

NextEra Energy Canada, ULC
Bluewater Wind Energy Centre

Natural Heritage Assessment and Environmental Impact Study Report Amendment

Prepared by:

AECOM

215 – 55 Wyndham Street North
Guelph, ON, Canada N1H 7T8
www.aecom.com

519 763 7783 tel
519 763 1668 fax

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AECOM Signatures

Report Prepared By:



Sam Gildiner, M.E.M., R.P.F.
Terrestrial Ecologist



Olga Hropach, (Hon) B.Sc.
Terrestrial Ecologist



Rob Aitken, B.Sc.
Terrestrial Ecologist

Report Reviewed By:



Jessica M. Ward, (Hon) B.Sc., Ph.D.
Ecologist



James Kamstra, B.Sc., M.E.S.
Senior Terrestrial Ecologist

Table of Contents

	page
1. Introduction.....	1
1.1 Project Description.....	1
1.2 Overview of Project Changes	1
1.3 Summary of NHA and EIS Amendment	5
2. Amendments to the Records Review	6
3. Amendments to the Site Investigation	6
3.1 Methods	6
3.2 Results	6
3.2.1 Vegetation Communities	6
3.2.2 Wetlands.....	7
3.2.3 Woodlands.....	8
3.2.4 Wildlife Habitat.....	9
3.2.5 Minimum Distances from Natural Features to Project Location	23
4. Amendments to the Evaluation of Significance.....	23
4.1 Methods	23
4.1.1 Wetlands.....	23
4.1.2 Woodlands.....	24
4.1.3 Wildlife Habitat.....	24
4.2 Results.....	25
4.2.1 Wetlands.....	25
4.2.2 Woodlands.....	25
4.2.3 Wildlife Habitat.....	25
4.2.4 Summary of Features Carried Forward to the EIS.....	27
5. Amendments to the Environmental Impact Study	29
5.1 Potential Environmental Effects and Mitigation Measures No Longer Applicable.....	29
5.2 Additional Potential Environmental Effects and Mitigation Measures	29
5.2.1 Mitigation Measures.....	30
6. References	35

List of Figures

Figure 1. Project Location Layout Modifications Key Map	36
Figure 2. Project Modifications and Natural Areas with Ecological Land Classification.....	37
Figure 3. Candidate Significant Wildlife Habitat	51

List of Tables

Table 1. Modifications to the Bluewater Wind Energy Centre Project Location..... 2

Table 2. Summary of Changes to Bluewater NHA and EIS Report..... 5

Table 3. Ecological Land Classification (ELC) Vegetation Communities..... 7

Table 4. Revisions to Wetland Features 7

Table 5. Woodland Features Identified Through the Site Investigation 8

Table 6. Significant Wildlife Habitat (SWH) Assessments 10

Table 7. Updated Distances between Project Components and Natural Features in the Bluewater Wind Energy Centre 23

Table 8. Evaluation of Significance of Candidate Reptile Hibernacula 26

Table 9. Evaluation of Candidate Habitat for Plant Species of Conservation Concern 26

Table 10. Evaluation of Candidate Significant Wildlife Habitat for Red-headed Woodpecker..... 28

Table 11. Mitigation Measures, Residual Effects and Monitoring Plan: Construction and Decommissioning Phases 31

Table 12. Mitigation Measures, Residual Effects and Monitoring Plan: Operational Phase..... 33

Appendices

Appendix A. MNR Confirmation Letter

Appendix B. Field Notes

Appendix C. Project Team CVs

Appendix D. Weather Conditions during Site Investigations

Appendix E. Vascular Plant Species List

Appendix F. Wildlife Species List

Appendix G. Bat Habitat Assessment Memo (NRSI, 2013)

Appendix H. OWES Evaluation for Stanley Big Drain Wetland

Appendix I. Woodland Breeding Bird Species List

Glossary of Terms

ANSI..... Area of Natural and Scientific Interest

Area of Investigation Area encompasses by 120 m setback from Project Location boundary

EIS Environmental Impact Study

Frac-out..... Escape of drilling mud into the environment as a result of a spill, tunnel collapse or the rupture of mud to the surface

MNR Ministry of Natural Resources

O. Reg. 359/09..... Ontario Regulation 359/09

Project Location The area encompassing all construction activities and project components

Project Study Area Wind Energy Centre Study Area and Transmission Line Study Area

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. AECOM Canada Ltd. (AECOM) was retained by Varna Wind, Inc. to prepare a Natural Heritage Assessment (NHA) and Environmental Impact Study (EIS) for the proposed Bluewater Wind Energy Centre (the Project), in accordance with the requirements of the Renewable Energy Approval (REA) process and O.Reg. 359/09. The Ontario Ministry of Natural Resources (MNR) issued a confirmation letter (Appendix A) for the Bluewater Wind Energy Centre Natural Heritage Assessment and Environmental Impact Study Report (AECOM, 2012; hereafter referred to as the approved NHA and EIS) on 28 March, 2012.

This amendment has been prepared as a supplement to the Bluewater Wind Energy Centre Natural Heritage Assessment and Environmental Impact Study Report (AECOM, 2012), and is intended to fulfill the requirements of a Natural Heritage assessment and Environmental Impact Study (EIS) in accordance with the requirements of the Renewable Energy Approval (REA) process and O.Reg. 359/09, with respect to refinements to the Project Location proposed after MNR confirmation of the NHA and EIS (Figure 1).

1.1 Project Description

The proposed Project Study Area remains unchanged from the approved NHA and EIS. However, as shown on Figure 1, there are specific modifications proposed to the Project Location (i.e., location of components of the Project). These are summarized below:

- Up to 40 1.6 MW GE model wind turbine generators and pad mounted step up transformers (a maximum of 37 turbines will ultimately be constructed);
- Approximately 53 km of underground electrical collection lines;
- Approximately 24 km of 115 kV transmission line along Centennial Road and Hensall Road; and
- Approximately 37 km of turbine access roads.

The Project components, in addition to the Disturbance Areas as shown on Figure 1, occupy approximately 255 hectares (629 acres) of land in the Municipalities of Bluewater and Huron East.

1.2 Overview of Project Changes

All of the proposed project refinements are summarized in Table 1. For each proposed modification, a map showing the revised Project Location referenced against the Project Location in the approved NHA and EIS is included in this report (refer to Table 1 for corresponding Figures).

Table 1. Modifications to the Bluewater Wind Energy Centre Project Location

Proposed Modification	Rationale for Proposed Modification	Features Affected by Proposed Modification	Map
A1: Removal of Turbine 20 and associated access road and collection line, and provision of new access road to Turbine 19	<ul style="list-style-type: none"> Land owner no longer participating in project. Minimize impacts to current land use and agricultural practices. 	<ul style="list-style-type: none"> Natural area 537 no longer within 120 m of Project Location: Significant Wetland WET-04; Significant Woodland V; and Generalized Candidate Significant Wildlife Habitat (Waterfowl Nesting Area, Bat Maternity Colony, Amphibian Woodland Breeding Habitat, Rare Vegetation Community, Mature Forest Stand, Seep, Habitat for Species of Conservation Concern). Project Location farther away from natural area 542: Woodland U; Generalized Candidate Significant Wildlife Habitat (Old Growth and Mature Forest); and Significant Bat Maternity Colony Feature BMC-08. 	Refer to Figure 2a
A2: Addition of meteorological (met) tower and associated infrastructure on private property	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> None 	Refer to Figure 2a
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	<ul style="list-style-type: none"> Relocation of the collection line is necessary following the removal of Turbine 20. Minimize impacts to current land use and agricultural practices. 	<ul style="list-style-type: none"> None 	Refer to Figure 2a
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	<ul style="list-style-type: none"> As per land owner request for relocation of access road. Minimize impacts to current land use and agricultural practices. 	<ul style="list-style-type: none"> None 	Refer to Figure 2b
B2: Addition of met tower and associated infrastructure on private property	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> None 	Refer to Figure 2b
C1: Realignment of access road and collection line to Turbine 17 – to travel directly back from Bronson Line	<ul style="list-style-type: none"> As per land owner request for separate access road. Minimize impacts to current land use and agricultural practices. 	<ul style="list-style-type: none"> None 	Refer to Figure 2c
C2: Addition of crane path between Turbines 17 and 18 (located primarily within footprint of infrastructure that is being removed)	<ul style="list-style-type: none"> Proposed to reduce cost of construction. 	<ul style="list-style-type: none"> None 	Refer to Figure 2c
C3: Realignment of access road and collection line to Turbine 18 – to travel directly back from Bronson Line	<ul style="list-style-type: none"> As per land owner request for separate access road. Minimize impacts to current land use and agricultural practices. 	<ul style="list-style-type: none"> Access road proposed within 120 m of natural area 450: Significant Woodland E; and Generalized Candidate Significant Wildlife Habitat (Amphibian Woodland Breeding Habitat, Habitat for Species of Conservation Concern). 	Refer to Figure 2.c
C4: Realignment of collection line at Bronson Line / Kippen Road to follow Bronson Line right of way	<ul style="list-style-type: none"> Land owner no longer participating in project. Minimize impacts to current land use and agricultural practices. 	<ul style="list-style-type: none"> None 	Refer to Figure 2c

Table 1. Modifications to the Bluewater Wind Energy Centre Project Location

Proposed Modification	Rationale for Proposed Modification	Features Affected by Proposed Modification	Map
D: Realignment of access road to Turbine 31 – to travel directly back from Blind Line	<ul style="list-style-type: none"> As per land owner request for realignment of access road. Minimize impacts to current land use and agricultural practices. 	<ul style="list-style-type: none"> None 	Refer to Figure 2d
E: Realignment of collection line between Turbines 13, 14 and 24	<ul style="list-style-type: none"> Land owner no longer participating in project Minimize impacts to current land use and agricultural practices. 	<ul style="list-style-type: none"> Collection line proposed to be installed beneath natural area 487 via directional drilling: <ul style="list-style-type: none"> Significant 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). 	Refer to Figure 2e
F1: Relocation of transmission line from municipal right-of-way onto private property	<ul style="list-style-type: none"> Municipality has requested that transmission line be moved out of right-of-way wherever possible and adjacent landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way. 	<ul style="list-style-type: none"> None 	Refer to Figure 2f
F2: Relocation of transmission line from municipal right-of-way onto private property	<ul style="list-style-type: none"> Municipality has requested that transmission line be moved out of right-of-way wherever possible and adjacent landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way. 	<ul style="list-style-type: none"> Transmission line proposed within natural area 514 (vegetation removal required): <ul style="list-style-type: none"> Significant Woodland AJ; Significant Wetland WET-06; and Generalized Candidate Significant Wildlife Habitat (Bat Maternity Colony, Mature Forest Stand and Habitat for Species of Conservation Concern). 	Refer to Figure 2f
F3: Relocation of transmission line from municipal right-of-way onto private property	<ul style="list-style-type: none"> Municipality has requested that transmission line be moved out of right-of-way wherever possible and adjacent landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way. 	<ul style="list-style-type: none"> None 	Refer to Figure 2f
G1: Relocation of transmission line from municipal right-of-way onto private property	<ul style="list-style-type: none"> Municipality has requested that transmission line be moved out of right-of-way wherever possible and adjacent landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way. 	<ul style="list-style-type: none"> None 	Refer to Figure 2g
G2: Relocation of transmission line from municipal right-of-way onto private property	<ul style="list-style-type: none"> Municipality has requested that transmission line be moved out of right-of-way wherever possible and adjacent landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way. 	<ul style="list-style-type: none"> None 	Refer to Figure 2g
G3: Relocation of transmission line from municipal right-of-way onto private property	<ul style="list-style-type: none"> Municipality has requested that transmission line be moved out of right-of-way wherever possible and adjacent landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way. 	<ul style="list-style-type: none"> None 	Refer to Figure 2g
H: Relocation of transmission line from municipal right-of-way onto private property	<ul style="list-style-type: none"> Municipality has requested that transmission line be moved out of right-of-way wherever possible and adjacent landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way. 	<ul style="list-style-type: none"> None 	Refer to Figure 2h

Table 1. Modifications to the Bluwater Wind Energy Centre Project Location

Proposed Modification	Rationale for Proposed Modification	Features Affected by Proposed Modification	Map
I1: Relocation of transmission line from municipal right-of-way onto private property	<ul style="list-style-type: none"> Municipality has requested that transmission line be moved out of right-of-way wherever possible and adjacent landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way. 	<ul style="list-style-type: none"> None 	Refer to Figure 2i
I2: Relocation of transmission line from municipal right-of-way onto private property	<ul style="list-style-type: none"> Municipality has requested that transmission line be moved out of right-of-way wherever possible and adjacent landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way. 	<ul style="list-style-type: none"> Transmission line proposed within natural area 551 (vegetation removal required): <ul style="list-style-type: none"> Significant Woodland AO; and Generalized Candidate Significant Wildlife Habitat (Bat Maternity Colony, Habitat for Species of Conservation Concern). 	Refer to Figure 2i
J1: Relocation of transmission line from municipal right-of-way onto private property	<ul style="list-style-type: none"> Municipality has requested that transmission line be moved out of right-of-way wherever possible and adjacent landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way. 	<ul style="list-style-type: none"> Transmission line proposed within natural area 555 (vegetation removal required): <ul style="list-style-type: none"> Significant Woodland AP; and Generalized Candidate Significant Wildlife Habitat (Bat Maternity Colony, Habitat for Species of Conservation Concern). 	Refer to Figure 2j
J2: Relocation of transmission line from municipal right-of-way to follow unopened municipal right-of-way	<ul style="list-style-type: none"> Avoid conflicts with existing infrastructure in the right-of-way. 	Transmission line proposed within natural area 582 (vegetation removal required).	Refer to Figure 2j
K1: Relocation of transmission line from municipal right-of-way onto private property	<ul style="list-style-type: none"> Municipality has requested that transmission line be moved out of right-of-way wherever possible and adjacent landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way. 	<ul style="list-style-type: none"> None 	Refer to Figure 2k
K2: Relocation of transmission line from municipal right-of-way onto private property	<ul style="list-style-type: none"> Municipality has requested that transmission line be moved out of right-of-way wherever possible and adjacent landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way. 	<ul style="list-style-type: none"> None 	Refer to Figure 2k
K3: Relocation of transmission line from municipal right-of-way onto private property	<ul style="list-style-type: none"> Municipality has requested that transmission line be moved out of right-of-way wherever possible and adjacent landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way. 	<ul style="list-style-type: none"> None 	Refer to Figure 2k
L: Relocation of transmission line from municipal right-of-way onto private property	<ul style="list-style-type: none"> Municipality has requested that transmission line be moved out of right-of-way wherever possible and adjacent landowner has agreed to participate in project. Avoid conflicts with existing infrastructure in the right-of-way. 	<ul style="list-style-type: none"> Transmission line farther away from natural area 564: <ul style="list-style-type: none"> Woodland AS; and Generalized Candidate Significant Wildlife Habitat (Amphibian Wetland Breeding Habitat). None 	Refer to Figure 2l
M: Relocation of POI from Seaforth substation property to private property	<ul style="list-style-type: none"> Land owner agreed to participate in the project Avoid conflicts with existing infrastructure. 	<ul style="list-style-type: none"> None 	Refer to Figure 2m
N: Relocation of substation within the same property parcel	<ul style="list-style-type: none"> Original location was in a floodplain. 	<ul style="list-style-type: none"> None 	Refer to Figure 2n

1.3 Summary of NHA and EIS Amendment

Changes required to the approved NHA and EIS in order to address the proposed Project modifications are summarized in Table 2 below. The relevant sections of this amendment pertaining to these changes are also provided in the table below.

Table 2. Summary of Changes to Bluewater NHA and EIS Report

NHA and EIS Report Section	Change	Refer to Amendment Section(s)
2. Records Review	<p>Methods: No changes.</p> <p>Results: No changes.</p>	Section 2
3. Site Investigation	<p>Methods: Site investigations were conducted in 2012 where the 120 m Area of Investigation for proposed Project modifications extended beyond the original Area of Investigation. Four natural areas (514, 551, 555 and 582) were surveyed on private property at locations where the transmission line is proposed on private property. These were assessed to determine whether they contain wetlands, woodlands, valleylands or candidate Significant Wildlife Habitat. These site investigations were conducted following the survey methods described in the approved NHA and EIS. Survey dates, times, weather conditions field notes and the qualifications of field personnel are included in this amendment.</p> <p>In addition, two natural areas (450 and 487) we examined to determine whether Project refinements resulted in changes to the designations of candidate Significant Wildlife Habitat and Generalized Candidate Significant Wildlife Habitat. Additional site investigation field work was not required at these locations.</p>	Section 3.1
	<p>Results: The following features were carried forward to the Evaluation of Significance:</p> <ul style="list-style-type: none"> • Wetland WET-06; • Woodlands E, K, AJ, AO and AP; • Bat Maternity Colony in natural area 514 (BMC-15); • Reptile Hibernacula (RH-05) in natural area 551; • Amphibian Woodland Breeding Habitat in natural area 450 (AWO-13); • Habitat for Plant Species of Conservation Concern in natural area 555 (SCP-01); and • Habitat for Bird Species of Conservation Concern (Red-headed Woodpecker) in natural areas 514 (SCB-01 and SCB-02), 551 (SCB-03) and 555 (SCB-04). 	Section 3.2
4. Evaluation of Significance	<p>Methods: One of the proposed Project modifications (F2) results in an overlap between the Project Location and a wetland feature (WET-06). This wetland was evaluated using the Ontario Wetland Evaluation System (OWES).</p> <p>Woodlands AJ, AO and AP (where vegetation removal is proposed) were re-evaluated based on field data collected during site investigations conducted in support of this amendment, following the methods described in the approved NHA and EIS.</p> <p>Evaluation of Significance studies are also described for the candidate bat maternity colony (BMC-15), reptile hibernaculum (RH-05), Amphibian Woodland Breeding Habitat (AWO-13), Habitat for plant Species of Conservation Concern (SCP-01), and Habitat for Bird Species of Conservation Concern (Red-Headed Woodpecker) (SCB-01, SCB-02, SCB-03 and SCB-04) identified through site investigations conducted in support of this amendment.</p>	Section 4.1
	<p>Results: The following natural features treated as significant or confirmed to be significant were carried forward to the EIS:</p> <ul style="list-style-type: none"> • Bat Maternity Colony in natural area 514 (BMC-15); • Amphibian Woodland Breeding Habitat (AWO-13) in natural area 450; and • Habitat for Bird Species of Conservation Concern (Red-Headed Woodpecker) (SCB-02) in natural area 551. 	Section 4.2
5. Environmental Impact Study	<p>Additional potential effects and mitigation measures are required (and described herein) for the following significant natural features:</p> <ul style="list-style-type: none"> • Significant Woodlands E, K, AJ, AO and AP (in natural areas 450, 487, 514, 551 and 555); • Bat Maternity Colony in natural area 514 (BMC-15); • Amphibian Woodland Breeding Habitat (AWO-13) in natural area 450; and • Habitat for Bird Species of Conservation Concern (Red-Headed Woodpecker) (SCB-02) in natural area 551. 	Section 5

2. Amendments to the Records Review

The Records Review in the approved NHA and EIS was conducted for the entire Project Study Area, rather than encompassing only the Project Location and an additional 120 m surrounding the Project Location as required by O.Reg. 359/09. The Records Review took a broader approach and considered a general area wider than that required by regulation in order to accommodate any potential changes to project layout that may occur later in the project planning process. Consequently, there are no changes to the Records Review as a result of the proposed Project modifications.

3. Amendments to the Site Investigation

3.1 Methods

Site investigations were undertaken following the methods described in the approved NHA and EIS. Therein, site investigations were conducted as roadside surveys for the proposed transmission line.

Site investigations were conducted in 2012 within four natural areas (514, 551, 555 and 582) for the purpose of this amendment. These site investigations were conducted to accommodate modifications to the transmission line layout, specifically where the transmission line is proposed on private property and overlaps a natural area. All 2012 site investigations were conducted on private property with the exception of natural area 582, for which the site investigation was conducted from the Centennial Road right-of-way.

In addition, two natural areas (450 and 487) for which site investigations are described in the approved NHA and EIS were examined to determine whether Project modifications resulted in changes to the designations of candidate Significant Wildlife Habitat and Generalized Candidate Significant Wildlife Habitat (as described in the approved NHA and EIS). The results of site investigations within these two natural areas are presented in the approved NHA and EIS and therefore are not repeated here.

3.2 Results

3.2.1 Vegetation Communities

The vegetation communities identified through site investigations conducted for this amendment are summarized in Table 3 (refer to Figures 2f, 2i and 2j for ELC mapping). Site investigations for natural areas 450 and 487 were completed in 2011 and are described in the approved NHA and EIS report (refer to Figure 2c and 2e for ELC mapping). The dates, start and end times of field investigation are provided in Table 3. Detailed field notes are provided in Appendix B, the qualifications of field personnel are provided in Appendix C, and weather conditions during field investigations are provided in Appendix D.

In total 145 plant species were identified during site investigations within natural areas 514, 551, 555 and 582. All of these species were previously recorded in the approved NHA and EIS. A full list of species observed within each natural area during 2012 site investigations is presented in Appendix E. All of the species recorded during these site investigations are ranked as S5 (Secure) with the exception of Black Walnut (*Juglans nigra*) and Tall Cinquefoil (*Potentilla arquta*) which are ranked as S4 (Apparently Secure). No plant Species of Conservation Concern were observed. Incidental wildlife observations recorded during 2012 site investigations are included in Table 3. Refer to Appendix F for a complete list of wildlife species observed.

Table 3. Ecological Land Classification (ELC) Vegetation Communities

Natural Area	Date of Site Investigation	ELC Vegetation Community	Area (ha)	Vegetation Composition	Incidental Wildlife Observations
514	April 17, 2012 10:45-13:00	SWD6-3: Swamp Maple Organic Deciduous Swamp Type	4.2	The canopy layer within this mid-aged forest is mainly Freeman’s Maple with fewer Black Ash. The sub-canopy consists of American Beech and Green Ash. The shrub layer is mainly Freeman’s Maples with fewer Choke Cherry. The ground cover consists of Wild Black Current and Marsh Marigold.	Birds: House Wren, Yellow-bellied Sapsucker, Black-capped Chickadee, Downy Woodpecker, Red-tailed Hawk, White-crowned Sparrow. Herpetofauna: Wood Frog.
		FOD5-1: Dry- Fresh Sugar Maple Deciduous Forest Type	5.7	The canopy layer within this mid-aged forest is dominated by Sugar Maple with fewer White Ash. The sub-canopy is dominated by Sugar Maple with fewer White Ash. The shrub layer is dominated by Sugar Maple with fewer Choke Cherry. The ground cover consists of White Trillium and Yellow Trout Lily.	
		CUM1-1: Dry - Moist Old Field Meadow Type	2.7	The canopy layer within this mid-aged forest is mainly Freeman’s Maple with fewer White Elm and Basswood. The sub-canopy is mainly White Elm with fewer Basswood. The shrub layer is mainly Nannyberry with fewer Grey Dogwood and less Corydalis. The ground cover consists of Reed Canary Grass.	
551	April 19, 2012 09:00-10:00	FOD5-2: Dry-Fresh Sugar Maple – Beech Deciduous Forest Type	13.1	The canopy layer within this mid-age forest is mainly Sugar Maple with fewer American Beech and less White Ash. The sub-canopy is mainly Sugar Maple with fewer American Beech. Within the shrub layer, Choke Cherry is dominant with fewer Wild Red Raspberry. The ground cover consists of Yellow Trout Lily and Wild Leek. Many trees have been cut down and left on ground; the overstorey is semi-open.	Birds: Cooper’s Hawk, Black-capped Chickadee, Blue Jay, Wild Turkey, Yellow-bellied Sapsucker, Vesper Sparrow, American Robin, Northern Flicker, Killdeer, Red-winged Blackbird, Northern Cardinal, Mourning Dove, Brown-headed Cowbird, Red-bellied Woodpecker and Downy Woodpecker.
		<u>Inclusion:</u> CUM1-1: Dry-Moist Old Field Meadow Type	0.2		
		CUP3-2: White Pine Coniferous Plantation Type	0.6		
555	April 23, 2012 12:00-13:00	FOD9-5: Fresh Moist Bitternut Hickory Deciduous Forest Type	1.6	The canopy layer within this mid-ages forest is dominated by Bitternut Hickory with fewer White Ash and less Sugar Maple. The sub-canopy is dominated by Sugar Maple. Species observed in the shrub layer are mainly Choke Cherry with fewer Sugar Maple. The ground cover consists of Yellow Trout Lily and False Solomon’s Seal. This community was classified as FOD9-5 because of the dominant tree species, however the site is well drained and the vegetation is not as water adapted as prescribed for FOD9-5.	Lepidoptera: Red Admiral.
582	May 16, 2012 10:00-10:45	CUM1-1: Dry-Moist Old Field Meadow Type (surveyed from roadside)	0.2	The sparse sub-canopy consists of Green Ash and Norway Spruce. The shrub layer is dominated by Red-Osier Dogwood with lesser amounts of Gray Dogwood. The ground cover consists of Reed Canary Grass, Kentucky Bluegrass and Orchard Grass. This community is a regenerating grassland located along a roadside and drainage ditch.	Birds: Red-winged Blackbird, American Robin, Yellow Warbler, Horned Lark and Song Sparrow.

3.2.2 Wetlands

Site investigations conducted in support of this amendment include one previously identified wetland feature (WET-06) in natural area 514; therefore the attributes, composition and function of this feature were revised based on the results of 2012 site investigations (Table 4). This feature was carried forward to the Evaluation of Significance. Refer to Figure 2f for changes made to the boundary of this wetland feature on the basis of 2012 site investigations.

Table 4. Revisions to Wetland Features

Wetland	Minimum Distance from Project Location (m)	Attributes			Composition	Function
		Size (ha)	Wetland Type	Site Type		
WET-06	0 m (transmission line in feature)	49.3	Swamp and Marsh	Palustrine, Riverine and Isolated	The following wetland communities are present within natural area 514: <ul style="list-style-type: none"> Swamp Maple Organic Deciduous Swamp Type (SWD6-3): Near Centennial Road, the canopy layer is mainly Freeman’s Maple with fewer Black Ash. The sub-canopy consists of American Elm and Green Ash. Species observed within the shrub layer is mainly Freeman’s Maples with fewer Choke Cherry. The ground cover consists of Wild Black Current and Marsh Marigold. Other vegetation communities present in this wetland feature are described in the approved NHA and EIS.	<ul style="list-style-type: none"> Water quality improvement; and, Habitat and resources for wetland flora and fauna.

3.2.3 Woodlands

The site investigations conducted in support of this amendment include three previously identified woodland features (AJ, AP and AO); therefore the attributes, composition and function of these features were revised based on the results of 2012 site investigations (Table 5). No changes to the boundaries of these woodlands are required on the basis of 2012 site investigations (refer to Figures 2f, 2i and 2j). These features were carried forward to the Evaluation of Significance.

No changes to the Site Investigation are required for Significant Woodlands E and K; however Project modifications are proposed within 120 m of these woodlands (refer to Figure 2c and 2e). The potential effects of Project modifications on Significant Woodlands E and K are therefore addressed in the EIS section of this amendment.

Table 5. Woodland Features Identified Through the Site Investigation

Woodland ID	Natural Area	Minimum Distance from Project Location (m) ¹	Attributes			Composition	Functions
			Size (ha)	Forest Community Type	Woodland Age		
AJ	514	0 (transmission line in feature)	44.5	Deciduous Swamp and Deciduous Forest	Mid-age	Vegetation community and species composition within natural area 514 are as follows: <ul style="list-style-type: none"> Swamp Maple Organic Deciduous Swamp Ecosite (SWD6-3): dominant species include Freeman’s Maple, Silver Maple, White Elm, Basswood and Ash species. The shrub layer is comprised of Freeman’s Maple, Nannyberry, and Choke Cherry. The ground layer is comprised of Yellow Trout Lily and True Solomon’s Seal. Dry-Fresh Sugar Maple Deciduous Forest Type (FOD5-1): community dominated by Sugar Maple and White Ash. The shrub layer is comprised of Sugar Maple and Choke Cherry. The ground layer is comprised of Beech seedlings and Dog Violet. Other vegetation communities present in this woodland feature are described in the approved NHA and EIS.	Provides habitat for plant and wildlife species, including common birds. Provides interior forest habitat.
AP	555	0 (transmission line in feature)	45.8	Deciduous Forest and Deciduous Swamp	Mid-age	Vegetation community and species composition within natural areas 555 as follows: <ul style="list-style-type: none"> Fresh Moist Bitternut Hickory Deciduous Forest Type (FOD9-5): dominant canopy species include Bitternut Hickory, Sugar Maple, and White Ash. The understory is comprised of Sugar Maple. The shrub layer is comprised of Choke Cherry and Sugar Maple. The ground layer is dominated by Yellow Trout Lily. Other vegetation communities present in this woodland feature are described in the approved NHA and EIS.	Provides habitat for plant and wildlife species. Provides interior forest habitat.
AO	551, 552	0 (transmission line in feature)	27.0	Deciduous Forest, Cultural Woodland and Cultural Plantation	Mid-age	Vegetation community and species composition within natural area 551 are as follows: <ul style="list-style-type: none"> Dry-Fresh Sugar Maple Deciduous Forest Ecosite (FOD5-2): canopy consists of Sugar Maple, American Beech, and White Ash. The sub-canopy consists of Sugar Maple and American Beech. The shrub layer is comprised of Choke Cherry and Raspberry. The ground layer is comprised of Yellow Trout Lily. White Pine Coniferous Plantation (CUP3-2): The canopy is dominated by Eastern White Pine and Sugar Maple. The understory is comprised of Sugar Maple. The understory is comprised of Choke Cherry, and the ground layer is dominated by Yellow Trout Lily. Other vegetation communities present in this woodland feature are described in the approved NHA and EIS.	Provides habitat for plant and wildlife species, including common birds. Provides interior forest habitat.

3.2.4 Wildlife Habitat

The six natural areas (450, 487, 514, 551, 555 and 582) affected by proposed Project modifications were assessed for the presence of candidate Significant Wildlife Habitat following the methods described in the approved NHA and EIS. These methods and the results of assessments of the above natural areas for each type of Significant Wildlife Habitat identified through the Records Review and Site Investigation is provided in Table 6 below.

Four of these natural areas (514, 551, 555 and 582) were assessed based on the results of site investigation conducted in support of this amendment (refer to Figures 2f, 2i and 2j). The proposed modifications to the Project Location result in overlaps with these natural areas (i.e., vegetation removal is proposed) therefore any suitable habitats identified were treated as candidate Significant Wildlife Habitat and carried forward to the Evaluation of Significance.

In addition, two natural areas (450 and 487) were examined to determine whether Project modifications resulted in changes to the designations of candidate Significant Wildlife Habitat and Generalized Candidate Significant Wildlife Habitat, as originally described in the approved NHA and EIS (refer to Figure 2c and 2e).

The following plant species of conservation concern were not carried forward to the Evaluation of Significance in the approved NHA and EIS due to their high unlikelihood of occurrence in the Project Study Area and, as a result, are also not considered in this amendment:

- Crowned Beggarticks (*Bidens trichosperma*);
- Hairy Woodmint (*Blephilia hirsuta*);
- Hills Pondweed (*Potamogeton hillii*);
- Large Round-leaved Orchid (*Platanthera macrophylla*);
- Rattlesnake Hawkweed (*Hieracium venosum*);
- Stiff Gentian (*Gentianella quinquefolia*); and
- Yellow Ladies'-tresses (*Spiranthes ochroleuca*).

The following candidate Significant Wildlife Habitat features were carried forward to Evaluation of Significance:

- Bat maternity colony in natural area 514 (BMC-15);
- Reptile hibernacula in natural area 551 (RH-05);
- Amphibian woodland breeding habitat in natural area 450 (AWO-13);
- Habitat for plant Species of Conservation Concern, including Green Dragon, Harbinger-of-spring, Scarlet Beebalm and Slim-flowered Muhly, in natural 555 (SCP-01);
- Habitat for bird Species of Conservation Concern (Red-headed Woodpecker) in natural areas 514 (SCB-01), 551 (SCB-02), and 555 (SCB-03).

The locations of these features are shown on Figures 3a to 3d.

Table 6 Significant Wildlife Habitat (SWH) Assessments

Type of Candidate Significant Wildlife Habitat	Characteristics of the SWH Type <i>(All characteristics must be met by candidate SWH)</i>	Assessment	Attributes, Composition and Function of Candidate SWH <i>(if applicable)</i>
Seasonal Concentration Areas			
Colonial-Nesting Bird Breeding Habitat (Bank and Cliff Swallows)	<ul style="list-style-type: none"> • Presence of the following Ecosites: CUM1, CUT1, CUS, BLO1, BLS1, BLT1, CLO1, CLS1, CLT1; • Eroding banks, sandy hills, pits, steep slopes, and rock faces that are undisturbed or naturally eroding for 10 years or more; and • Significant habitats are not located in licensed aggregate pits. 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (not suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Colonial-Nesting Bird Breeding Habitat (Tree/Shrub)	<ul style="list-style-type: none"> • Presence of the following Ecosites: SWM2, SWM3, SWM5, SWM6, SWD1, SWD2, SWD3, SWD4, SWD5, SWD6, SWD7, FET1; • Significant sites generally have better habitat quality (e.g., optimal vegetation composition, abundant food); and • Size of habitat and level of disturbance are also important. 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: This natural area contains a deciduous swamp community which may provide suitable habitat for heronies. However, no nests were observed during the Site Investigation therefore this feature was not carried forward to the Evaluation of Significance. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Colonial-Nesting Bird Breeding Habitat (Ground)	<ul style="list-style-type: none"> • Any (rocky) island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1:50,000 NTS map); • Significant sites generally have better habitat quality (e.g., optimal vegetation composition, abundant food); and • Size of habitat and level of disturbance are also important. 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Waterfowl Stopover and Staging Areas (Terrestrial)	<ul style="list-style-type: none"> • Presence of the following Ecosites: CUM1, CUT1; and • Evidence of annual spring flooding from melt water or runoff. 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Waterfowl Stopover and Staging Areas (Aquatic)	<ul style="list-style-type: none"> • Presence of the following Ecosites: MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, SWD1, SWD3; • Where standing water is present including ponds, marshes, lakes, bays, coastal inlets and watercourses used during migration; • Significant sites generally have better habitat quality (e.g., optimal vegetation composition, ratio of open water to emergent vegetation; extensive shoreline; abundant food, nocturnal roosting cover); and • Larger wetlands are more significant. 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.

Type of Candidate Significant Wildlife Habitat	Characteristics of the SWH Type <i>(All characteristics must be met by candidate SWH)</i>	Assessment	Attributes, Composition and Function of Candidate SWH (if applicable)
Waterfowl Nesting Areas	<ul style="list-style-type: none"> All upland habitats located adjacent to (within 150 m of) the following Ecosites: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SWT1, SWT2, SWD1, SWD2, SWD3, SWD4; or upland habitats adjacent to (within 150 m of) Provincially Significant Wetlands; Upland areas should be at least 120 m wide so that predators have difficulty finding nests; Larger sites of suitable habitat are more significant; Significant sites generally have better habitat quality (e.g., optimal vegetation structure, stable water levels, abundant cover); and Sites with little disturbance (e.g., from agricultural activities) are more significant. 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.
Shorebird Migratory Stopover Areas (Shorebird Staging)	<ul style="list-style-type: none"> Presence of the following Ecosites: BBO1, BBO2, BBS1, BBS2, BBT1, BBT2, SDO1, SDS2, SDT1, MAM1, MAM2, MAM3, MAM4, MAM5; and Shorelines of lakes, rivers and wetlands, including beach areas, bars, seasonally flooded shoreline, mudflats, rock groins, and armour rock lakeshore. 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.
Raptor Winter Feeding and Roosting Areas (Raptor Wintering Areas)	<ul style="list-style-type: none"> Combination of ELC Community Series; presence of one Community Series from each land class: <ul style="list-style-type: none"> Forest: FOC, FOD, FOM; Open Upland: CUM, CUT, CUS, CUW; Sites must be at least 20 ha in size, which can be a combination of forest and open upland habitats; Open upland communities must be >15 ha in size; Sites that are less disturbed by agricultural activities are more significant; and Sites with better habitat quality (e.g., abundant prey and perches; less snow accumulation) are more significant. 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.
Reptile Hibernacula	<ul style="list-style-type: none"> No ELC Ecosites are directly related to these habitats. Areas of broken and fissured rock, rock piles or talus slopes, stone fences, crumbling foundations, and old wells are candidate SWH. 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No potential hibernacula (e.g., rock piles) present. Natural area 551: Rock pile observed with the potential to extend below the frost line. This feature was carried forward to the Evaluation of Significance as candidate SWH (RH-05). Natural area 555: No potential hibernacula (e.g., rock piles) present. Natural area 582: No potential hibernacula (e.g., rock piles) present. 	<ul style="list-style-type: none"> RH-05 (Natural area 551): This potential reptile hibernaculum consists of a rock pile located at the edge of a cultural plantation, adjacent to a field. It consists of various sized rocks, some of which are covered in soil and grass. The dimensions of the rock pile are 10 m by 3 m with potential to extend below the frost line. The rock pile may allow snakes to enter ground below the frost line. Minimum distance to Project Location: 52 m (transmission line; 30 m buffer included as habitat when calculating distance)

Type of Candidate Significant Wildlife Habitat	Characteristics of the SWH Type (All characteristics must be met by candidate SWH)	Assessment	Attributes, Composition and Function of Candidate SWH (if applicable)
Bat Hibernacula ¹	<ul style="list-style-type: none"> All caves, abandoned mine shafts, underground foundations, and these Ecosites: CCR1, CCR2, CCA1, CCA2 (buildings are not to be considered SWH). 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.
Bat Maternity Colonies ¹	<ul style="list-style-type: none"> Presence of all Ecosites associated with the following ELC Community Series: FOD and FOM; and Forests that have >10/ha wildlife trees (snags or cavity trees) which are >25 cm dbh. 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (generalized candidate SWH). Natural area 514: Deciduous forest with more than 10 cavity trees per hectare. Feature carried forward to the Evaluation of Significance as candidate SWH (BMC-15). Natural area 551: No suitable habitat present within the area overlapped by the Project Location (a portion of the natural area remains to be Generalized Candidate Significant Wildlife Habitat, as described in the approved NHA and EIS). Natural area 555: no suitable habitat present (8.0 cavity trees/ha). Natural area 582: No suitable habitat present (no forest communities). 	<ul style="list-style-type: none"> BMC-15 (Natural area 514): This potential bat maternity colony consists of a deciduous forest with 26. 7 cavity trees/ha. Sugar Maple and Black Ash dominate the canopy layer of this mid-age forest. This woodland may provide habitat for bat maternity colonies. Minimum distances to Project Location: 0 m (transmission line in feature)
Amphibian Breeding Habitat (Woodland)	<ul style="list-style-type: none"> Presence of all Ecosites associated with the following ELC Community Series: FOC, FOM, FOD, SWC, SWM, SWD; Woodland with a wetland, pond, or breeding pools that may be permanent or ephemeral, and located within or adjacent to (within 120 m of) the woodland; To be significant, vernal ponds in woodlands should persist until mid-July; and Wetlands used for breeding with presence of shrubs and logs around the edges are more significant because of increased structure for calling, foraging, escape and concealment from predators. 	<ul style="list-style-type: none"> Natural area 450: Access road proposed within 120 m of suitable habitat identified as Generalized Candidate SWH in the approved NHA and EIS. Feature carried forward to the Evaluation of Significance as candidate SWH (AWO-13). Natural area 487: No change from NHA (AWO-16) ponds present). Natural area 514: No suitable habitat (no vernal pools or ponds present). Natural area 551: No suitable habitat (no vernal pools or ponds present). Natural area 555: No suitable habitat (no vernal pools or ponds present). Natural area 582: No suitable habitat (no vernal pools or ponds present). 	<ul style="list-style-type: none"> AWO-13 (natural area 450): This potential amphibian woodland breeding habitat consists of vernal pools in a mid-age to mature deciduous forest community. The canopy layer is dominated by Sugar Maple with White Ash and Choke Cherry. Woodland breeding amphibians congregate in temporary wooded ponds in the spring where they mate and lay eggs in the water. The larvae then hatch and live in the water for several months until they emerge as adults. Minimum distance to Project Location: 57 m (access road, collection line)
Amphibian Breeding Habitat (Wetland)	<ul style="list-style-type: none"> Presence of the following Ecosites: MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SAS1, SAM1, SAF1, SWT1 with standing water; Larger sites of suitable habitat are more significant; and Wetlands used for breeding with presence of shrubs and logs around the edges are more significant because of increased structure for calling, foraging, escape and concealment from predators. 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.

1. Refer to Appendix G for detailed assessment of bat-related Significant Wildlife Habitats (NRSI, 2013).

Type of Candidate Significant Wildlife Habitat	Characteristics of the SWH Type <i>(All characteristics must be met by candidate SWH)</i>	Assessment	Attributes, Composition and Function of Candidate SWH (if applicable)
Rare Vegetation Communities			
Alvars	<ul style="list-style-type: none"> • Presence of any of the following Ecosites: ALO1, ALS1, ALT1; Sites must be at least 0.5 ha in size; and • Sites must not be dominated by non-indigenous species. 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Tall-grass Prairies	<ul style="list-style-type: none"> • Presence of any of the following Ecosites: TPO1, TPO2; Sites with ground cover dominated by prairie grasses and less than 25% tree cover; • Site conditions must be restored or natural (e.g., not railway right-of-ways); and • Sites must not be dominated by non-indigenous species. 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Savannahs	<ul style="list-style-type: none"> • Presence of any of the following Ecosites: TPS1, TPS2, TPW1, TPW2; Tallgrass prairie habitat with tree cover between 25% and 35% (TPS1 and TPS2), or between 35% and 60% (TPW1 and TPW2); • Site conditions must be restored or natural (e.g., not railway right-of-ways); and • Sites must not be dominated by non-indigenous species. 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Rare Forest Types	<ul style="list-style-type: none"> • Presence of any rare (S1-S3, SH) forest types. 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Cliffs and Talus Slopes	<ul style="list-style-type: none"> • Presence of any of the following Ecosites: CLO1, CLS1, CLS2, CLT1, CLT2, TAO1, TAO2, TAS1, TAS2, TAT1, TAT2; • Cliffs are greater than 3 m in height of vertical to near-vertical bedrock; and • A talus slope is rock rubble at the base of a cliff made up of coarse rocky debris. 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Sand Barrens	<ul style="list-style-type: none"> • Presence of any of the following Ecosites: SBO1, SBS1, SBT1; • Typically exposed sand habitats, generally sparsely vegetated and caused by lack of moisture, periodic fires, and erosion. Sand barrens have little or no soil, and the underlying rock protrudes through the surface. Usually located within other types of natural habitat, such as forest or savannah; and • Sites must not be dominated by non-indigenous species. 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.

Type of Candidate Significant Wildlife Habitat	Characteristics of the SWH Type <i>(All characteristics must be met by candidate SWH)</i>	Assessment	Attributes, Composition and Function of Candidate SWH (if applicable)
Great Lakes Dunes	<ul style="list-style-type: none"> • Presence of all Ecosites associated with the following ELC Community Series: SDO, SDS, SDT; and • Located within 5 km of Lake Huron. 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Specialized Habitat for Wildlife			
Habitat for Area Sensitive Species (Interior Forest Breeding Birds)	<ul style="list-style-type: none"> • Presence of all Ecosites associated with the following ELC Community Series: FOC, FOM, FOD, SWC, SWM, SWD; • Large mature (>60 years old) forest (non-plantation) stands or woodlots greater than 30 ha in size; and • Woodlands with at least 4 ha interior forest habitat (at least 200 m from edge of forest). 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Habitat for Area Sensitive Species (Open Country Bird Breeding Habitat)	<ul style="list-style-type: none"> • Presence of the following Ecosites: CUM1; and • Grassland areas (includes natural and cultural fields and meadows) greater than 30 ha in size, excluding Class 1 and 2 agricultural lands and lands actively used for farming (i.e., no row-cropping in the last 5 years). 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Old-growth or Mature Forests	<ul style="list-style-type: none"> • Presence of all Ecosites associated with the following ELC Community Series: FOD, FOC, FOM; • Typically relatively undisturbed, structurally complex and contain a wide variety of trees and shrubs in various age classes; • Most significant sites will contain numerous trees which are at least 140 years old. Stands containing younger trees (e.g., 100 years or older) are significant where older trees no longer exist; and • Stands containing predominantly long-lived species are more significant than stands consisting primarily of short-lived species (e.g., trembling aspen, birch). 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (generalized candidate SWH). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Turtle Nesting Habitat	<ul style="list-style-type: none"> • Presence of the following Ecosites: MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SAS1, SAM1, SAF1, BOO1, FEO1; and • Areas of sand and/or gravel that turtles are able to dig in, including sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers; and • Nesting areas on the sides of municipal and provincial road embankments, railway embankments and active aggregate operations are not SWH. 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Turtle Over-wintering Habitat	<ul style="list-style-type: none"> • Presence of the following Ecosites: MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SAS1, SAM1, SAF1, BOO1, FEO1; and • Overwintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate dissolved oxygen. 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.

Type of Candidate Significant Wildlife Habitat	Characteristics of the SWH Type (All characteristics must be met by candidate SWH)	Assessment	Attributes, Composition and Function of Candidate SWH (if applicable)
Woodland Raptor Nesting Habitat	<ul style="list-style-type: none"> Presence of all Ecosites associated with the following ELC Community Series: FOC, FOM, FOD, SWC, SWM, SWD, or the following Ecosite: CUP3; and All natural or conifer plantation woodland/forest stands >30 ha with at least 4 ha of interior forest habitat. 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.
Bald Eagle Nesting Habitat	<ul style="list-style-type: none"> Presence of all Ecosites associated with the following ELC Community Series: FOC, FOM, FOD, SWC, SWM, SWD; Forest communities directly adjacent to riparian areas of rivers, lakes, ponds, wetlands, and islands; Contain presence of Bald Eagle nest; and Nests located on man-made objects are not included. 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.
Osprey Nesting, Foraging and Perching Habitat	<ul style="list-style-type: none"> Presence of all Ecosites associated with the following ELC Community Series: FOC, FOM, FOD, SWC, SWM, SWD; Forest communities directly adjacent to riparian areas of rivers, lakes, ponds, wetlands, and islands; Contain presence of Osprey nest; and Nests located on man-made objects are not included. 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.
Seeps and Springs	<ul style="list-style-type: none"> Presence of all Ecosites associated with the following ELC Community Series: FOC, FOM, FOD, SWC, SWM, SWD; Any predominantly forested area within the headwater areas of a stream could have seeps or springs; and Seeps were identified using groundwater indicator plants. 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.
Marsh Breeding Bird Habitat	<ul style="list-style-type: none"> Presence of the following Ecosites: MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SAS1, SAM1, SAF1, FEO1, BOO1; and Wetland habitats containing shallow water and emergent aquatic vegetation. 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.
Species of Conservation Concern			
American Gromwell (<i>Lithospermum latifolium</i>) Species of Conservation Concern Vulnerable – S3	<ul style="list-style-type: none"> <u>Preferred habitat</u> <ul style="list-style-type: none"> Shaded river banks, wooded floodplains⁶. River floodplains, woods and edges of woods.² <u>Corresponding ELC:</u> FOD7 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.

Type of Candidate Significant Wildlife Habitat	Characteristics of the SWH Type (All characteristics must be met by candidate SWH)	Assessment	Attributes, Composition and Function of Candidate SWH (if applicable)
Autumn Coral-root (<i>Corallorhiza odoratorhiza</i>) Species of Conservation Concern Imperiled – S2	<ul style="list-style-type: none"> Preferred habitat <ul style="list-style-type: none"> Oak-pine woods or occasionally in open, red pine or white pine plantations. Dry, sandy woods. Scattered occurrences are restricted to southern Ontario mainly in the Carolinian zone.² Corresponding ELC: FOM1, FOM2, CUW 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.
Beaked Spike-Rush (<i>Eleocharis rostellata</i>) Species of Conservation Concern Vulnerable – S3	<ul style="list-style-type: none"> Preferred habitat <ul style="list-style-type: none"> Found among fens, calcareous shores and meadows.² Corresponding ELC: FEO, FES, FET 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.
Carolina Whitlow-grass (<i>Draba reptans</i>) Species of Conservation Concern Vulnerable – S3	<ul style="list-style-type: none"> Preferred habitat <ul style="list-style-type: none"> Primarily inhabits dry sandy areas, dry open flats & limestone pavements. Occasionally weedy.^{2 and 6} Corresponding ELC: SBO, SBS, SBT, ALO, ALS, ALT 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.
Chinese Hemlock Parsley (<i>Conioselinum chinense</i>) Species of Conservation Concern Imperiled – S2	<ul style="list-style-type: none"> Preferred habitat <ul style="list-style-type: none"> Swampy places with deciduous trees, cedars, tamarack; springy river banks, creek borders⁶. Species inhabits calcareous white cedar swamps, wet borders of streams and rivers. Also found among calcareous seepage slopes.² Corresponding ELC: SWC1, SWC3, SWC4, SWM1, SWM2, SWM4, SWM5, SWM6 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.
Eastern Green-violet (<i>Hybanthus concolor</i>) Species of Conservation Concern Imperiled – S2	<ul style="list-style-type: none"> Preferred habitat <ul style="list-style-type: none"> Occurs in rich, wet-mesic floodplain forests as well as mesic forests over limestone³. Includes floodplains and river banks⁶. Corresponding ELC: ALT1, FOD7 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.
Green Dragon (<i>Arisaema dracontium</i>) Species of Conservation Concern Vulnerable – S3 COSEWIC (SC) and MNR Status (SC)	<ul style="list-style-type: none"> Preferred habitat <ul style="list-style-type: none"> Species found in damp deciduous forest and along river streams⁸. It grows in wet forests particularly Maple forest and forest dominated by Red Ash and White Elm⁷. Corresponding ELC: FOD6, FOD7, FOD9 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: Suitable habitat present in FOD9 Ecosite. Feature carried forward to the Evaluation of Significance as candidate SWH (SCP-01) for Green Dragon. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Natural area 555 (SCP-01): This potential Significant Wildlife Habitat consists of a mid-age deciduous forest community that may provide habitat for Green Dragon. Minimum distance to Project Location: 0 m (transmission line in feature)

Type of Candidate Significant Wildlife Habitat	Characteristics of the SWH Type (All characteristics must be met by candidate SWH)	Assessment	Attributes, Composition and Function of Candidate SWH (if applicable)
Hairy Valerian (<i>Valeriana edulis</i>) Species of Conservation Concern Critically Imperiled – S1	<ul style="list-style-type: none"> • Preferred habitat <ul style="list-style-type: none"> ▪ Inhabits swampy river flats and meadows, wet prairies, and wooded, rocky riverbanks³ and fens⁶ • Corresponding ELC: FEO1, FES1, FET1, SWC, SWM, SWD, SWT, TPO, TPS, TPW 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Harbinger-of-spring (<i>Erigenia bulbosa</i>) Species of Conservation Concern Vulnerable – S3?	<ul style="list-style-type: none"> • Preferred habitat <ul style="list-style-type: none"> ▪ Occurs in rich, moist deciduous woods, especially on floodplains². • Corresponding ELC: FOD6, FOD7, FOD8, FOD9 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: Transmission line is proposed within suitable habitat in this natural area therefore this habitat is carried forward to the Evaluation of Significance as candidate SWH (SCP-01) for Harbinger-of-spring. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • SCP-01 (natural area 555): This potential Significant Wildlife Habitat consists of a mid-age deciduous forest community that may provide habitat for Harbinger-of-spring. • Minimum distance to Project Location: 0 m (transmission line in feature)
Lizard's Tail (<i>Saururus cernuus</i>) Species of Conservation Concern Vulnerable – S3	<ul style="list-style-type: none"> • Preferred habitat <ul style="list-style-type: none"> ▪ Species inhabits shores and streambanks along shallow water. As well as swamps (usually deciduous but sometimes cedar), floodplains, shallow water and mudflats at the borders of streams and ponds⁶. • Corresponding ELC: MAM2, MAM3, MAS2, MAS3, SWD 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Ram's-head Lady's-slipper (<i>Cypripedium arietinum</i>) Species of Conservation Concern Vulnerable – S3	<ul style="list-style-type: none"> • Preferred habitat <ul style="list-style-type: none"> ▪ Found in cedar woodlands, limestone plains and wooded fens. As well as, moist coniferous swamps, dry, sandy woods, and limestone barren². • Corresponding ELC: CUW1, ALO, FET1, SWC 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Scarlet Beebalm (<i>Monarda didyma</i>) Species of Conservation Concern Vulnerable – S3	<ul style="list-style-type: none"> • Preferred habitat <ul style="list-style-type: none"> ▪ Found in moist, rich woods, thicket swamps, banks and floodplains⁶. • Corresponding ELC: FOD6, FOD7, FOD8, FOD9, SWT2, SWT3 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 488: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: Transmission line is proposed within suitable habitat in this natural area therefore this habitat is carried forward to the Evaluation of Significance as candidate SWH (SCP-01) for Scarlet Beebalm. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • SCP-01 (natural area 555): This potential Significant Wildlife Habitat consists of a mid-age deciduous forest community that may provide habitat for Scarlet Beebalm. • Minimum distance to Project Location: 0 m (transmission line in feature)

Type of Candidate Significant Wildlife Habitat	Characteristics of the SWH Type (All characteristics must be met by candidate SWH)	Assessment	Attributes, Composition and Function of Candidate SWH (if applicable)
Slender Vulpia (<i>Vulpia octiflora</i>) Species of Conservation Concern Imperiled – S2	<ul style="list-style-type: none"> • Preferred habitat <ul style="list-style-type: none"> ▪ Species inhabits dry, sandy habitats, including rocky woods meadows, dry forests, and stabilized dunes². • Corresponding ELC: SDO1, SDS1, SDT1 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Slim-flowered Muhly (<i>Muhlenbergia tenuiflora</i>) Species of Conservation Concern Imperiled – S2	<ul style="list-style-type: none"> • Preferred habitat <ul style="list-style-type: none"> ▪ Found in rich deciduous forest, often on rocky or sandy soils². Usually found on wooded dunes, hillsides, and riverbanks whether in oak or beech-maple woods⁶. • Corresponding ELC: SDT1, FOD5, FOD9 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (generalized candidate SWH). • Natural area 488: No change from NHA (generalized candidate SWH). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: Transmission line is proposed within suitable habitat in this natural area therefore this habitat is carried forward to the Evaluation of Significance as candidate SWH (SCP-01) for Slim-flowered Muhly. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • SCP-01 (natural area 555): This potential Significant Wildlife Habitat consists of a mid-age deciduous forest community that may provide habitat for Slim-flowered Muhly. • Minimum distance to Project Location: 0 m (transmission line in feature)
Sundial Lupine (<i>Lupinus perennis</i>) Species of Conservation Concern Vulnerable – S3	<ul style="list-style-type: none"> • Preferred habitat <ul style="list-style-type: none"> ▪ Inhabits dry, sandy oak savannahs and prairies². As well as, open barrens or clearings in woodlands of oak, jack pine, and/or aspen⁶. • Corresponding ELC: TPS1, TPW1, CUW1, RBO, SBO 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Tuberous Indian Plantain (<i>Arnoglossum plantagineum</i>) Species of Conservation Concern Vulnerable – S3 COSEWIC (SC) and MNR Status (SC)	<ul style="list-style-type: none"> • Preferred habitat <ul style="list-style-type: none"> ▪ Largely restricted to coast of Lake Huron. Occurs mainly in flat, sandy areas of the Bruce Peninsula. A localized species of fens, wet meadows, and calcareous river flats². • Corresponding ELC: FEO, FES, FET, MAM2, MAM3 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Woodland Pinedrops (<i>Pterospora andromedea</i>) Species of Conservation Concern Imperiled – S2	<ul style="list-style-type: none"> • Preferred habitat <ul style="list-style-type: none"> ▪ Species found in conifer woods, under pines, but also hemlock, spruce, fir, and white cedar. Also in dry or rocky soil, often with common juniper and sometimes aspen or birch⁶. • Corresponding ELC: FOC1, FOC2, FOC3, FOC4 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Bald Eagle (<i>Haliaeetus leucocephalus</i>) Species of Conservation Concern MNR Status (SC)	<ul style="list-style-type: none"> • Preferred habitat <ul style="list-style-type: none"> ▪ Nests in very large trees that afford a good view, often near shore. Feeds on fish in large open water bodies¹⁰. 	<p>Breeding habitat for this species was assessed as Bald Eagle Nesting Habitat (see above).</p>	<ul style="list-style-type: none"> • Not applicable.

Type of Candidate Significant Wildlife Habitat	Characteristics of the SWH Type (All characteristics must be met by candidate SWH)	Assessment	Attributes, Composition and Function of Candidate SWH (if applicable)
<p>Common Nighthawk (<i>Chordeiles minor</i>) Species of Conservation Concern COSEWIC (THR) and MNR Status (SC)</p>	<ul style="list-style-type: none"> Preferred habitat <ul style="list-style-type: none"> Aerial forager that hunts insects over a wide variety of habitats, in particular open or semi-open areas such as farmland, open woodlands, clearcuts, burns, rock outcrops, bogs fens, prairies, gravel pits and urban areas⁷. Nests on ground in a wide range of open, sparse or vegetation-free habitats, including dunes, beaches, recently harvested forests, burnt-over areas, rock outcrops, rocky barrens, gravel pits and urban rooftops. Sometimes may nest in grasslands, pastures, peat bogs, marshes or lakeshores. Corresponding ELC: CUW, SDO, RBO, TPS 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.
<p>Louisiana Waterthrush (<i>Seiurus motacilla</i>) Species of Conservation Concern COSEWIC (SC) and MNR Status (SC)</p>	<ul style="list-style-type: none"> Preferred habitat <ul style="list-style-type: none"> Species inhabits mature forests along steeply sloped ravines adjacent to running water. It prefers clear, cold streams and densely wooded swamps. Trees, bushes, exposed roots, cliffs, banks and mossy logs are favoured nesting spots. This species nests on the ground¹⁰. Riparian woodlands are preferred stopover sites during migration⁸. Corresponding ELC: FOD, FOM 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (generalized candidate SWH). Natural area 514: Although riparian habitat is present in the natural area, there is no mature forest stands and therefore does not meet criteria for this SWH. Natural area 551: Although riparian habitat is present in the natural area, there is no mature forest stands and therefore does not meet criteria for this SWH. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.
<p>Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>) Species of Conservation Concern COSEWIC (THR) and MNR Status (SC)</p>	<ul style="list-style-type: none"> Preferred habitat <ul style="list-style-type: none"> Species inhabits open woodland and woodland edges, especially in oak savannahs and riparian forest⁷, open, deciduous forest with little understorey; fields or pasture lands with scattered large trees; wooded swamps; orchards, small woodlots or forest edges; groves of dead or dying trees; feeds on insects and stores nuts or acorns for winter; requires cavity trees with at least 40 cm dbh; requires about 4 ha for a territory. Corresponding ELC: FOD, SWD, CUW, CUT 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (generalized candidate SWH). Natural area 514: Woodland contains deciduous swamp (SWD6-3) and forest (FOD5-1) communities with snags and deadfall. Feature carried forward to the Evaluation of Significance as candidate SWH (SCB-01). Natural area 551: Woodland contains deciduous forest community (FOD5-2) with occasional standing snags and deadfall. Feature carried forward to the Evaluation of Significance as candidate SWH (SCB-02). Natural area 555: Woodland contains a deciduous forest community (FOD9-5) and deciduous swamp with occasional standing snags and deadfall. Feature carried forward to the Evaluation of Significance as candidate SWH (SCB-03). Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> SCB-01 (natural area 514): Consists of a deciduous swamp and forest which includes Swamp Maple Organic Deciduous Swamp (SWD6-3) and Dry - Fresh Sugar Maple Deciduous Forest (FOD5-1). SCB-02 (natural area 551): Consists of a Dry – Fresh Sugar Maples – Beech Deciduous Forest (FOD5-2). Many trees have been cut down and left on the ground, and the overstorey is semi-open. SCB-03 (natural area 555): Consists of Fresh-Moist Bitternut Hickory Deciduous Forest (FOD9-5). <p>These features may provide nesting habitat for Red-headed Woodpecker.</p> <p>Minimum distances to Project Location:</p> <ul style="list-style-type: none"> SCB-01: 0 m (transmission line in feature) SCB-02: 0 m (transmission line in feature) SCB-03: 0 m (transmission line in feature)
<p>Short Eared Owl (<i>Asio flammeus</i>) Species of Conservation Concern COSEWIC (SC) and MNR Status (SC)</p>	<ul style="list-style-type: none"> Preferred habitat <ul style="list-style-type: none"> Species is a ground nester. It requires 75 to 100 ha of contiguous open habitat¹⁰. The Short-eared Owl makes use of a wide variety of open habitats, including, grasslands, peat bogs, marshes, and old pastures. It also occasionally breeds in agricultural fields. Dense grasslands are preferred nesting sites. The main factor influencing the choice of its local habitat is believed to be the abundance of food, in the form of small rodents⁸. 	<ul style="list-style-type: none"> Natural area 450: No change from NHA (no suitable habitat present). Natural area 487: No change from NHA (no suitable habitat present). Natural area 514: No suitable habitat present. Natural area 551: No suitable habitat present. Natural area 555: No suitable habitat present. Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> Not applicable.

Type of Candidate Significant Wildlife Habitat	Characteristics of the SWH Type (All characteristics must be met by candidate SWH)	Assessment	Attributes, Composition and Function of Candidate SWH (if applicable)
Yellow-breasted Chat (<i>Icteria virens</i>) Species of Conservation Concern COSEWIC (END) and MNR Status (SC)	<ul style="list-style-type: none"> • Preferred habitat <ul style="list-style-type: none"> ▪ Species inhabits thickets, tall tangles of shrubbery beside streams, ponds; overgrown bushy clearings with deciduous thickets; nests above ground in bush, vines, etc.¹⁰. 	Breeding habitat for this species was assessed as part of Shrub/Early Successional Bird Breeding Habitat (see above).	<ul style="list-style-type: none"> • Not applicable.
Dusted Skipper (<i>Arytonopsis hianna</i>) Species of Conservation Concern Critically Imperiled – S1	<ul style="list-style-type: none"> • Preferred habitat <ul style="list-style-type: none"> ▪ Species is confined to remnants of dry prairie and sand dune areas¹¹. • Corresponding ELC: TPO, TPS, SDO 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Monarch Butterfly (<i>Danaus plexippus</i>) Species of Conservation Concern COSEWIC (SC) and MNR Status (SC)	<ul style="list-style-type: none"> • Preferred Habitat <ul style="list-style-type: none"> ▪ Monarchs typically occur in open field habitat where the adults forage on a wide range of flowers. Adults are very mobile and move through almost any kind of habitat. Larvae only feed on milkweeds (<i>Asclepius</i> spp.). Habitat includes abandoned farmland, along roadsides, and other open spaces where these plants grow⁸. Significant habitat consists of meadows with a very high abundance of milkweeds. ▪ Monarchs migrating south in the fall form large concentrations near the shores of Lake Ontario and Lake Erie. • Corresponding ELC: CUM1, CUT1, CUW1 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present (no old fields containing a particular abundance of milkweed). • Natural area 551: No suitable habitat present (no old fields containing a particular abundance of milkweed). • Natural area 555: No suitable habitat present (no old fields containing a particular abundance of milkweed). • Natural area 582: No suitable habitat present (no old fields containing a particular abundance of milkweed). 	<ul style="list-style-type: none"> • Not applicable.
Sleepy Duskywing (<i>Erynnis brizo</i>) Species of Conservation Concern Critically Imperiled – S1	<ul style="list-style-type: none"> • Preferred Habitat <ul style="list-style-type: none"> ▪ Species occurs in oak or oak-pine scrub, chaparral, barrens; on well-drained sandy or shaly soils¹³. This species is regularly seen at flowers in oak woods, on the ground, and at mud puddles¹. • Corresponding ELC: TPS, TPW 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
West Virginia White (<i>Pieris virginienensis</i>) Species of Conservation Concern MNR Status (SC)	<ul style="list-style-type: none"> • Preferred Habitat <ul style="list-style-type: none"> ▪ This species is restricted to rich, moist, deciduous woods, where its foodplant Toothwort occurs⁷. ▪ Significant habitat consists of woodlands where toothwort is abundant • Corresponding ELC: FOD5 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (generalized candidate SWH). • Natural area 487: No change from NHA (generalized candidate SWH). • Natural area 514: Does not meet criteria for this SWH (no deciduous woods containing a particular abundance of toothwort). • Natural area 551: No suitable habitat (no deciduous woods containing a particular abundance of toothwort). • Natural area 555: No suitable habitat present (no deciduous woods containing a particular abundance of toothwort). • Natural area 582: No suitable habitat present (no deciduous woods containing a particular abundance of toothwort). 	<ul style="list-style-type: none"> • Not applicable.

Type of Candidate Significant Wildlife Habitat	Characteristics of the SWH Type (All characteristics must be met by candidate SWH)	Assessment	Attributes, Composition and Function of Candidate SWH (if applicable)
Eastern Ribbonsnake (<i>Thamnophis sauritus</i>) Species of Conservation Concern COSEWIC (SC) and MNR Status (SC)	<ul style="list-style-type: none"> • Preferred Habitat <ul style="list-style-type: none"> ▪ Occurs in wet meadows, marshes or sphagnum bogs, usually near water such as ponds, or streams. Species hibernates in groups¹⁰. 	Seasonal concentration areas for this species were assessed as part of Reptile Hibernacula (see above).	<ul style="list-style-type: none"> • Refer to Reptile Hibernacula above for description of RH-05.
Milksnake (<i>Lampropeltis triangulum</i>) Species of Conservation Concern COSEWIC (SC) and MNR Status (SC)	<ul style="list-style-type: none"> • Preferred Habitat <ul style="list-style-type: none"> ▪ Species inhabits abandoned farmlands, meadows, thickets and woodlands. Often found hiding under stones, or under boards¹⁰. 	Seasonal concentration areas for this species were assessed as part of Reptile Hibernacula (see above).	<ul style="list-style-type: none"> • Refer to Reptile Hibernacula above for description of RH-05.
Snapping Turtle (<i>Chelydra serpentina</i>) Species of Conservation Concern COSEWIC (SC) and MNR Status (SC)	<ul style="list-style-type: none"> • Preferred Habitat <ul style="list-style-type: none"> ▪ Requires permanent, semi-permanent fresh water, including marshes, swamps, rivers and streams. Nests in open habitats on south-facing slopes. Hibernates in mud under water¹⁰. 	Specialized habitats for this species were assessed as part of Turtle Nesting Habitat and Turtle Over-wintering Habitat (see above).	<ul style="list-style-type: none"> • Not applicable.
Shrub/Early Successional Bird Breeding Habitat	<ul style="list-style-type: none"> • Presence of the following Ecosites: CUT1, CUS1; and • Shrublands or successional fields greater than 30 ha in size, excluding Class 1 and 2 agricultural lands and lands actively used for farming (i.e., no row-cropping in the last 5 years). 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat present). • Natural area 514: No suitable habitat present. • Natural area 551: No suitable habitat present. • Natural area 555: No suitable habitat present. • Natural area 582: No suitable habitat present. 	<ul style="list-style-type: none"> • Not applicable.
Terrestrial Crayfish	<ul style="list-style-type: none"> • Presence of all Ecosites associated with the following ELC Community Series: MAM and MAS; • Entrances of terrestrial crayfish burrows, which are conspicuous tall “chimneys” constructed from pellets of excavated mud; and • Presence of crayfish burrows in active agricultural fields does not constitute Significant Wildlife Habitat. 	<ul style="list-style-type: none"> • Natural area 450: No change from NHA (no suitable habitat present). • Natural area 487: No change from NHA (no suitable habitat). • Natural area 514: No suitable habitat present. (no crayfish chimneys or their burrows observed). • Natural area 551: Chimney Crayfish burrows observed in gap area between FOD5-2 forest in tracks of vehicles during 2012 surveys. Since, these burrows are not in a meadow marsh; this feature was not carried forward to the Evaluation of Significance. • Natural area 555: No suitable habitat present (no crayfish chimneys or their burrows observed). • Natural area 582: No suitable habitat present (no crayfish chimneys or their burrows observed). 	<ul style="list-style-type: none"> • Not applicable.

Type of Candidate Significant Wildlife Habitat	Characteristics of the SWH Type <i>(All characteristics must be met by candidate SWH)</i>	Assessment	Attributes, Composition and Function of Candidate SWH (if applicable)
Animal Movement Corridor			
Amphibian Corridors	<ul style="list-style-type: none"> • Habitat is not ELC specific; and • Corridors must be determined only when amphibian breeding habitat is confirmed as SWH. 	<ul style="list-style-type: none"> • Natural area 450 is an isolated woodlot and therefore no amphibian corridors were identified for candidate Amphibian Woodland Breeding Habitat AWO-13. 	Not applicable.

Reference Notes:

1. www.illinoiswildflower.info
2. <https://www.biodiversityexplorer.mnr.gov.on.ca>
3. www.wildflower.org
4. <https://ontariowildflowers.com>
5. <http://plants.usda.gov/java/charProfile?symbol=BICO>
6. Michigan Flora – Edward G. Voss – 1996
7. <http://www.rom.on.ca/ontario/risk>
8. <http://www.registrelap-sararegistry.gc.ca/>
9. http://montana.plant-life.org/species/vale_edul.htm
10. <http://en.wikipedia.org/>
11. <http://www.efloras.org>
12. <http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/ko/a649/saururus-cernuus.aspx>
13. <http://michiganflora.net/species.aspx?id=251>

3.2.5 Minimum Distances from Natural Features to Project Location

The proposed Project modifications have resulted in changes to the minimum distance to Project Location for the following natural features (Table 7). Minimum distances to natural features not listed in the table below are the same as reported in the approved NHA and EIS.

Table 7. Updated Distances between Project Components and Natural Features in the Bluewater Wind Energy Centre

Feature ID	Feature Type	Natural Area(s)	Minimum Distance from Project Location (m)		Amendments to the EOS and/or EIS Required?
			Distance Reported in Approved NHA and EIS (m)	Distance Corresponding to Proposed Modifications (m)	
WET-04	Wetland	534, 536, 537, 538, 542, 546	>0.1 (collection line)	46 (turbine construction footprint)	No
WET-06	Wetland	514	>0.1 (transmission line)	0 (transmission line in feature)	Yes
Woodland E	Woodland	450	>0.1 (collection line)	57 (access road, collection line)	Yes
Woodland K	Woodland	481, 487	2 (access road, collection line)	>0.1 (collection line)	Yes
Woodland U	Woodland	542	2 (access road, collection line)	28 (turbine construction footprint)	No
Woodland V	Woodland	537	>0.1 (collection line)	No longer within 120 m of Project Location	Yes
Woodland AJ	Woodland	488, 514	101 (turbine construction footprint)	0 (transmission line in feature)	Yes
Woodland AO	Woodland	551, 552	>0.1 (transmission line)	0 (transmission line in feature)	Yes
Woodland AP	Woodland	555, 556	>0.1 (transmission line)	0 (transmission line in feature)	Yes
Woodland AS	Woodland	564	58 (transmission line)	61 (transmission line)	No
BMC-08	Bat Maternity Colony	542	2 (access road, collection line)	28 (turbine construction footprint)	No
AWO-06	Amphibian Woodland Breeding Habitat	487	15 (access road, collection line)	>0.1 (collection line)	Yes
AWO-13	Amphibian Woodland Breeding Habitat	450	>0.1 (collection line)	57 (access road, collection line)	Yes
n/a	Generalized Candidate Significant Wildlife Habitat	537	>0.1 (collection line)	>120 m from Project Location	Yes

4. Amendments to the Evaluation of Significance

4.1 Methods

4.1.1 Wetlands

As no development was proposed within any wetland features in the approved NHA and EIS, all wetland features within the 120 m Area of Investigation were treated as Provincially Significant and assessed using the protocol described in Appendix C of the Natural Heritage Assessment Guide for Renewable Energy Projects (MNR, 2011a). Under the proposed Project modifications, the transmission line is located within wetland feature WET-06, therefore an evaluation of the significance of this feature is required. An evaluation of significance of wetland feature WET-06 was therefore completed according to the Ontario Wetland Evaluation System (OWES) protocol (MNR, 2002).

This evaluation was completed by an OWES certified Biologist, Jessica Piette (refer to Appendix C for qualifications). Field work in support of this evaluation was completed on June 26, 2012 between 10:00 am and 5:30 pm. Detailed field notes are provided in Appendix B.

4.1.2 Woodlands

Woodlands where vegetation removal is proposed (AJ, AP and AO) were re-evaluated based on field data collected during site investigations conducted in support of this amendment, following the methods described in the approved NHA and EIS.

No changes to the Evaluation of Significance are required for Significant Woodlands E and K; however Project modifications are proposed within 120 m of these woodlands. The potential effects of Project modifications on Significant Woodlands E and K are therefore addressed in the EIS section of this amendment.

4.1.3 Wildlife Habitat

Bat Maternity Colonies

The candidate bat maternity colony identified will be evaluated using the methods described in the Bats and Bat Habitats: Guidelines for Wind Power Projects (MNR, 2011b). Refer to Appendix G for a complete description of the methods to be used for this evaluation.

Reptile Hibernacula

Evaluation of significance studies were undertaken for candidate reptile hibernaculum RH-05 using the methods described for this Significant Wildlife Habitat type in the approved NHA and EIS.

Amphibian Woodland Breeding Habitat

Evaluation of significance studies will be undertaken for candidate amphibian woodland breeding habitat AWO-13 using the methods described for this Significant Wildlife Habitat type in the approved NHA and EIS.

Habitat of Plant Species of Conservation Concern

A vascular plant inventory was completed to evaluate the significance of candidate habitat for plant Species of Conservation Concern SCP-01 as follows. Field investigations to identify plant Species of Conservation Concern and their habitats were conducted in conjunction with ELC mapping and vascular plant surveys. These surveys were conducted in SCP-01 on April 23, 2012. Candidate Significant Wildlife Habitat features were revisited between mid-May and mid-July 2012 to confirm species presence or absence (in this case on 19 June, 2012). Taking into consideration all of the plant Species of Conservation Concern and their various blooming periods, this optimal survey period was selected in order to capture the greatest number of species detectable either in flower, fruit or by vegetative characters. GPS co-ordinates and habitat description were recorded in instances where plant Species of Conservation Concern were encountered during field investigations.

Habitat of Bird Species of Conservation Concern (Red-headed Woodpecker)

Woodland breeding bird surveys were completed to evaluate the significance of candidate Red-headed Woodpecker Habitats SCB-01, SCB-02 and SCB-03. Breeding bird surveys were conducted in these features according to the Forest Bird Monitoring Protocol, with additions from the Ontario Breeding Bird Atlas Methods. Woodlands were

selected to be surveyed if tree removal was proposed in suitable habitat for placement of above-ground infrastructure. Point count stations within the woodland were located within the area of disturbance, and at least 200 m from the forest edge, where forest interior existed. Stations within large woodlands were at least 250 m apart. For wooded areas with no forest interior (less than 200 m from edge), point counts were located in the centre of the forest patch. For wooded features crossing roadways, point counts were located 125 m from the right-of-way on each side of the roadway, allowing 250 m between stations. Locations of point count stations were marked on an aerial map, flagged in the field, and UTM data was recorded.

Three separate surveys were conducted at each station. Surveys were completed between May 24 and July 10, 2012 with at least 10 days between each visit. Surveys were conducted in the morning, between one half hour before dawn and 10:00 a.m., when weather conditions were without precipitation and winds were calm. Weather conditions (temperature, sky conditions, wind speed and direction) at each point count were recorded.

Each point count was composed of two 5-minute intervals. During each point count all signs and vocalizations of birds were recorded as well as the direction from which the call came. The approximate location of the bird species, breeding activity, and flyovers were recorded on station maps. Surveyors also assessed the distance of the calls, either within a 50 m radius from the surveyor, between 50 to 100 m or greater than 100 m from the point count location. Habitat within 100 m was evaluated using the habitat coding system from the Ontario Nest Records Scheme to provide station specific habitat information.

Forest areas identified to contain suitable breeding habitat for bird Species of Conservation Concern through the Site Investigation (SCB-01, SCB-02 and SCB-03) were considered to be Significant Wildlife Habitat if bird Species of Conservation Concern were identified using the area during the 2012 breeding season.

4.2 Results

4.2.1 Wetlands

Through the completion of an OWES evaluation for wetland feature WET-06, which as part of the evaluation was assigned the official name Stanley Big Drain Wetland, it was determined that this wetland is not Provincially Significant. The complete OWES evaluation for this feature, which has already been submitted and approved by MNR, is included in Appendix H. Based on this evaluation and according to O.Reg. 359/09, the proposed development can occur within this wetland. Thus, wetland feature WET-06 was not carried forward to the EIS.

4.2.2 Woodlands

All three of the woodlands where vegetation removal is proposed (AJ, AP and AO) were originally evaluated and determined to be significant in the approved NHA and EIS. The status and associated characteristics of these features as significant woodlands did not change based on additional field information collected during 2012 site investigations. These woodlands were therefore carried forward to the EIS.

4.2.3 Wildlife Habitat

Bat Maternity Colonies

For the purposes of this submission, candidate significant bat maternity colony BMC-15 was treated as significant and carried forward to the EIS, with the commitment to complete pre-construction evaluation of significance surveys as described in Section 4.1.3. The location of this feature is shown on Figure 3b.

Reptile Hibernacula

One candidate reptile hibernaculum (RH-05) was identified through the Site Investigation. Three evaluation of significance surveys were completed for this feature between April and May 2012. A summary of the results of these surveys is presented in Table 8. Detailed field notes are provided in Appendix B.

No snake species were observed during these surveys (Table 8). Thus, RH-05 was determined not to be significant and was not carried forward to the EIS.

Table 8. Evaluation of Significance of Candidate Reptile Hibernacula

Round 1 Survey		Round 2 Survey		Round 3 Survey		Carried Forward to EIS
Date, Time & Weather Conditions	Results	Date, Time & Weather Conditions	Results	Date, Time & Weather Conditions	Results	
4/19/2012 9:00-10:00 Temperature: 15°C Wind: 0 Cloud Cover: 0%	No snakes observed.	05/08/2012 15:30 - 15:50 Temperature: 16°C Wind Scale: 0 Cloud Cover: 10%	No snakes observed.	05/17/2012 11:00 - 11:20 Temperature: 10°C Wind Scale: 0 Cloud Cover: 0%	No snakes observed.	No - not significant reptile hibernaculum due to lack of observed snakes.

Amphibian Woodland Breeding Habitat

For the purposes of this submission, candidate amphibian woodland breeding habitat AWO-13 was treated as significant and carried forward to the EIS, with the commitment to complete pre-construction evaluation of significance surveys as described in Section 4.1.3. The location of this feature is shown on Figure 3a.

Habitat of Plant Species of Conservation Concern

One candidate habitat of plant Species of Conservation Concern feature requiring Evaluation of Significance studies (SCP-01) was identified through site investigations conducted in support of this amendment. This feature contains potential habitat for Green Dragon, Harbinger-of-spring, Scarlet Beebalm and Slim-flowered Muhly. The results of vascular plant surveys conducted in April and June 2012 indicate that no plant Species of Conservation Concern were observed in this candidate Significant Wildlife Habitat (Table 9). As a result, this feature was deemed not to contain habitat for plant Species of Conservation Concern and thus was not carried forward to the EIS. A complete list of all vascular plant species observed during 2012 vascular plant surveys is presented in Appendix E. Detailed field notes are provided in Appendix B.

Table 9. Evaluation of Candidate Habitat for Plant Species of Conservation Concern

Plant Species of Conservation Concern	Feature ID	Natural Area	ELC Unit	Date of Vascular Plant Surveys	Distance to Project Location	Species Observed	Carried Forward to EIS
Green Dragon (<i>Arisaema dracontium</i>) Vulnerable – S3 COSEWIC (SC) and MNR Status (SC)	SCP-01	555	FOD9-5	April 23, 2012 June 19, 2012	0 m (transmission line in feature)	No	No – not Significant Wildlife Habitat
Harbinger-of-spring (<i>Erigenia bulbosa</i>) Vulnerable – S3? (rank uncertain)	SCP-01	555	FOD9-5	April 23, 2012 June 19, 2012	0 m (transmission line in feature)	No	No – not Significant Wildlife Habitat
Scarlet Beebalm (<i>Monarda didyma</i>) Vulnerable – S3	SCP-01	555	FOD9-5	April 23, 2012 June 19, 2012	0 m (transmission line in feature)	No	No – not Significant Wildlife Habitat
Slim-flowered Muhly (<i>Muhlenbergia tenuiflora</i>) Imperiled – S2	SCP-01	555	FOD9-5	April 23, 2012 June 19, 2012	0 m (transmission line in feature)	No	No – not Significant Wildlife Habitat

Habitat of Bird Species of Conservation Concern (Red-headed Woodpecker)

A summary of the results of woodland breeding bird surveys conducted in candidate habitat for bird species of conservation concern (SCB-01, SCB-02 and SCB-03) is provided in Table 10 (shaded rows identify Significant Wildlife Habitat). Refer to Appendix I for a complete list of bird species observed.

Bird Species of Conservation Concern were not recorded in any of the candidate habitats except for SCB-02, where one male Red-headed Woodpecker was observed flying into natural area 551 from across the road. This feature consists of a mid-age, deciduous woodland with a closed canopy and presence of herbaceous and low shrub layers. Woodland modification was noted in the form of partial logging which resulted in a broken, semi-open overstorey and a relatively large amount of downed logs, important habitat components for the Red-headed Woodpecker. The species requires the presence of large, dead, weathered trees for breeding (Kilham, 1983). Although there is no evidence to confirm that Red-headed Woodpecker is breeding in SCB-02, the species was observed within suitable habitat during the breeding season. As a result, this feature was identified as Significant Wildlife habitat and carried forward to the EIS. The location of this feature is shown on Figure 3c.

4.2.4 Summary of Features Carried Forward to the EIS

The following natural features were either evaluated and confirmed to be significant or treated as significant for the purpose of this submission and carried forward to the EIS:

- Significant Woodlands E, K, AJ, AO and AP (in natural areas 450, 487, 514, 551 and 555);
- Significant Wildlife Habitats including:
 - Bat Maternity Colony in natural area 514 (BMC-15);
 - Amphibian Woodland Breeding Habitat (AWO-13) in natural area 450; and
 - Habitat for Bird Species of Conservation Concern (Red-Headed Woodpecker) (SCB-02) in natural area 551.

The significance of amphibian woodland breeding habitat AWO-13 and bat maternity colony BMC-15 will be determined based on the results of pre-construction surveys.

Natural area 551 was considered Generalized Candidate Significant Wildlife Habitat for bat maternity colonies in the approved NHA and EIS. This habitat is still considered Generalized Candidate Significant Wildlife Habitat for bat maternity colonies however the boundary of the habitat has been modified, as described in Appendix G (also refer to Figure 3c). The mitigation measures described for this habitat in the approved NHA and EIS will still be applied.

Table 10. Evaluation of Candidate Significant Wildlife Habitat for Red-headed Woodpecker

Natural Area No.	Feature ID	ELC Unit	Distance to Project Location	Round 1 Survey		Round 2 Survey		Round 3 Survey		Carried Forward to EIS
				Date, Time and Weather Conditions	Results	Date, Time and Weather Conditions	Results	Date, Time and Weather Conditions	Results	
514	SCB-01	SWD6-3, FOD5-1	0 m (transmission line in feature)	6/11/2012 5:49 – 7:49 Temperature: 19°C Wind Direction: - Wind Scale: 0 Sky Condition: 1 Cloud Cover: 20%	No bird Species of Conservation Concern observed.	6/25/2012 6:59 – 7:40 Temperature: 17°C Wind Direction: N Wind Scale: 2 Sky Condition: 1 Cloud Cover: < 5%	No bird Species of Conservation Concern observed.	7/7/2012 5:55 – 6:39 Temperature: 18°C Wind Direction: N Wind Scale: 1 Sky Condition: 1 Cloud Cover: 30%	No bird Species of Conservation Concern observed during survey.	No – not Significant Wildlife Habitat.
551	SCB-02	FOD5-2	0 m (transmission line in feature)	5/28/2012 6:50 – 8:10 Temperature: 20°C Wind Direction: S Wind Scale: 2 Sky Condition: 0 Cloud Cover: 10%	No bird Species of Conservation Concern observed.	6/18/2012 6:00 – 6:50 Temperature: 18°C Wind Direction: - Wind Scale: 0 Sky Condition: 0 Cloud Cover: 10%	No Bird Species of Conservation Concern observed.	6/29/2012 6:00 – 6:50 Temperature: 24°C Wind Direction: SW Wind Scale: 2 Sky Condition: 1 Cloud Cover: 0%	Red-headed Woodpecker observed flying from tree at roadside into natural area 551	Yes – Significant Wildlife Habitat for Red-headed Woodpecker.
555	SCB-03	FOD9-5	0 m (transmission line in feature)	5/30/2012 6:25 – 7:05 Temperature: 12°C Wind Direction: NW Wind Scale: 1 Sky Condition: 0 Cloud Cover: 0%	No bird Species of Conservation Concern observed.	6/18/2012 7:32 – 7:53 Temperature: 18°C Wind Direction: - Wind Scale: 0 Sky Condition: 4 Cloud Cover: 100%	No bird Species of Conservation Concern observed.	6/29/2012 7:32 – 7:53 Temperature: 24°C Wind Direction: W Wind Scale: 2 Sky Condition: 1 Cloud Cover: 40%	No bird Species of Conservation Concern observed during survey.	No – not Significant Wildlife Habitat.

Beaufort Wind Scale

- 0: 0-2 km/hr – calm, smoke rises vertically
- 1: 3-5 km/hr – light air movement
- 2: 6-11 km/hr – wind felt on face; leaves rustle
- 3: 12-19 km/hr – leaves/small twigs in constant motion
- 4: 20-30 km/hr – dust/loose papers below; small branches move
- 5: 31-38 km/hr – fresh breeze – moderate branch moves
- 6: 39-49 km/hr – strong breeze – large branch moves

Sky Condition Indicators

- 0: Clear or few clouds
- 1: Partly cloudy
- 2: Cloudy (broken) or overcast
- 4: Fog or Smoke
- 5: Drizzle
- 7: Snow
- 8: Showers

5. Amendments to the Environmental Impact Study

5.1 Potential Environmental Effects and Mitigation Measures No Longer Applicable

Due to the Project modifications, natural area 537 is no longer in the 120 m Area of Investigation; therefore, all potential construction and operational effects and associated mitigation measures described in the approved NHA and EIS no longer apply to the following previously identified Features:

- Significant Woodland Feature V; and
- Generalized Candidate Significant Wildlife Habitat (Waterfowl Nesting Area, Bat Maternity Colony, Amphibian Woodland Breeding Habitat, Rare Vegetation Community, Mature Forest Stand, Seep, Habitat for Species of Conservation Concern).

In addition, mitigation measures related to the installation of a collection line under the portion of Significant Wetland Feature WET-04 in natural area 537 via horizontal directional drilling no longer apply.

5.2 Additional Potential Environmental Effects and Mitigation Measures

Additional potential effects on significant natural features resulting from the proposed Project refinements are as follows:

Construction and Decommissioning Phases

- Loss of up to 0.5 ha of total forest cover in Significant Woodland Features AJ, AO and AP from clearing for the transmission line;
- Potential for unplanned intrusion into Significant Woodland Feature K in event of equipment malfunction due to installation of collection line via horizontal directional drilling;
- Displacement and/or mortality of nursing female and juvenile bats resulting from vegetation clearing for transmission line construction within Bat Maternity Colony Feature 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 Features BMC-15;
- Noise disturbance to and/or avoidance behaviour of bats during construction within Bat Maternity Colony Feature BMC-15;
- Accidental intrusion into natural feature resulting in habitat damage to Amphibian Woodland Breeding Habitat Feature AWO-13;
- Disruption of amphibians moving to breeding pools and home range near Amphibian Woodland Breeding Habitat Feature AWO-13;
- Possible indirect effects on breeding pool condition through changes to surface water drainage patterns resulting from access road construction near Amphibian Woodland Breeding Habitat Feature AWO-13;
- 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;
- 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; and
- Noise disturbance to breeding Red-headed Woodpeckers during transmission line construction within Red-headed Woodpecker Habitat Feature SCB-02.

Operational Phase

- Loss of forest cover (up to 0.5 ha) through vegetation clearing in Significant Woodlands (AJ, AO and AP due to transmission line establishment;
- Clearing of vegetation for maintenance of the transmission line, resulting in accidental damage to Significant Woodlands (AJ, AO and AP);
- 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 Feature BMC-15;
- Risk of mortality to amphibians moving between breeding pools and home range due to vehicular collisions along access road near Amphibian Woodland Breeding Habitat Feature AWO-13;
- Red-Headed Woodpecker Breeding Habitat Feature (SCB-02) may be disturbed by routine maintenance of the transmission line corridor; and
- Absence of vegetation within Red-Headed Woodpecker Breeding Habitat Feature (SCB-02) resulting from clearing for the transmission line.

Potential effects of tree removal associated with construction of the transmission line in Significant Woodlands and Significant Wildlife Habitat include the loss of forest cover, however the up to 0.5 ha of vegetation removal proposed in natural areas 514, 551 and 555 is generally not expected to have a negative effect on the habitat suitability of these woodlands for wildlife species. Mitigation measures to compensate for the potential displacement of bat maternity colonies from particular cavity trees in feature BMA-15 are described below. No effects to Woodland Feature E (natural area 450) are expected as a result of access road construction, given the distance between the proposed road and the feature (57 m).

5.2.1 Mitigation Measures

The following tables describe the potential effects, performance objectives, mitigation measures, residual effects expected to remain after mitigation measures are applied and the significance of these residual effects, as well as the proposed monitoring plan and contingency measures, as they relate to the construction and decommissioning phases (Table 11) and operational phase (Table 12) of the proposed Project modifications.

The significance of some candidate Significant Wildlife Habitats (e.g., bat maternity colonies, amphibian woodland breeding habitat) has yet to be determined, as additional field studies are required to evaluate the significance of these features. For the purposes of this submission, these candidate Significant Wildlife Habitats have been treated as significant, and mitigation measures and monitoring related to these features is described in the tables below. However, the mitigation or monitoring related to these significance designations will only be implemented if the features in question are deemed to be significant based on the results of pre-construction surveys, using the methods and criteria described in Section 4.1.3.

Table 11. Mitigation Measures, Residual Effects and Monitoring Plan: Construction and Decommissioning Phases

Significant Features(s)	Potential Effects	Performance Objectives	Mitigation Strategy	Residual Effects	Monitoring Plan and Contingency Measures
Woodlands AJ, AP and AO	<ul style="list-style-type: none"> Loss of up to 0.5 ha of forest cover within Significant Woodlands from clearing for transmission line. <ul style="list-style-type: none"> Woodland AJ: up to 0.1 ha of FOD5-1 and SWD6-3. Woodland AP: up to 0.2 ha of FOD9-5. Woodland AO: up to 0.2 ha of CUP3-2 and FOD5-2. 	<ul style="list-style-type: none"> No net loss of forest cover over time. Minimize the amount of tree removal. 	<ul style="list-style-type: none"> Establish an area of forest equal in area to the cleared area (up to 0.5 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. Perform vegetation clearing 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. 	<ul style="list-style-type: none"> Some clearing of vegetation will occur for the transmission line; this would represent a small change relative to existing conditions. Loss of forest cover minimized through afforestation; however there will be a time delay for the planted area to reach the same function as the cleared forest. 	<ul style="list-style-type: none"> Daily monitoring of areas where active vegetation removal is occurring by Environmental Monitor. Monitor establishment of planted area and replant/fill plant if required (may be undertaken by partner organization). Contingency Measures: <ul style="list-style-type: none"> Any damaged trees will be pruned through implementation of proper arboricultural techniques, under supervision of an Arborist or Forester.
Woodland K	<ul style="list-style-type: none"> Potential for unplanned intrusion into woodland in event of equipment malfunction due to directional drilling. 	<ul style="list-style-type: none"> Refer to performance objectives, mitigation strategy, residual effects, monitoring plan and contingency measures for installation of collection lines under significant woodlands via horizontal directional drilling in approved NHA and EIS. 			
Bat Maternity Colony BMC-15	<ul style="list-style-type: none"> Displacement and/or mortality of nursing female and juvenile bats resulting from vegetation clearing for transmission line construction within Bat Maternity Colony. Removal of confirmed significant cavity trees or other suitable, but not studied, cavity trees resulting from vegetation clearing for transmission line construction within Bat Maternity Colony. Noise disturbance to and/or avoidance behaviour of bats during construction of transmission line within Bat Maternity Colony. 	<ul style="list-style-type: none"> No displacement and/or mortality of nursing female and juvenile bats. Successful relocation of any significant maternity colonies that may be removed (if applicable). Minimize noise disturbance and/or avoidance behaviour during construction. 	<ul style="list-style-type: none"> 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. Tree removal will occur outside of the bat maternal period of May 1 to July 31. If this is not possible, MNR will be consulted regarding mitigation measures that may be required. Clusters of cavity trees (4 cavity trees/ 12.6 m radius of habitat) will not be removed as a result of their high value as maternity roost sites. If this is not possible, MNR will be consulted regarding mitigation measures that may be required. Tree removal will occur outside of the bat maternal period of May 1 to July 31. If this is not possible, MNR will be consulted regarding mitigation measures that may be required. 	<ul style="list-style-type: none"> Significance of residual effects will be determined based on the results of post-construction monitoring. Significance of residual effects will be determined based on the results of post-construction monitoring. 	<ul style="list-style-type: none"> Supervision of tree removal by a qualified Environmental Monitor. Contingency Measures <ul style="list-style-type: none"> Any damaged trees will be pruned through implementation of proper arboricultural techniques, under supervision of an Arborist or Forester. No monitoring or contingency measures required during construction.

Table 11. Mitigation Measures, Residual Effects and Monitoring Plan: Construction and Decommissioning Phases

Significant Features(s)	Potential Effects	Performance Objectives	Mitigation Strategy	Residual Effects	Monitoring Plan and Contingency Measures
<p>Amphibian Woodland Breeding Habitat AWO-13</p>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Refer to performance objectives, mitigation strategy, residual effects, monitoring plan and contingency measures for access road construction near amphibian woodland breeding habitat features in approved NHA and EIS. 			
<p>Amphibian Woodland Breeding Habitat (AWO-06) and Generalized Candidate Significant Wildlife Habitat</p>	<ul style="list-style-type: none"> Potential for unplanned intrusion into significant wildlife habitat in event of equipment malfunction due to directional drilling under natural area 487. 	<ul style="list-style-type: none"> Refer to performance objectives, mitigation strategy, residual effects, monitoring plan and contingency measures for installation of collection lines under significant wildlife habitat via horizontal directional drilling in approved NHA and EIS. 			
<p>Red-headed Woodpecker Habitat SCB-02</p>	<ul style="list-style-type: none"> Removal of vegetation within significant feature resulting in habitat damage from clearing for transmission line within Red-headed Woodpecker Habitat Feature. Noise disturbance to breeding Red-headed Woodpeckers during transmission line construction within Red-headed Woodpecker Habitat Feature. 	<ul style="list-style-type: none"> Minimize disturbance to breeding habitat. No destruction of nest site. Minimize disturbance to breeding birds. 	<ul style="list-style-type: none"> Schedule vegetation clearing within habitat to occur outside the breeding season of May 1 to July 31. If vegetation clearing occurs during the breeding season, maintain a 20 m buffer around any active Red-headed Woodpecker nest within which no vegetation removal will occur. Clearly delineate habitat boundaries (i.e., 20 m buffer) using protective fencing to ensure that construction activities occur outside the habitat boundaries. 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. Refer to tree planting compensation according to the afforestation plan for Significant Woodland AO. 	<ul style="list-style-type: none"> Some (up to 0.1 ha) permanent vegetation removal within the natural feature containing habitat for Red-headed Woodpecker will occur. The amount of habitat loss is minor and restricted to the edge of the woodland adjacent to an existing road; this would represent a small change relative to existing conditions. Disturbance to Red-headed Woodpecker avoided through timing of construction activities. 	<ul style="list-style-type: none"> If vegetation clearing is to occur during breeding season, conduct nest cavity searches within the area of vegetation removal and additional 20 m surrounding the area. <ul style="list-style-type: none"> Identify locations of cavities in dead or partially dead trees within the Red-headed Woodpecker habitat. Nest searches will be conducted by a qualified Biologist on one occasion prior to vegetation clearing in order to confirm active nest cavities. If cavity is observed as active, maintain a 20 m buffer within which no vegetation removal will occur. Supervision of vegetation removal by a qualified Environmental Monitor to limit removal of habitat to the extent possible. Contingency Measures: <ul style="list-style-type: none"> Any damaged trees will be pruned through implementation of proper arboricultural techniques, under supervision of an Arborist or Forester.

Table 12. Mitigation Measures, Residual Effects and Monitoring Plan: Operational Phase

Significant Features(s)	Potential Effects	Performance Objectives	Mitigation Strategy	Residual Effects	Monitoring Plan and Contingency Measures
Woodlands AJ, AP and AO	<ul style="list-style-type: none"> Loss of forest cover (up to 0.5 ha) through vegetation clearing in Significant Woodlands due to transmission line establishment. 	<ul style="list-style-type: none"> No loss of forest cover over time. 	<ul style="list-style-type: none"> Establish an area of forest equal in area to the cleared area (up to 0.5 ha; to be determined 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. 	<ul style="list-style-type: none"> Clearing of vegetation will occur for the transmission line. Loss of forest cover minimized through afforestation over time. Limited magnitude of residual effects. 	<ul style="list-style-type: none"> Conduct post-planting inventory of planted are to determine success of establishment (may be undertaken by partner organization). Contingency Measures: <ul style="list-style-type: none"> 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). Removal of tree limbs on adjacent trees being retained will be carried out under supervision of an Arborist or Forester.
Bat Maternity Colony BMC-15	<ul style="list-style-type: none"> Clearing of vegetation for maintenance of the transmission line, resulting in accidental damage to Significant Woodlands. Absence of confirmed significant cavity trees or other suitable, but not studied, cavity trees removed during construction of an transmission line within Bat Maternity Colony. 	<ul style="list-style-type: none"> Minimize accidental damage to significant woodlands. Protection of bat roosting habitat. 	<ul style="list-style-type: none"> Schedule vegetation clearing 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. Clearly stake area to be cleared. Clusters of cavity trees (4 cavity trees/ 12.6 m radius of habitat) will not be removed as a result of their high value as maternity roost sites. If this is not possible, MNR will be consulted regarding mitigation measures that may be required. 	<ul style="list-style-type: none"> Minimal effects to significant woodlands during maintenance. Significance of residual effects will be determined based on the results of post-construction monitoring. 	<ul style="list-style-type: none"> 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 <i>Bats and Bat Habitats: Guidelines for Wind Power Projects</i> by a qualified Biologist, including: <ul style="list-style-type: none"> Conduct monitoring of roost trees through exit surveys through June. Conduct active visual and acoustic monitoring at the cavity opening or crevice from 30 minutes before dusk until 60 minutes after dusk in June. Contingency Measures: <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.
Amphibian Woodland Breeding Habitat AWO-13	<ul style="list-style-type: none"> Risk of mortality to amphibians moving between breeding pools and home range due to vehicular collisions along access road. 	<ul style="list-style-type: none"> Refer to performance objective, mitigation strategy, residual effects, monitoring plan and contingency measures for access road construction near amphibian woodland breeding habitat features in approved NHA and EIS. 			

Table 12. Mitigation Measures, Residual Effects and Monitoring Plan: Operational Phase

Significant Features(s)	Potential Effects	Performance Objectives	Mitigation Strategy	Residual Effects	Monitoring Plan and Contingency Measures
<ul style="list-style-type: none"> Red-headed Woodpecker Breeding Habitat may be disturbed by routine maintenance of the transmission line corridor. 	<ul style="list-style-type: none"> No displacement of breeding Red-Headed Woodpeckers from habitat. No destruction of nesting habitat. 	<ul style="list-style-type: none"> No displacement of breeding Red-Headed Woodpeckers from habitat. No destruction of nesting habitat. 	<ul style="list-style-type: none"> Schedule maintenance operations such as vegetation clearing to occur outside the breeding season of May 1 to July 31. 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> If vegetation removal occurs during the breeding season, it will be supervised by a qualified Biologist to ensure no destruction of nesting habitat. No additional monitoring or contingency measures required if timing window is applied.
<ul style="list-style-type: none"> Absence of vegetation within Red-Headed Woodpecker Breeding Habitat removed during construction of the transmission line. 	<ul style="list-style-type: none"> No displacement of breeding Red-headed Woodpeckers from habitat. No destruction of nesting habitat. 	<ul style="list-style-type: none"> No displacement of breeding Red-headed Woodpeckers from habitat. No destruction of nesting habitat. 	<ul style="list-style-type: none"> Schedule maintenance operations such as vegetation clearing to occur outside the breeding season of May 1 to July 31. 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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 <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.

6. References

AECOM, 2011:

Bluewater Wind Energy Centre Natural Heritage Assessment and Environmental Impact Study Report.
Prepared for NextEra Energy Canada, ULC. March 2011.

Kilham, L., 1983:

Life history studies of woodpeckers of eastern North America. Publ. Nuttall Ornithol. Club No. 20.

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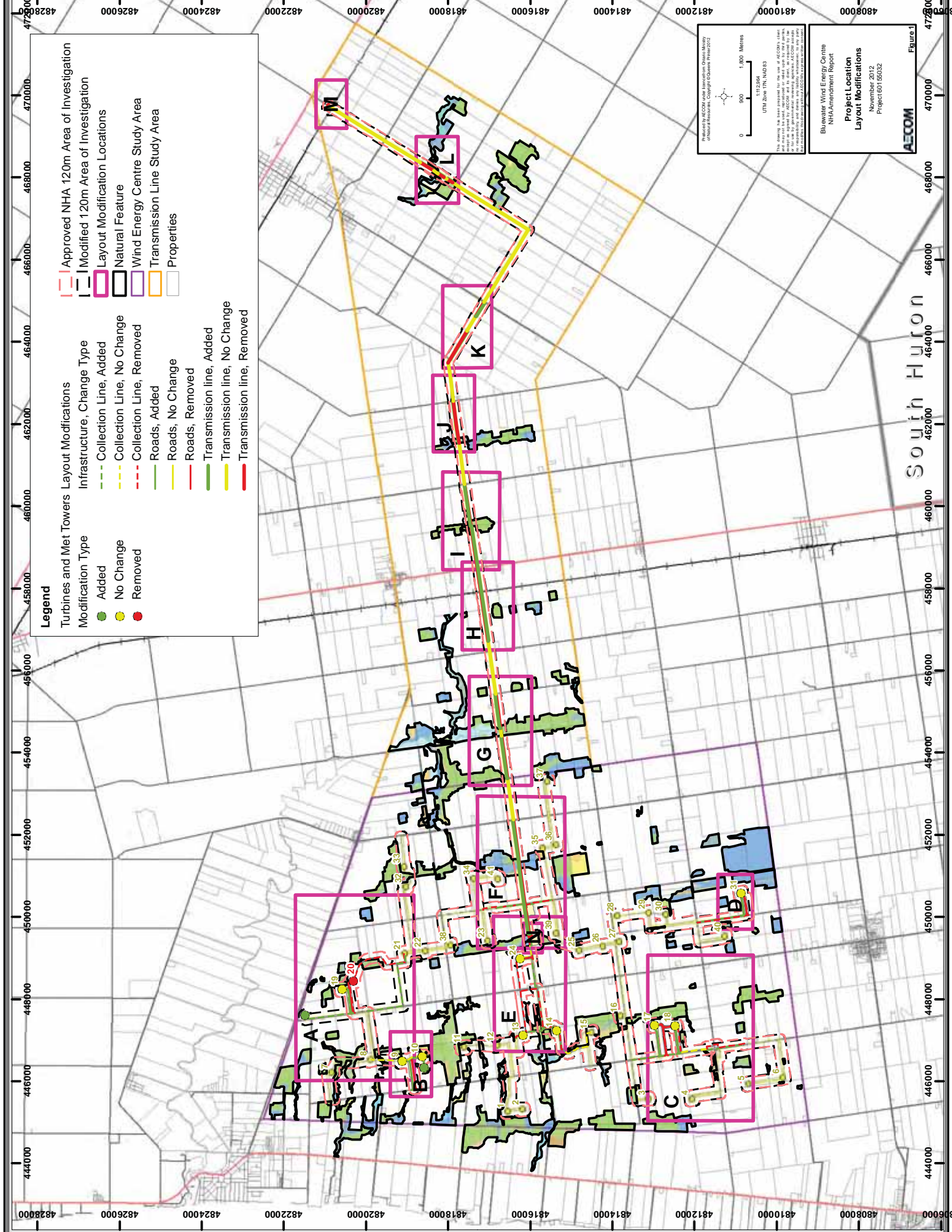
Wetland Evaluation System Southern Manual Covering Hill's Site Regions 6 and 7, Third Edition.

Ontario Ministry of Natural Resources (MNR), 2011a:

Natural Heritage Assessment Guide for Renewable Energy Projects.

Ontario Ministry of Natural Resources (MNR), 2011b:

Bats and Bat Habitats: Guidelines for Wind Power Projects.



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- Added
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 - Removed

- Layout Modifications**
- Infrastructure, Change Type**
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- Approved NHA 120m Area of Investigation**
- Modified 120m Area of Investigation**
- Layout Modification Locations
 - Natural Feature
 - Wind Energy Centre Study Area
 - Transmission Line Study Area
 - Properties

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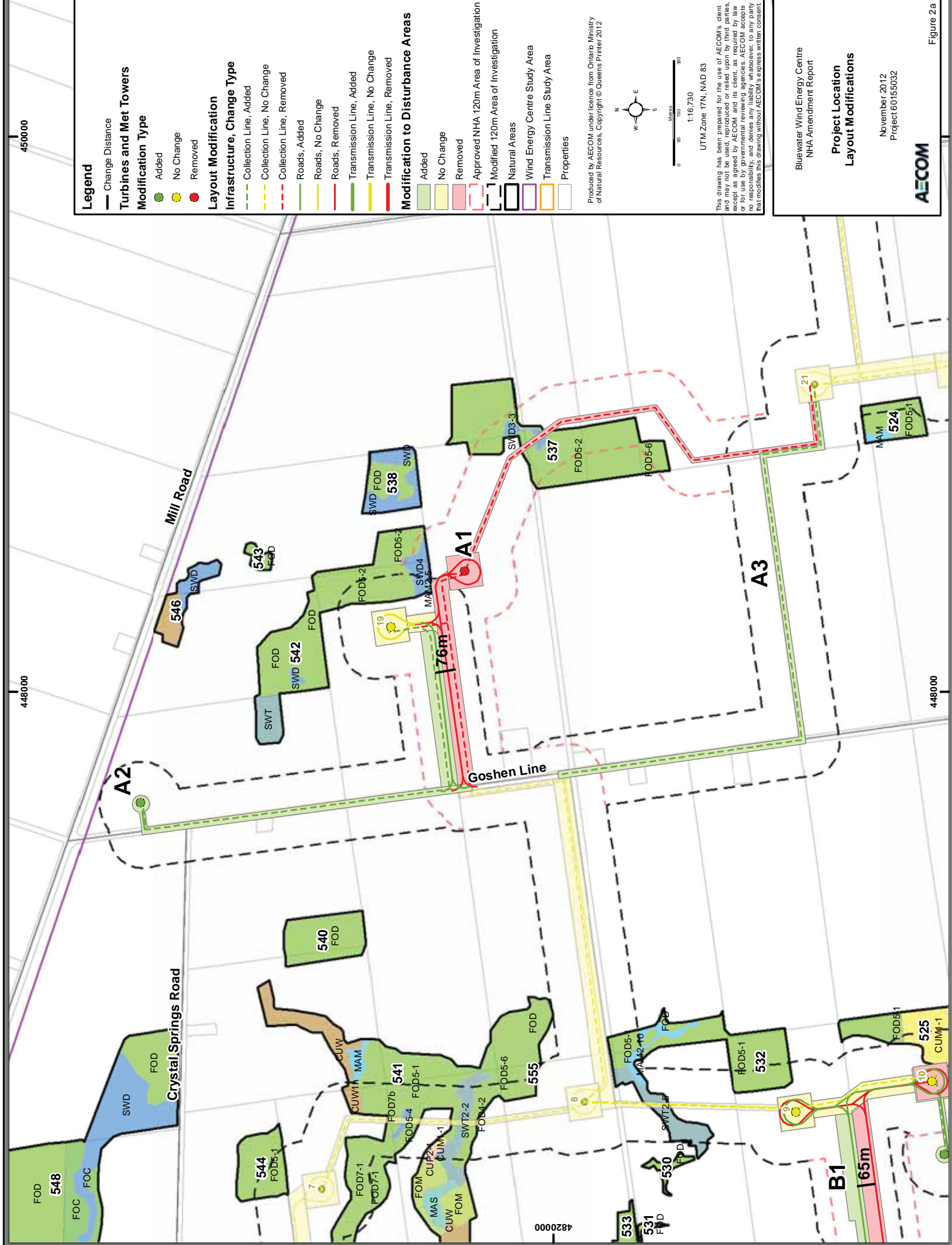
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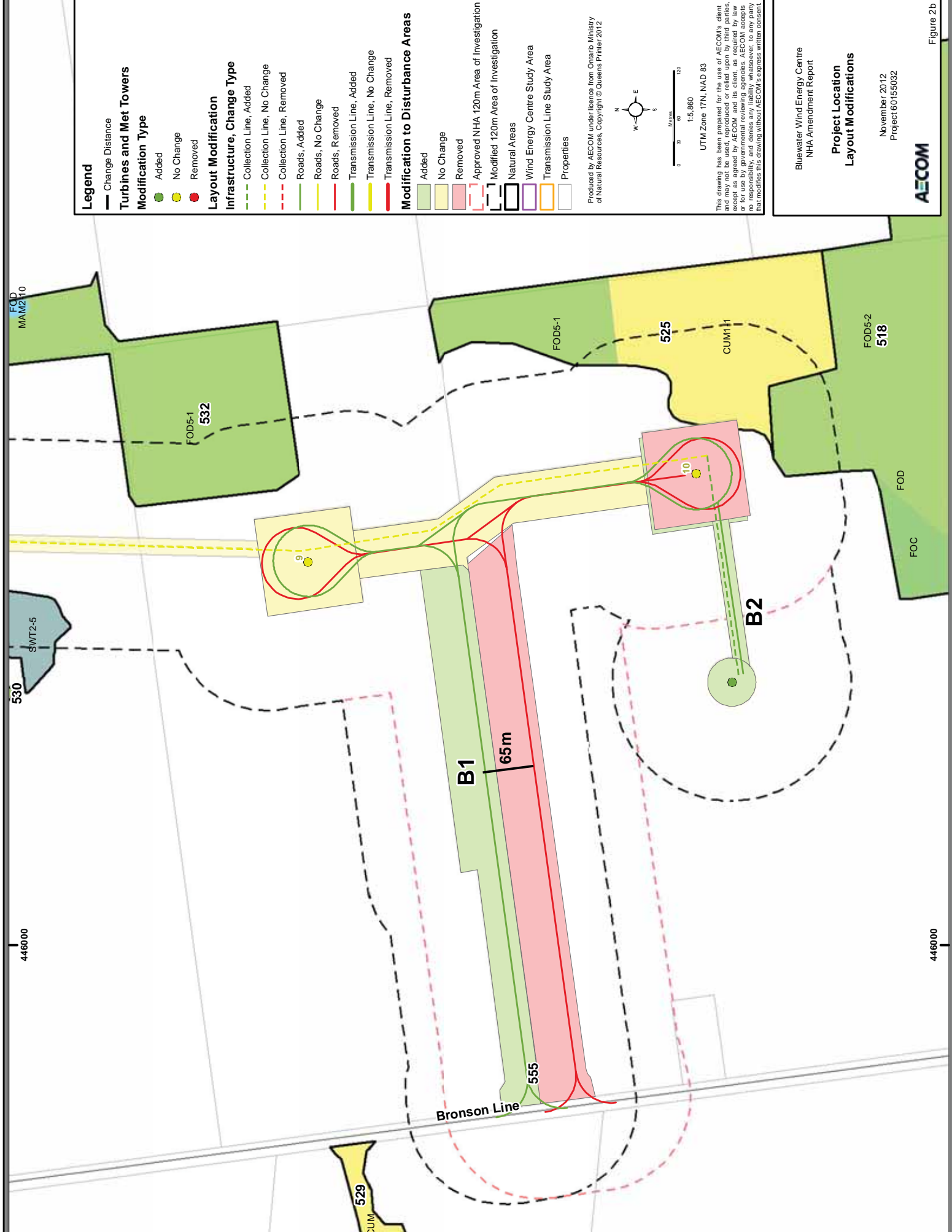
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Project Location
Layout Modifications
 November 2012
 Project 001 55032

AECOM

South Huron

Figure 1





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Turbines and Met Towers

● Added
● No Change
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Layout Modification

— Approved NHA 120m Area of Investigation
— Modified 120m Area of Investigation

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— Natural Areas
— Wind Energy Centre Study Area
— Transmission Line Study Area
— Properties

Modification to Disturbance Areas

— Added
— No Change
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— Approved NHA 120m Area of Investigation
— Modified 120m Area of Investigation

— Natural Areas
— Wind Energy Centre Study Area
— Transmission Line Study Area
— Properties

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— Properties

— Approved NHA 120m Area of Investigation
— Modified 120m Area of Investigation



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Figure 2b

Legend

- Change Distance
- Turbines and Met Towers**
- Modification Type**
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- Transmission Line, Removed
- Modification to Disturbance Areas**
- Added
- No Change
- Removed
- Approved NHA 120m Area of Investigation
- Modified 120m Area of Investigation
- Natural Areas
- Wind Energy Centre Study Area
- Transmission Line Study Area
- Properties

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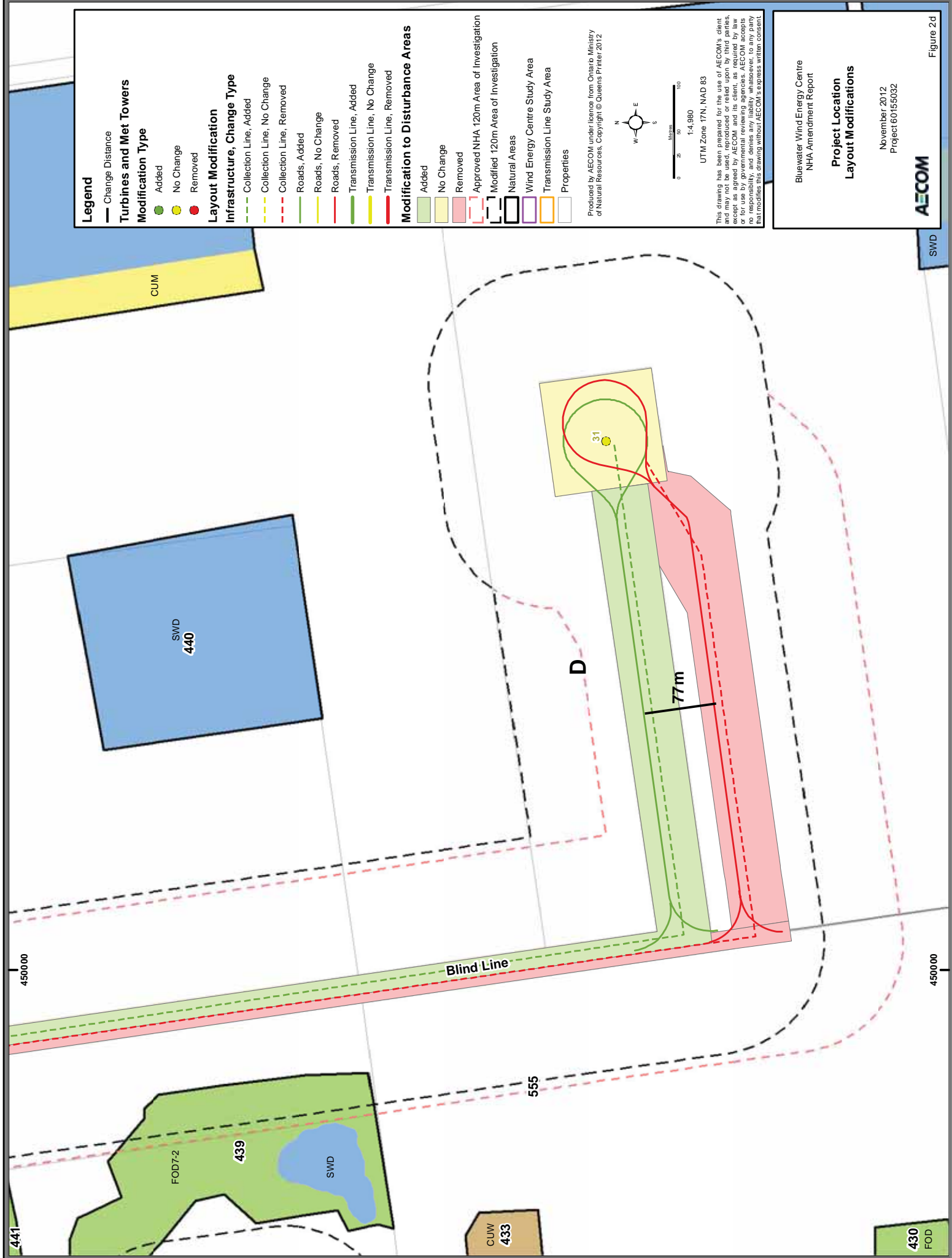
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Project 60165032

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Figure 2.c





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 - Transmission Line Study Area
 - Properties

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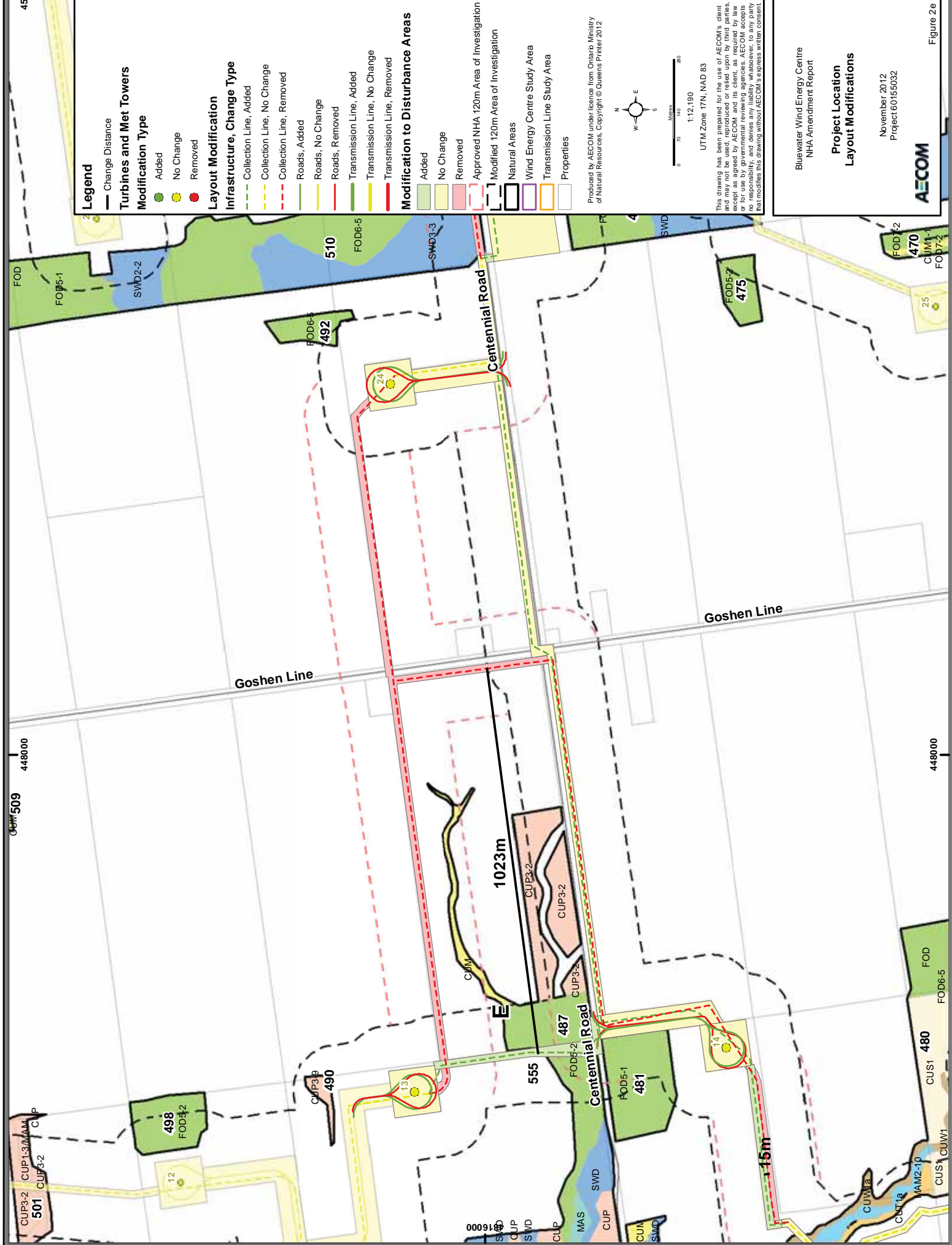
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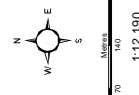
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Figure 2d



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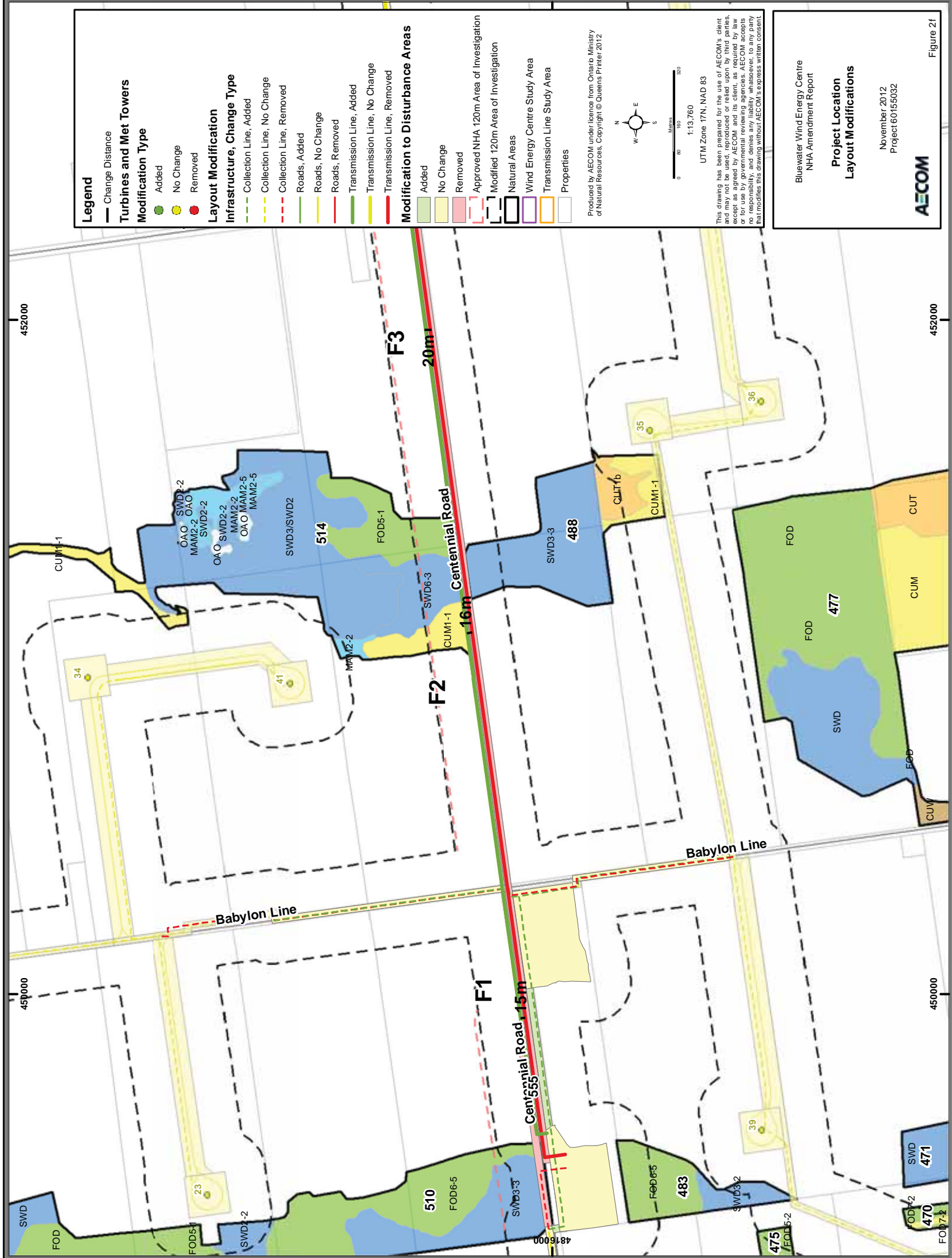
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Legend

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- Natural Areas
- Wind Energy Centre Study Area
- Transmission Line Study Area
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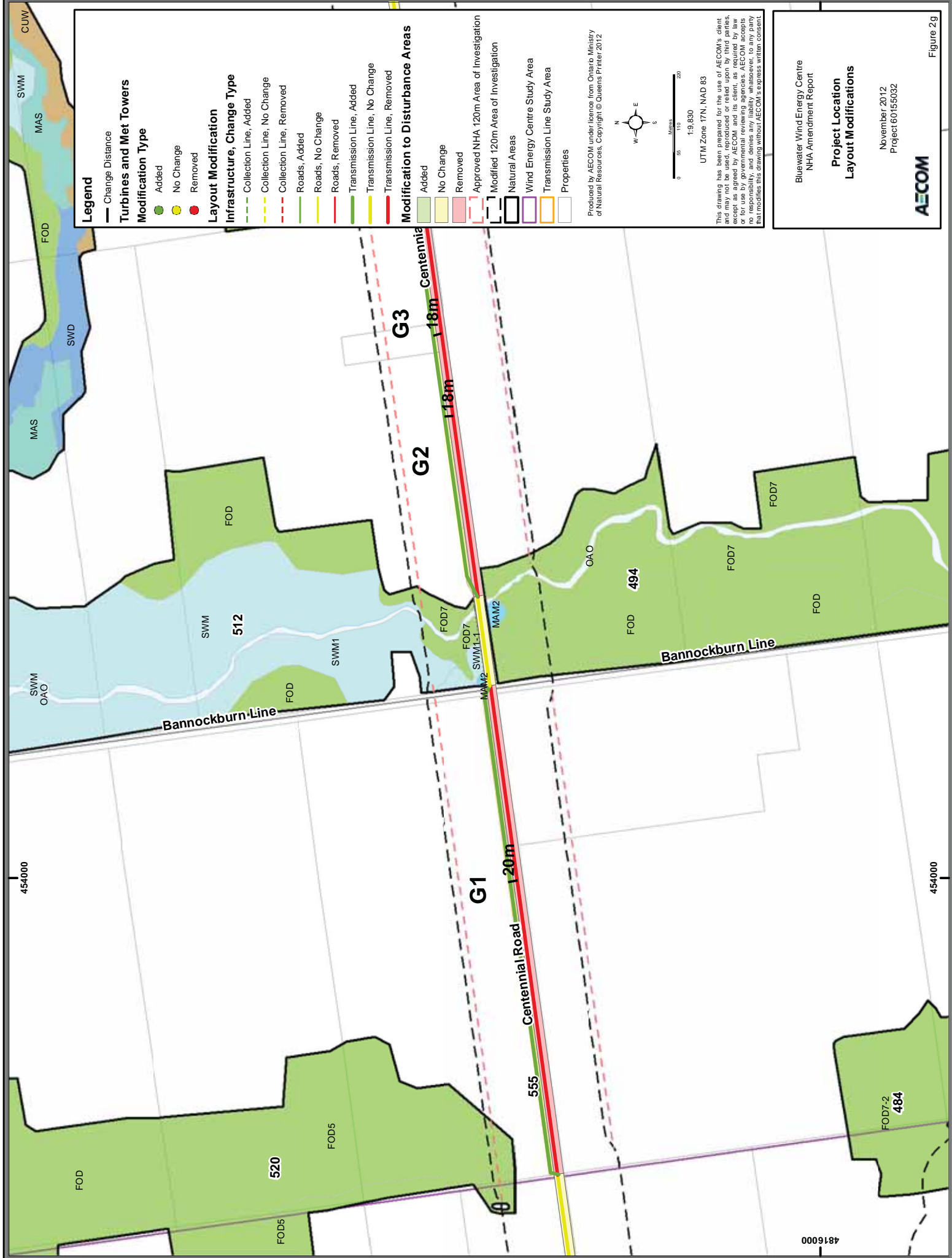
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Legend

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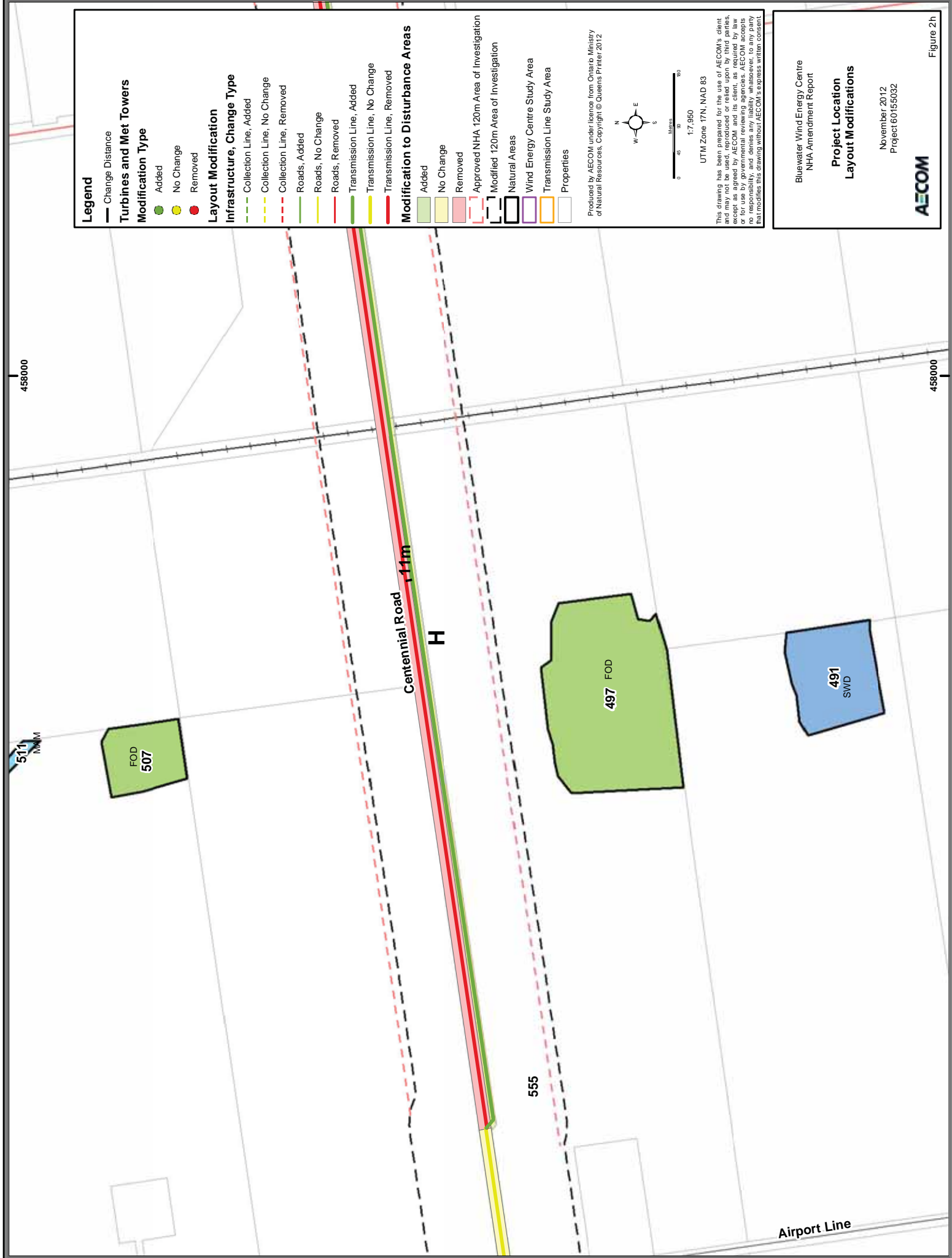
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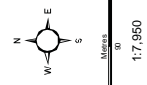


Figure 2.9



Legend

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- Modification to Disturbance Areas
 - Added
 - No Change
 - Removed
 - Approved NHA 120m Area of Investigation
 - Modified 120m Area of Investigation
 - Natural Areas
 - Wind Energy Centre Study Area
 - Transmission Line Study Area
 - Properties



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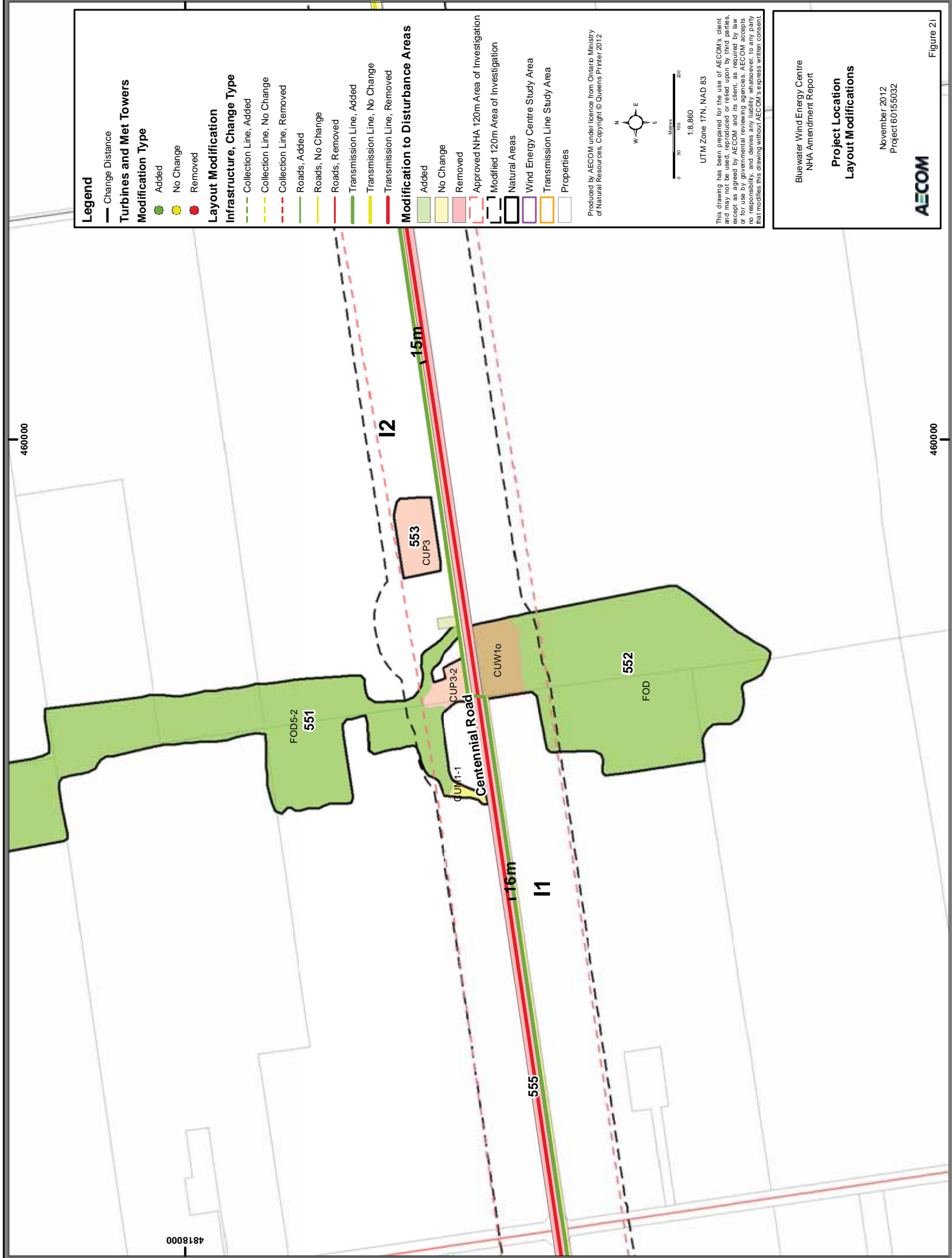
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Figure 2h



Legend

- Change Distance
- Turbines and Met Towers**
- Modification Type**
 - Added
 - No Change
 - Removed
- Layout Modification**
- Infrastructure, Change 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
 - - - Approved NHA 120m Area of Investigation
 - - - Modified 120m Area of Investigation
 - Natural Areas
 - Wind Energy Centre Study Area
 - Transmission Line Study Area
 - Properties

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1:8,860

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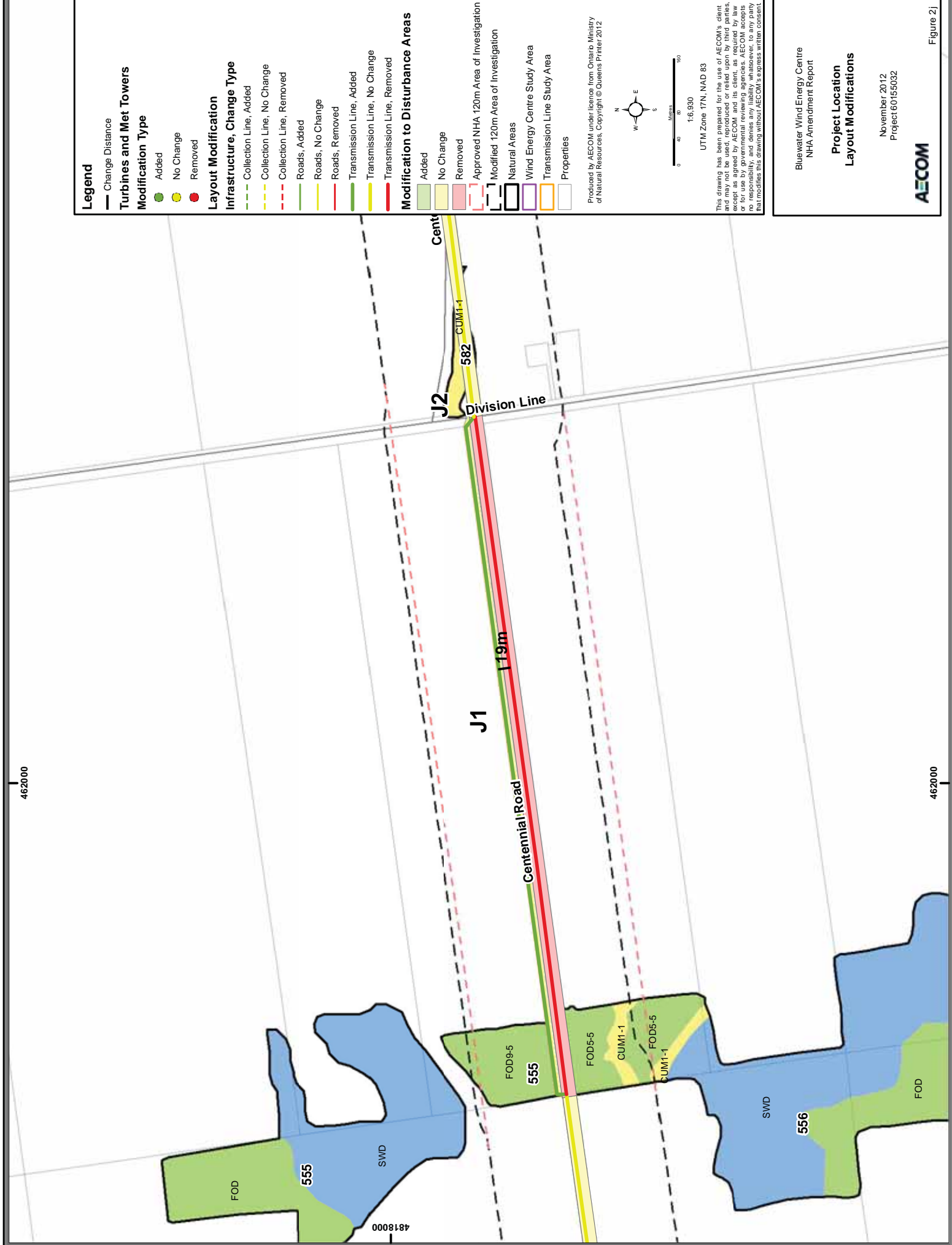
Bluewater Wind Energy Centre
NHA Amendment Report

Project Location
Layout Modifications

November 2012
Project 60165032



Figure 2i



Legend

— Change Distance

Turbines and Met Towers Modification Type

- Added
- No Change
- Removed

Layout Modification

Infrastructure, Change 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
- Approved NHA 120m Area of Investigation
- Modified 120m Area of Investigation
- Natural Areas
- Wind Energy Centre Study Area
- Transmission Line Study Area
- Properties

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0 40 80 160
Metres
1:6,930

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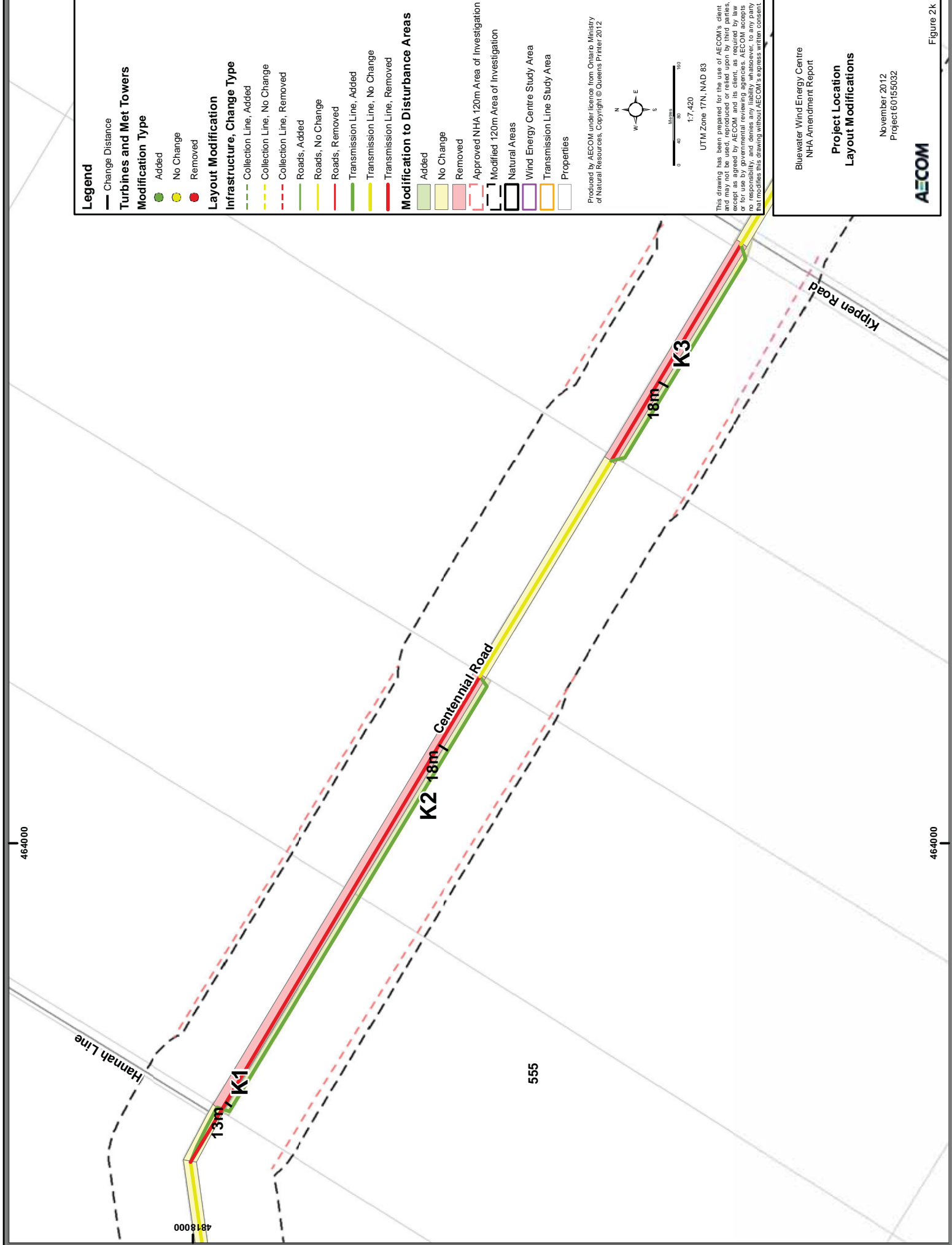
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NHA Amendment Report

**Project Location
Layout Modifications**

November 2012
Project 60165032



Figure 2j



Legend

- Change Distance
- Turbines and Met Towers**
- Modification Type**
- Added
- No Change
- Removed
- Layout Modification**
- Infrastructure, Change 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
- Approved NHA 120m Area of Investigation
- Modified 120m Area of Investigation
- Natural Areas
- Wind Energy Centre Study Area
- Transmission Line Study Area
- Properties

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1:7,420

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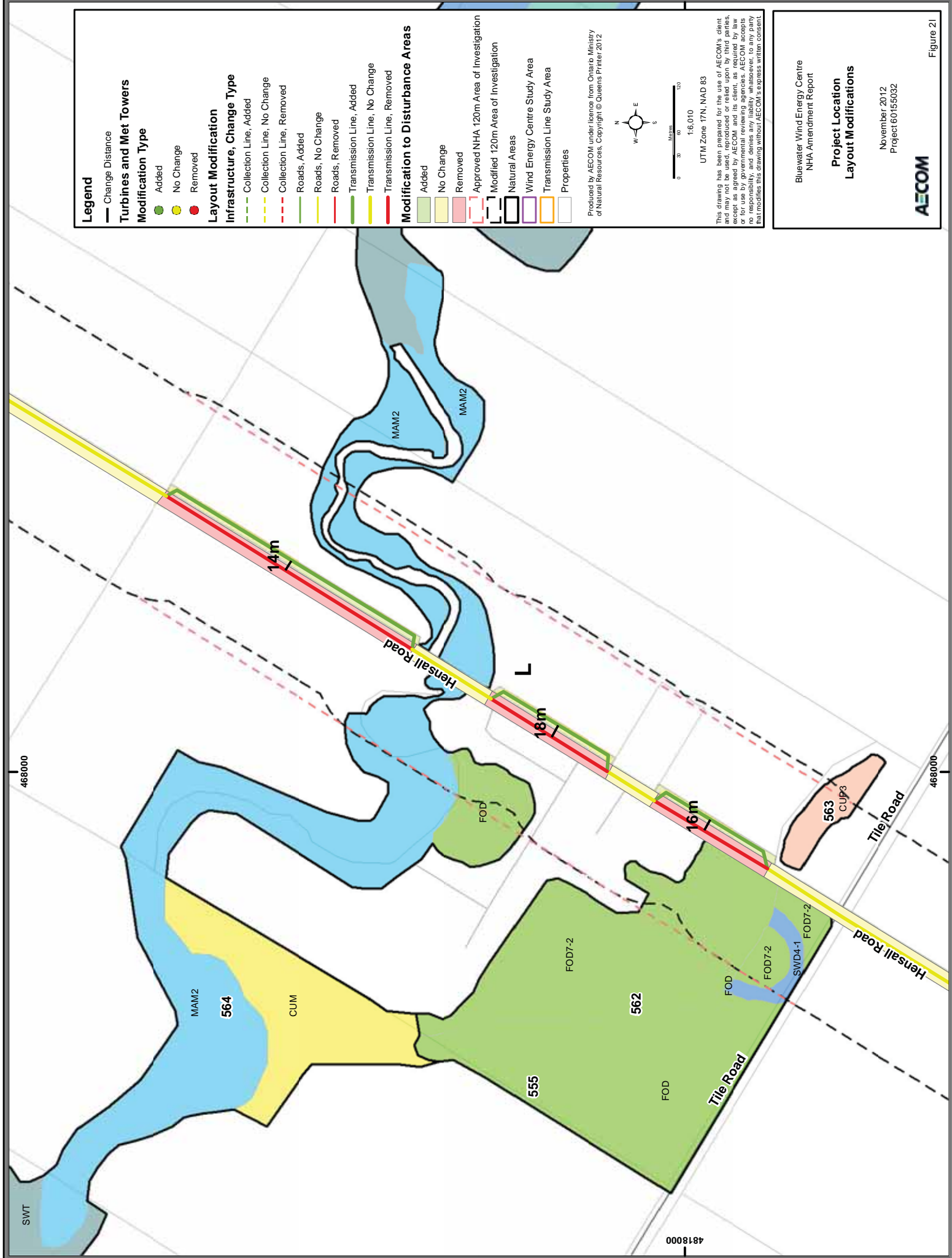
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**Project Location
Layout Modifications**

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Project 60165032

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Figure 2k



Legend

- Change Distance
- Turbines and Met Towers**
- Modification Type**
- Added
- No Change
- Removed
- Layout Modification**
- Infrastructure, Change 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
- Approved NHA 120m Area of Investigation
- Modified 120m Area of Investigation
- Natural Areas
- Wind Energy Centre Study Area
- Transmission Line Study Area
- Properties

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1:6,010

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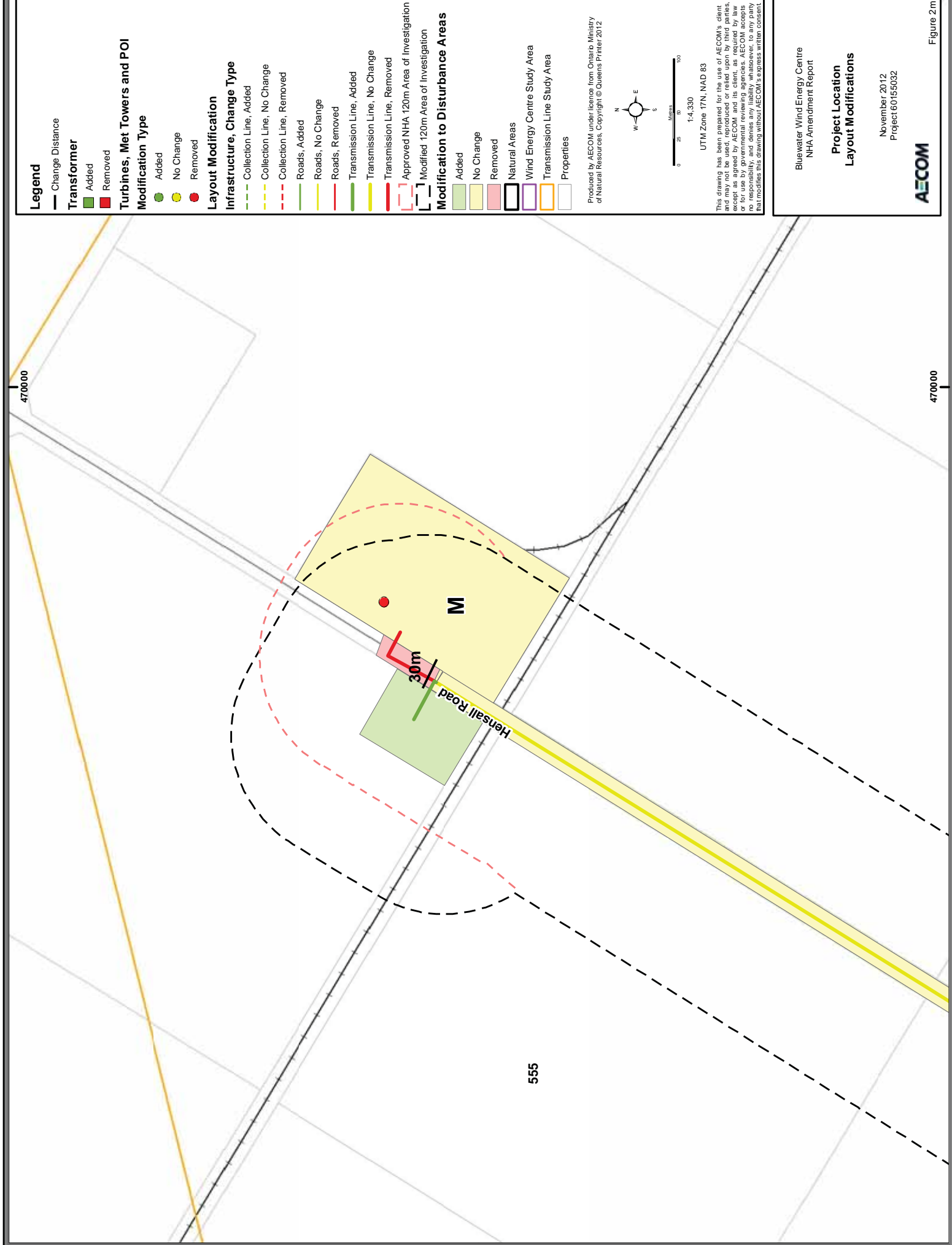
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**Project Location
Layout Modifications**

November 2012
Project 60165032

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Figure 21



Legend

- Change Distance
- Transformer**
- Added
- Removed

Turbines, Met Towers and POI

- Added
- No Change
- Removed

Layout Modification

- Infrastructure, Change 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

Approved NHA 120m Area of Investigation

- Modified 120m Area of Investigation

Modification to Disturbance Areas

- Added
- No Change
- Removed
- Natural Areas
- Wind Energy Centre Study Area
- Transmission Line Study Area
- Properties

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0 25 50 100
Metres
1:4,330

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**Project Location
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Project 60165032



Figure 2.m

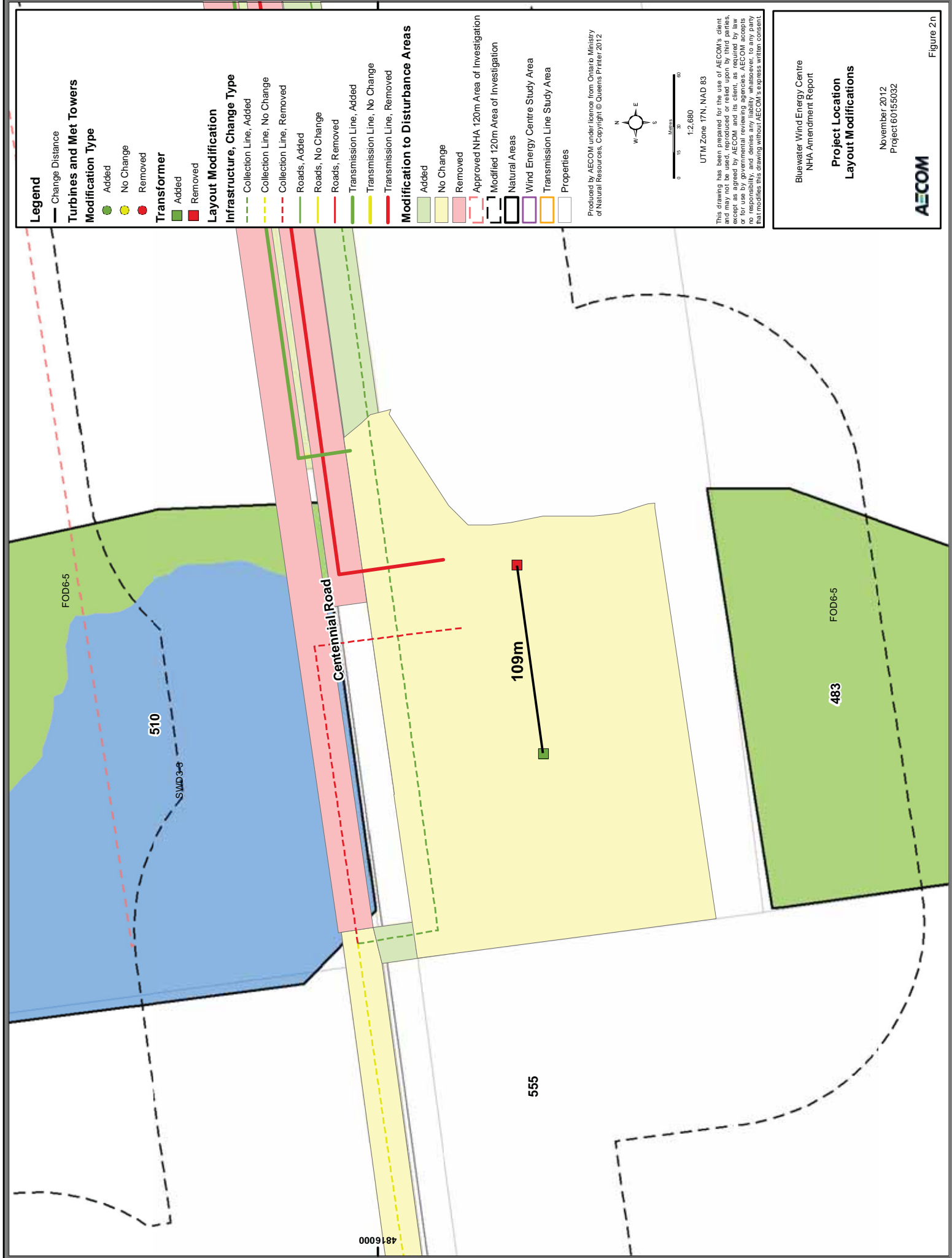
4700.00

4700.00

555

Hensall Road
30m

M



Legend

- Change Distance
- Turbines and Met Towers
- Modification Type
 - Added
 - No Change
 - Removed
- Transformer
 - Added
 - Removed
- Layout Modification
- Infrastructure, Change 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
 - Approved NHA 120m Area of Investigation
 - Modified 120m Area of Investigation
 - Natural Areas
 - Wind Energy Centre Study Area
 - Transmission Line Study Area
 - Properties

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1:2,680

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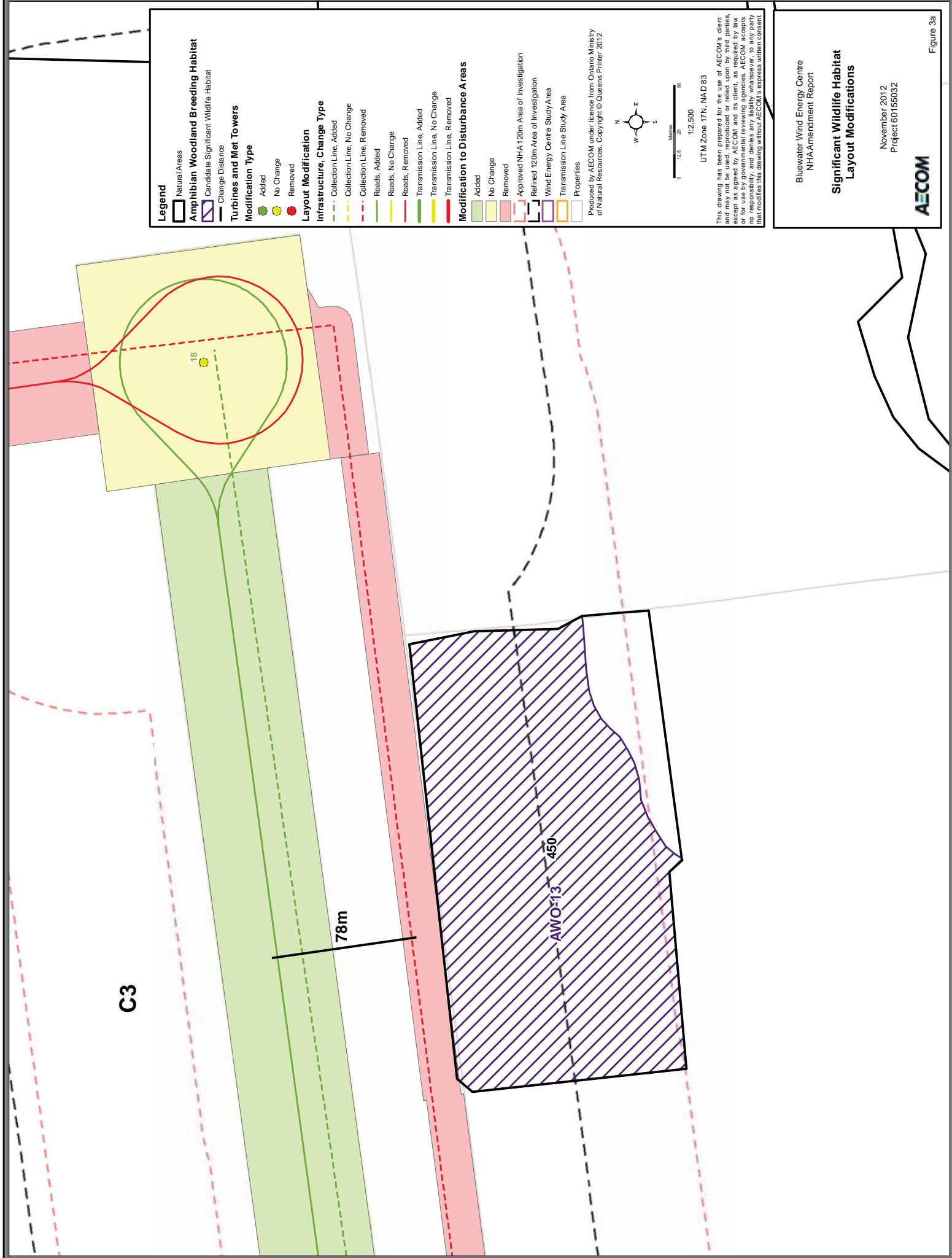
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**Project Location
Layout Modifications**

November 2012
Project 60165032



Figure 2.n



Legend

- Natural Areas
- Amphibian Woodland Breeding Habitat
- Candidate Significant Wildlife Habitat
- Change Distance
- Turbines and Met Towers
- Modification Type
 - Added
 - No Change
 - Removed
- Layout Modification
- Infrastructure, Change 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
 - Approved NHA 120m Area of Investigation
 - Refined 120m Area of Investigation
 - Wind Energy Centre Study Area
 - Transmission Line Study Area
 - Properties

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1:2,500

0 12.5 25 50 Meters

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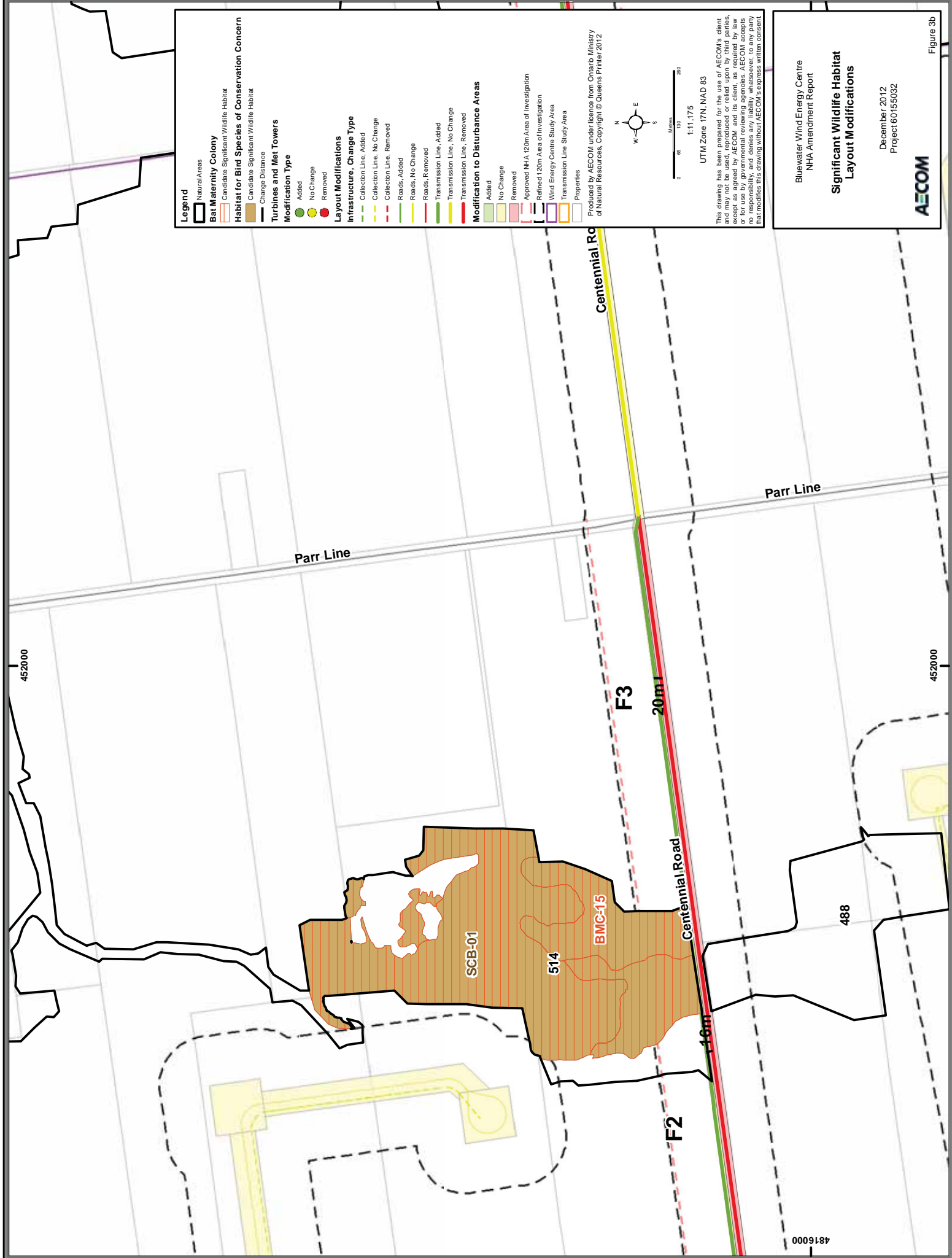
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**Significant Wildlife Habitat
Layout Modifications**

November 2012
Project 60155032

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Figure 3a



Legend

- Natural Areas
- Bat Maternity Colony
- Candidate Significant Wildlife Habitat
- Habitat for Bird Species of Conservation Concern
- Candidate Significant Wildlife Habitat
- Change Distance
- Turbines and Met Towers
 - Added
 - No Change
 - Removed
- Modification Type
- Infrastructure, Change 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
- Approved NHA, 120m Area of Investigation
- Refined 120m Area of Investigation
- Wind Energy Centre Study Area
- Transmission Line Study Area
- Properties

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1:11,175

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**Significant Wildlife Habitat
Layout Modifications**

December 2012
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Figure 3b

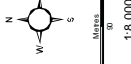
460000

4818000

Legend

- Natural Areas
 - Reptile Hibernaculum
 - Candidate Significant Wildlife Habitat
 - Reptile Hibernaculum (30m Buffer)
 - Bat Maternity Colony
 - Generalized Candidate Significant Wildlife Habitat
 - Candidate Significant Wildlife Habitat
 - Habitat for Bird Species of Conservation Concern
 - Candidate Significant Wildlife Habitat
 - Turbines and Met Towers
 - Added
 - No Change
 - Removed
 - Modification Type
 - Infrastructure, Change 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
 - Change Distance
 - Approved NHA, 120m Area of Investigation
 - Refined 120m Area of Investigation
 - Wind Energy Centre Study Area
 - Transmission Line Study Area
 - Properties

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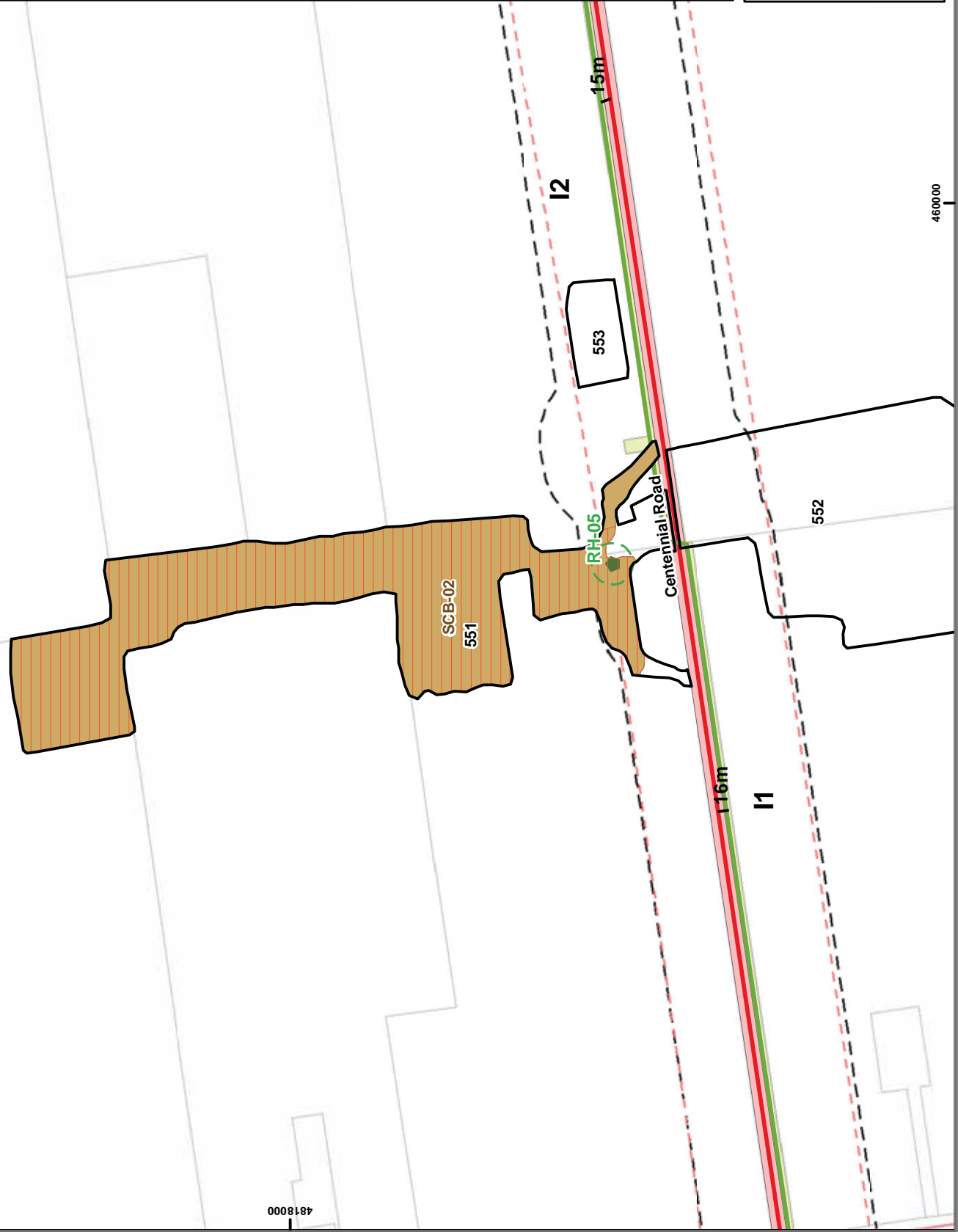
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Significant Wildlife Habitat Layout Modifications

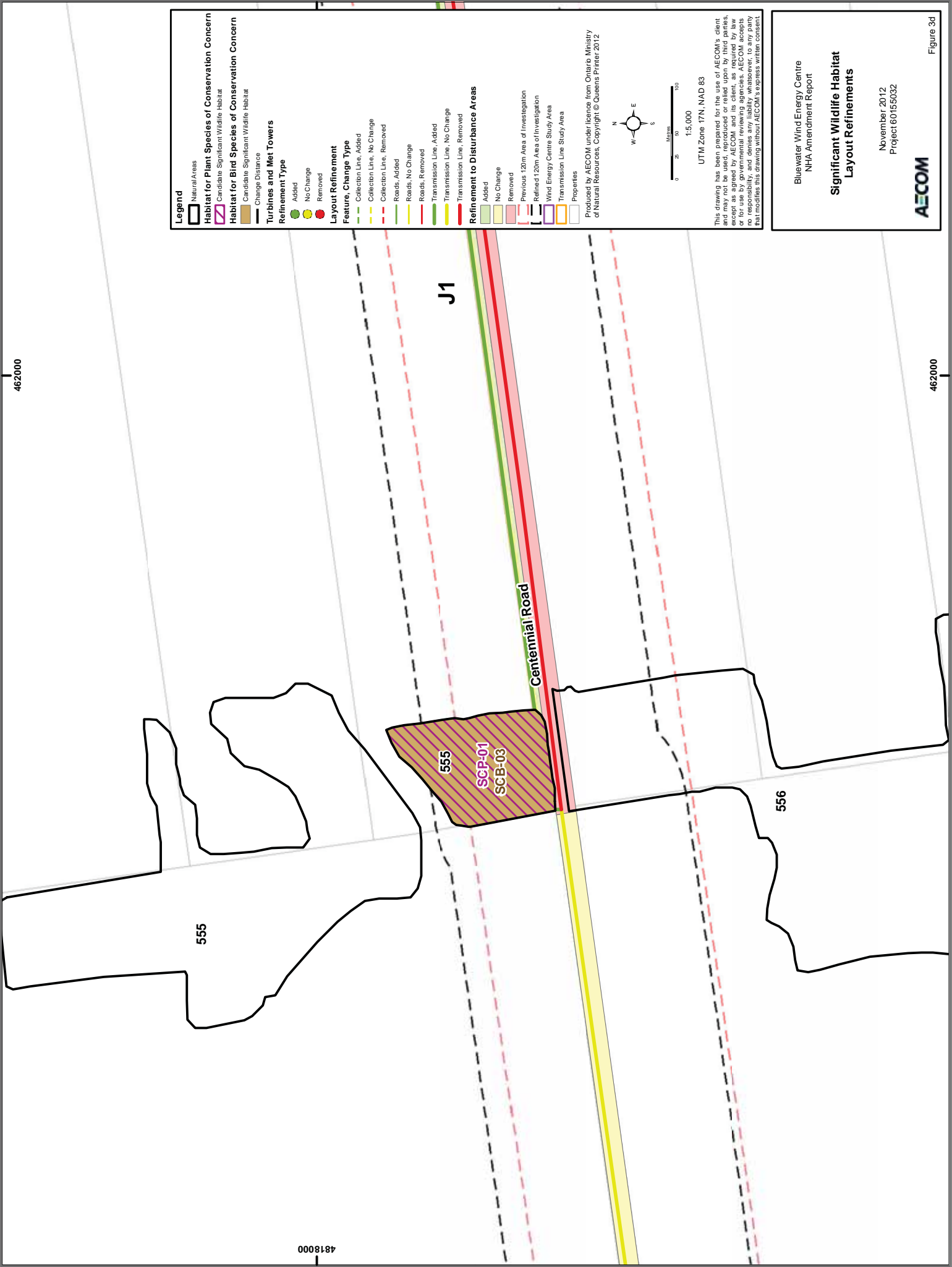
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Figure 3c



462000



4818000

462000

Legend

- Natural Areas
- Habitat for Plant Species of Conservation Concern
- Candidate Significant Wildlife Habitat
- Habitat for Bird Species of Conservation Concern
- Candidate Significant Wildlife Habitat
- Change Distance
- Turbines and Met Towers
- Refinement Type
 - Added
 - No Change
 - Removed
- Layout Refinement
 - Feature, Change 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
- Refinement to Disturbance Areas
 - Added
 - No Change
 - Removed
- Previous 120m Area of Investigation
- Refined 120m Area of Investigation
- Wind Energy Centre Study Area
- Transmission Line Study Area
- Properties

UTM Zone 17N, NAD 83

1:5,000

0 25 50 100
Meters

N
W E S

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**Significant Wildlife Habitat
Layout Refinements**

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Figure 3d