of Conservation Concern (Hooded Warbler). <p>The following features were treated as Significant Wildlife Habitat for the purpose of this submission and carried forward to the EIS (in some cases, a determination as to whether the mitigation measures described in the EIS will be applied will be made based on the outcome of pre-construction surveys):</p> <ul style="list-style-type: none"> Waterfowl Stopover and Staging Areas (terrestrial); Waterfowl Stopover and Staging Areas (aquatic); Raptor Wintering Area; Bat Maternity Colonies; Turtle Wintering Areas; Reptile Hibernacula; Deer Winter Congregation Areas; Bald Eagle and Osprey Nesting, Foraging, and Perching Habitat; Woodland Raptor Nesting Habitat; Turtle Nesting Habitat; Seeps and Springs; Amphibian Woodland Breeding Habitat; Amphibian Wetland Breeding Habitat; Woodland Area-sensitive Bird Breeding Habitat; and Amphibian Movement Corridors. |

Table 3-1 Edits to the Design and Operations Report

| Section / Page | Original Text | Revised Text (Underlined text represents additions and strikethrough-text represents deletions. Mitigation measures not included in the original REA are shown in <i>italicized bold</i>) |
|---------------------|--|---|
| Table 6-2 / page 21 | | <p>Potential Effect Trimming of branches or selective tree removal during routine maintenance of the transmission line in Significant Wetlands WET-050 and WET-078.</p> <p>Performance Objective</p> <ul style="list-style-type: none"> Minimize disturbance to wetland form and function. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> <i>Minimize vegetation removal in Significant Wetland, to the extent possible.</i> <i>Perform routine vegetation clearing outside of the breeding season for birds and amphibians (March 15 to July 31). If this is not possible, MNR will be consulted regarding mitigation measures that may be required.</i> <i>Remove trees or tree limbs by hand-held equipment within Significant Wetland to minimize soil compaction.</i> <i>Fell trees with a chainsaw away from the Significant Wetland to reduce damage to adjacent vegetation being retained.</i> <i>Carry out removal of tree limbs under supervision of an Arborist or Forester.</i> <i>Leave tree stumps and roots in place, to minimize disturbance to adjacent vegetation.</i> <p>Residual Effects</p> <ul style="list-style-type: none"> Minimal clearing of vegetation will occur for operation of the transmission line. Minimal residual effects. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> No monitoring required. Contingency Measures: <ul style="list-style-type: none"> <i>Any damaged trees will be pruned through implementation of proper arboricultural techniques, under supervision of an Arborist or Forester.</i> |
| Table 6-2 / page 21 | | <p>Potential Effect Trimming of branches or selective tree removal for construction of the transmission line in Significant Wetlands WET-050 and WET-078 within road right-of-way.</p> <p>Performance Objective</p> <ul style="list-style-type: none"> No loss of wetland cover over time. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> <i>Restore disturbed areas using suitable native wetland plant species. A Restoration Plan will be provided to MNR.</i> <p>Residual Effects</p> <ul style="list-style-type: none"> Some clearing of vegetation will occur for the transmission line; this will be minimal and limited to the road right-of-way. Minimal residual effects. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> <i>Conduct post-planting inventory of restored area to determine success of establishment.</i> Contingency Measures: <ul style="list-style-type: none"> <i>If restored area is not establishing for any number of reasons, implement additional restoration measures including re-planting and additional monitoring.</i> |
| Table 6-2 / page 21 | <p>Potential Effect Loss of forest cover (up to 0.16 ha, representing 0.008% of woodland area) through vegetation clearing in Significant Woodland for construction of access roads.</p> <p>Mitigation Strategy</p> <ul style="list-style-type: none"> Establish an area of forest equal in area to the cleared area (0.16 ha) 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. | <p>Potential Effect Loss of forest cover (up to 0.1649 ha, representing 0.008% of woodland area) through vegetation clearing in Significant Woodlands for construction of access roads and the transmission line.</p> <p>Mitigation Strategy</p> <ul style="list-style-type: none"> Establish an area of forest equal in area to the cleared area (0.1649 ha) 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. |

Table 3-1 Edits to the Design and Operations Report

| Section / Page | Original Text | Revised Text <small>(Underlined text represents additions and strikethrough text represents deletions. Mitigation measures not included in the original REA are shown in italicized bold)</small> |
|----------------------------|---|---|
| Table 6-2 / page 21 | <p>Potential Effect Avoidance by Tundra Swans of stopover and staging habitat during migration due to proximity of Turbines 5 and 9 to Waterfowl Stopover and Staging Areas.</p> <p>Performance Objective</p> <ul style="list-style-type: none"> Minimize disturbance or disruption to Tundra Swan stopover and staging habitats. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> Turbine 5 (305 m from WSST-31, or 5 m from 300 m† buffer): Implement contingency mitigation measures (as per consultation with MNR) if disturbance effects are detected through post-construction monitoring. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> Conduct 3 years of post-construction Tundra Swan monitoring at Features WSST-31 and WSST-37 (if determined to be significant) by a qualified Biologist using the protocol described in the NHA, including: | <p>Potential Effect Avoidance by Tundra Swans of stopover and staging habitat during migration due to proximity of Turbines 5 and 9 to Waterfowl Stopover and Staging Areas.</p> <p>Performance Objective</p> <ul style="list-style-type: none"> Minimize disturbance or disruption to Tundra Swan stopover and staging habitats. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> Turbine 5 (305 m from WSST-31, or 5 m from 300 m† buffer): Implement contingency mitigation measures (as per consultation with MNR) if disturbance effects are detected through post-construction monitoring. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> Conduct 3 years of post-construction Tundra Swan monitoring at Features WSST-31 and WSST-37 (if determined to be significant) by a qualified Biologist using the protocol described in the NHA, including: |
| Table 6-2 Footer / page 21 | The area of the flooded field habitat plus a 100 m to 300 m radius buffer, dependant on local site conditions and adjacent land use, is the Significant Wildlife Habitat as per the Draft Ecoregion 7E Criterion Schedule Addendum to the Significant Wildlife Habitat Technical Guide (MNR, 2012). Therefore, the buffer area may be reduced to 100 m following the completion of pre-construction surveys, as described in the Natural Heritage Assessment and Environmental Impact Study Report (AECOM, 2013). | The area of the flooded field habitat plus a 100 m to 300 m radius buffer, dependant on local site conditions and adjacent land use, is the Significant Wildlife Habitat as per the Draft Ecoregion 7E Criterion Schedule Addendum to the Significant Wildlife Habitat Technical Guide (MNR, 2012). Therefore, the buffer area may be reduced to 100 m following the completion of pre-construction surveys, as described in the Natural Heritage Assessment and Environmental Impact Study Report (AECOM, 2013). |
| Table 6-2 / page 22 | <p>Potential Effect Risk of Tundra Swan collisions with Turbines 5 and 9 near Waterfowl Stopover and Staging Areas.</p> <p>Residual Effects</p> <ul style="list-style-type: none"> Risk of Tundra Swan collisions with Turbines 5 and 9 minimized through application of mitigation measures. Significance of residual effects will be determined based on the results of post-construction monitoring. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> Include Turbines 5 and 9 in post-construction mortality monitoring (as described above). | <p>Potential Effect Risk of Tundra Swan collisions with Turbines 5 and 9 near Waterfowl Stopover and Staging Areas.</p> <p>Residual Effects</p> <ul style="list-style-type: none"> Risk of Tundra Swan collisions with Turbines 5 and 9 minimized through application of mitigation measures. Significance of residual effects will be determined based on the results of post-construction monitoring. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> Include Turbines 5 and 9 in post-construction mortality monitoring (as described above). |
| Table 6-2 / page 24 | <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> Conduct 3 years of post-construction monitoring for Feature BMA-147, BMA-051, BMA-090B, BMA-098, BMA-102B, BMA-120, BMA-145, BMA-179, BMA-188, BMA-214, and BMA-297 (if determined to be significant) according to protocol described for pre-construction survey (as described in July 2011 version of Bats and Bat Habitats: Guidelines for Wind Power Projects) including: | <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> Conduct 3 years of post-construction monitoring for Feature BMA-147, BMA-051, BMA-090B, BMA-098, BMA-102B, BMA-120, BMA-145, BMA-179, BMA-188, and BMA-214, and BMA-297 (if determined to be significant) according to protocol described for pre-construction survey (as described in July 2011 version of Bats and Bat Habitats: Guidelines for Wind Power Projects) including: |
| Table 6-2 / page 24 | <p>Mitigation Strategy</p> <ul style="list-style-type: none"> Maintain wildlife crossing signs and limit speed of vehicles near turtle wintering areas (30 km/hr). | <p>Mitigation Strategy</p> <ul style="list-style-type: none"> Maintain wildlife crossing signs and limit speed of vehicles near turtle wintering areas (30 km/hr) <u>along access roads within 120 m of Significant Turtle Wintering Areas.</u> |
| Table 6-2 / page 25 | | <p>Potential Effect <u>Increased access for poaching in Turtle Wintering Areas as result of access roads.</u></p> <p>Performance Objective</p> <ul style="list-style-type: none"> <u>Avoid increased access for poaching during operation.</u> <p>Mitigation Strategy</p> <ul style="list-style-type: none"> <u>Install a gate on access roads that are within 120 m of Significant Turtle Wintering Areas to prevent public access.</u> <p>Residual Effects</p> <ul style="list-style-type: none"> <u>Potential increased access for poaching minimized through the application of mitigation measures.</u> <u>Low likelihood of poaching as access roads are located in agricultural fields on private property.</u> <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> <u>No monitoring or contingency measures required.</u> |

Table 3-1 Edits to the Design and Operations Report

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|---------------------|---|---|
| Table 6-2 / page 25 | | <p>Potential Effect Possible mortality to turtles nesting on side of access roads.</p> <p>Performance Objective • Prevent mortality of nesting turtles during operation.</p> <p>Mitigation Strategy • <i>Construct access roads that are within 120 m of Significant Turtle Wintering Areas designed using materials that are not suitable for turtle nesting.</i></p> <p>Residual Effects • Possible mortality to nesting turtles on side of access roads minimized through application of mitigation measures. • Low likelihood of mortality due to lack of suitable habitat on side of access roads.</p> <p>Monitoring Plan and Contingency Measures • No monitoring or contingency measures required.</p> |
| Table 6-2 / page 25 | <p>Mitigation Strategy</p> <ul style="list-style-type: none"> Advise operations staff to take extra care while driving access roads near features RH-01, RH-03, and RH-04. Erect long term drift fence between edge of habitat (RH-01, RH-03, or RH-04) and road if hibernaculum determined to be large (>25 snakes). <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> Conduct reptile hibernacula surveys at reptile hibernacula within 120 m of access roads (RH-01, RH-03, and RH-04 if determined to be significant) annually for 2 years post-construction to assess any potential changes in snake populations or species composition using protocol described for pre-construction survey (if features determined to be significant) by a qualified Biologist, including: | <p>Mitigation Strategy</p> <ul style="list-style-type: none"> Advise operations staff to take extra care while driving access roads near features RH-01, RH-03, and RH-04, <u>and RH-05.</u> Erect long term drift fence between edge of habitat (RH-01, RH-03, or <u>RH-04, or RH-05</u>) and road if hibernaculum determined to be large (>25 snakes). <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> Conduct reptile hibernacula surveys at reptile hibernacula within 120 m of access roads (RH-01, RH-03, and <u>and RH-04, and RH-05</u> if determined to be significant) annually for 2 years post-construction to assess any potential changes in snake populations or species composition using protocol described for pre-construction survey (if features determined to be significant) by a qualified Biologist, including: |
| Table 6-2 / page 26 | <p>Potential Effect Risk of road mortality to turtles moving between nesting habitats and other areas resulting from access road operation near Turtle Nesting Habitat.</p> <p>Performance Objective</p> <ul style="list-style-type: none"> Minimize turtle mortality along access roads. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> Maintain wildlife crossing signs and limit speed of vehicles near over-wintering pond (30 km/hr). <p>Residual Effects</p> <ul style="list-style-type: none"> Risk of turtle road mortality reduced through mitigation measures. Low likelihood of occurring and limited magnitude due to limited volume of maintenance vehicles. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> Conduct 3 years post-construction turtle nesting surveys to assess any potential effects to TNH-02 (if feature determined to be significant) by a qualified Biologist using the protocol described in the NHA, which includes: <ul style="list-style-type: none"> Conduct surveys on three occasions between late May and late June; Conduct area search of nesting habitat for a minimum of 20 minutes; Any observed turtles or predated eggs will be identified and recorded along with GPS coordinates of their location, individual visual characteristics, and all necessary data to identify turtle species. Report the findings of post-construction monitoring to MNR on an annual basis for the first 3 years of operation. <p>Contingency Measures:</p> <ul style="list-style-type: none"> 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. | <p>Potential Effect Risk of road mortality to turtles moving between nesting habitats and other areas resulting from access road operation near Turtle Nesting Habitat.</p> <p>Performance Objective</p> <ul style="list-style-type: none"> Minimize turtle mortality along access roads. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> Maintain wildlife crossing signs and limit speed of vehicles near over-wintering pond (30 km/hr). <p>Residual Effects</p> <ul style="list-style-type: none"> Risk of turtle road mortality reduced through mitigation measures. Low likelihood of occurring and limited magnitude due to limited volume of maintenance vehicles. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> Conduct 3 years post-construction turtle nesting surveys to assess any potential effects to TNH-02 (if feature determined to be significant) by a qualified Biologist using the protocol described in the NHA, which includes: <ul style="list-style-type: none"> Conduct surveys on three occasions between late May and late June; Conduct area search of nesting habitat for a minimum of 20 minutes; Any observed turtles or predated eggs will be identified and recorded along with GPS coordinates of their location, individual visual characteristics, and all necessary data to identify turtle species. Report the findings of post-construction monitoring to MNR on an annual basis for the first 3 years of operation. <p>Contingency Measures:</p> <ul style="list-style-type: none"> 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. |
| Table 6-2 / page 27 | <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> 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 (if features determined to be significant) at features within 30 m of an access road (AWO-01, AWO-03, AWO-05, AWO-06, AWO-11, AWO-12, AWO-16, AWE-01, AWE-02, AWE-03 and AWE-04) by a qualified Biologist using the protocol described in the NHA, which includes: Conduct 1 year 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 (if features determined to be significant) at features greater than 30 m from an access road (AWO-02, AWO-04, AWO-08, AWO-09, AWO-10, AWO-13, AWO-17, AWO-19, AWO-20 and AWE-05) by a qualified Biologist, using the protocol described above. | <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> 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 (if features determined to be significant) at features within 30 m of an access road (AWO-01, AWO-03, <u>AWO-04</u>, AWO-05, AWO-06, AWO-11, AWO-12, <u>AWO-22</u>, AWO-16, AWE-01, AWE-02, AWE-03 and AWE-04) by a qualified Biologist using the protocol described in the NHA, which includes: Conduct 1 year 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 (if features determined to be significant) at features greater than 30 m from an access road (AWO-02, AWO-04, AWO-08, AWO-09, AWO-10, AWO-13, AWO-17, AWO-19, AWO-20 and AWE-05) by a qualified Biologist, using the protocol described above. |

Table 3-1 Edits to the Design and Operations Report

| Section / Page | Original Text | Revised Text <small>(Underlined text represents additions and strikethrough-text represents deletions. Mitigation measures not included in the original REA are shown in italicized bold)</small> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|--|---|------------------------------------|---|----------------|--------------------------------|--------|------------------------------------|-------|---------------------------------|-------------------|------|---|--|---------------|--------|---|-------|--------------------------------|--|------------------------------|------------------------------|-------------------------------------|--------|---|---------|------------------------------------|------------------------------------|---------------|---------------------------|-----------------|----|---|-----------------------------|----|-------------------|-----------------------------|-----|--|------|-----|--|------|-----|---|----------------|-----|-------------------------------------|------|
| Table 6-2 / page 28 | <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> 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 (if features determined to be significant) at features potentially affected by construction dewatering (AWO-01, AWO-08, AWO-13, AWO-16, AWO-17 and AMC-01) by a qualified Biologist, using the protocol described above. | <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> 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 (if features determined to be significant) at features potentially affected by construction dewatering (AWO-01, AWO-08, AWO-13, AWO-16, AWO-17, <u>AWO-20</u> and AMC-01) by a qualified Biologist, using the protocol described above. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section 6.3.1 / page 29 | <p>Following the Records Review and Site Investigation, 116 water bodies were identified.</p> <p>Based on a sensitivity ranking conducted by AECOM, 9 water bodies were classified as high sensitivity (<i>i.e.</i>, not very resilient to environmental change); 71 water bodies were classified as moderate sensitivity; and 36 water bodies were classified as low sensitivity.</p> | <p>Following the Records Review and Site Investigation, 116<u>119</u> water bodies were identified.</p> <p>Based on a sensitivity ranking conducted by AECOM, 9 water bodies were classified as high sensitivity (<i>i.e.</i>, not very resilient to environmental change); 71 <u>74</u> water bodies were classified as moderate sensitivity; and 36 water bodies were classified as low sensitivity.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section 6.6.1 / page 34 | <p>A Parcel Boundary Setback Reduction Analysis (IBI Group, 2012), provided in Appendix D, identifies 39 locations where turbines are sited within 80 m of neighbouring property lines.</p> | <p>A Parcel Boundary Setback Reduction Analysis (IBI Group, 2012), provided in Appendix D, identifies 39 <u>43</u> locations where turbines are sited within 80 m of neighbouring property lines.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Table 6-6 / page 35 | <p>Potential Effect</p> <p>Damage to crops or trees due to turbine malfunction or failure associated with 39 turbines located within 80 m of neighbouring property lines</p> | <p>Potential Effect</p> <p>Damage to crops or trees due to turbine malfunction or failure associated with 39 turbines located <u>43 locations where turbines are sited</u> within 80 m of neighbouring property lines</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Table 6-7 / page 35 | <table border="1"> <thead> <tr> <th>Area (ha)</th> <th>Licence Class</th> <th>Status</th> <th>Distance to Project Infrastructure Disturbance Area</th> </tr> </thead> <tbody> <tr> <td>58.96</td> <td>Class A Licence > 20000 Tonnes</td> <td>Active</td> <td>44 m</td> </tr> <tr> <td>15.80</td> <td>Class B Licence <= 20000 Tonnes</td> <td>Active</td> <td>21 m</td> </tr> </tbody> </table> | Area (ha) | Licence Class | Status | Distance to Project Infrastructure Disturbance Area | 58.96 | Class A Licence > 20000 Tonnes | Active | 44 m | 15.80 | Class B Licence <= 20000 Tonnes | Active | 21 m | <table border="1"> <thead> <tr> <th>Area (ha)</th> <th>Licence Class</th> <th>Status</th> <th>Distance to Project Infrastructure Disturbance Area</th> </tr> </thead> <tbody> <tr> <td>58.96</td> <td>Class A Licence > 20000 Tonnes</td> <td>Active</td> <td>44 m <u>170 m</u></td> </tr> <tr> <td>15.80 <u>1.55</u></td> <td>Class B Licence <= 20000 Tonnes</td> <td>Active</td> <td>21 m</td> </tr> </tbody> </table> | Area (ha) | Licence Class | Status | Distance to Project Infrastructure Disturbance Area | 58.96 | Class A Licence > 20000 Tonnes | Active | 44 m <u>170 m</u> | 15.80 <u>1.55</u> | Class B Licence <= 20000 Tonnes | Active | 21 m | | | | | | | | | | | | | | | | | | | | | | | | |
| Area (ha) | Licence Class | Status | Distance to Project Infrastructure Disturbance Area | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 58.96 | Class A Licence > 20000 Tonnes | Active | 44 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15.80 | Class B Licence <= 20000 Tonnes | Active | 21 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Area (ha) | Licence Class | Status | Distance to Project Infrastructure Disturbance Area | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 58.96 | Class A Licence > 20000 Tonnes | Active | 44 m <u>170 m</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15.80 <u>1.55</u> | Class B Licence <= 20000 Tonnes | Active | 21 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section 6.7.4 / page 36 | <p>According to CanACRE's Petroleum Facility Location Report (2012), however, seven abandoned wells are located within 75 m of Project infrastructure, as shown in Table 6-8 below.</p> | <p>According to CanACRE's Petroleum Facility Location Report (2012), however, seven five abandoned wells are located within 75 m of Project infrastructure, as shown in Table 6-8 below.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Table 6-8 / page 36 | <table border="1"> <thead> <tr> <th>Well ID</th> <th>Project Infrastructure within 75 m</th> <th>Distance to Project Infrastructure</th> </tr> </thead> <tbody> <tr> <td>W1</td> <td>T7 access road</td> <td>58 m</td> </tr> <tr> <td>W2</td> <td>Collection line between T31 and T8</td> <td>52 m</td> </tr> <tr> <td>W7</td> <td>Transmission line</td> <td>47 m</td> </tr> <tr> <td>W10</td> <td>T47 and associated access road and collection line</td> <td>18 m</td> </tr> <tr> <td>W11</td> <td>T71 and associated access road and collection line</td> <td>37 m</td> </tr> <tr> <td>W14</td> <td>T76 access road and collection line to T75 and T76</td> <td>1 m</td> </tr> <tr> <td>W15</td> <td>T94 access road and collection line</td> <td>43 m</td> </tr> </tbody> </table> | Well ID | Project Infrastructure within 75 m | Distance to Project Infrastructure | W1 | T7 access road | 58 m | W2 | Collection line between T31 and T8 | 52 m | W7 | Transmission line | 47 m | W10 | T47 and associated access road and collection line | 18 m | W11 | T71 and associated access road and collection line | 37 m | W14 | T76 access road and collection line to T75 and T76 | 1 m | W15 | T94 access road and collection line | 43 m | <table border="1"> <thead> <tr> <th>Well ID</th> <th>Project Infrastructure within 75 m</th> <th>Distance to Project Infrastructure</th> </tr> </thead> <tbody> <tr> <td>W1</td> <td>T7 access road</td> <td>58 m</td> </tr> <tr> <td>W2</td> <td>Collection line between T31 T27 and T8</td> <td>52 m <u>46 m</u></td> </tr> <tr> <td>W7</td> <td>Transmission line</td> <td>47 m <u>40 m</u></td> </tr> <tr> <td>W10</td> <td>T47 and associated access road and collection line</td> <td>18 m</td> </tr> <tr> <td>W11</td> <td>T71 and associated access road and collection line</td> <td>37 m</td> </tr> <tr> <td>W14</td> <td>T76 access road and collection line to T75 and T76</td> <td>1 m</td> </tr> <tr> <td>W15</td> <td>T94 access road and collection line</td> <td>43 m</td> </tr> </tbody> </table> | Well ID | Project Infrastructure within 75 m | Distance to Project Infrastructure | W1 | T7 access road | 58 m | W2 | Collection line between T31 T27 and T8 | 52 m <u>46 m</u> | W7 | Transmission line | 47 m <u>40 m</u> | W10 | T47 and associated access road and collection line | 18 m | W11 | T71 and associated access road and collection line | 37 m | W14 | T76 access road and collection line to T75 and T76 | 1 m | W15 | T94 access road and collection line | 43 m |
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| W1 | T7 access road | 58 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W2 | Collection line between T31 and T8 | 52 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W7 | Transmission line | 47 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W10 | T47 and associated access road and collection line | 18 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W11 | T71 and associated access road and collection line | 37 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W14 | T76 access road and collection line to T75 and T76 | 1 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W15 | T94 access road and collection line | 43 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Well ID | Project Infrastructure within 75 m | Distance to Project Infrastructure | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W1 | T7 access road | 58 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W2 | Collection line between T31 T27 and T8 | 52 m <u>46 m</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W7 | Transmission line | 47 m <u>40 m</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W10 | T47 and associated access road and collection line | 18 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| W15 | T94 access road and collection line | 43 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

4. Summary and Conclusions

The Project modifications described in this REA Revision Report 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”.