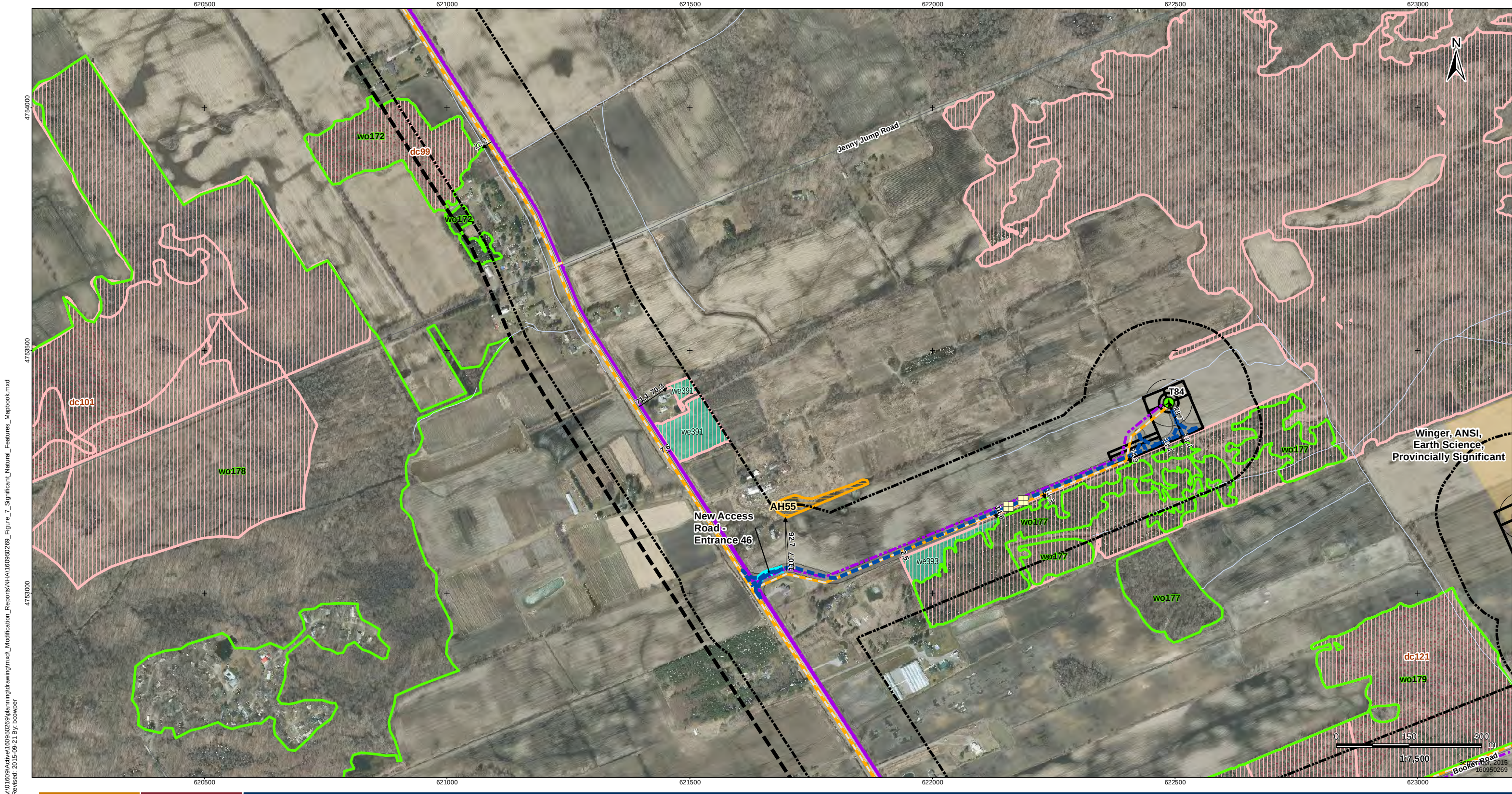




V:\01609\Active\160950269\planning\drawing\mxd_Modification_Reports\NHA\160950269_Figure_7_Significant_Natural_Features_Mapbook.mxd
Revised: 2015-09-21 By: bowper



Stantec

Legend



Project Study Area



Interconnector Study Area



120m Zone of Investigation



Proposed Turbine Location



Turbine Blade Length



Proposed Culvert



Temporary Laydown Area



Collector Lines - Underground or Overhead



Fibre Optic Line

Potential Access Road

Access Road 20m Construction Area

Significant Wildlife Habitat

Snake Hibernacula

Wetland Communities

Wetland Amphibian Breeding Habitat

Woodland Communities

ANSI, Earth Science, Provincially Significant

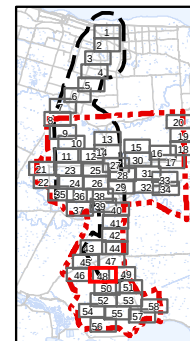
Generalized Wildlife Habitat

Deer Congregation Areas

(MNR) (Generalized)

Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
- Orthoimagery © First Base Solutions, 2010.

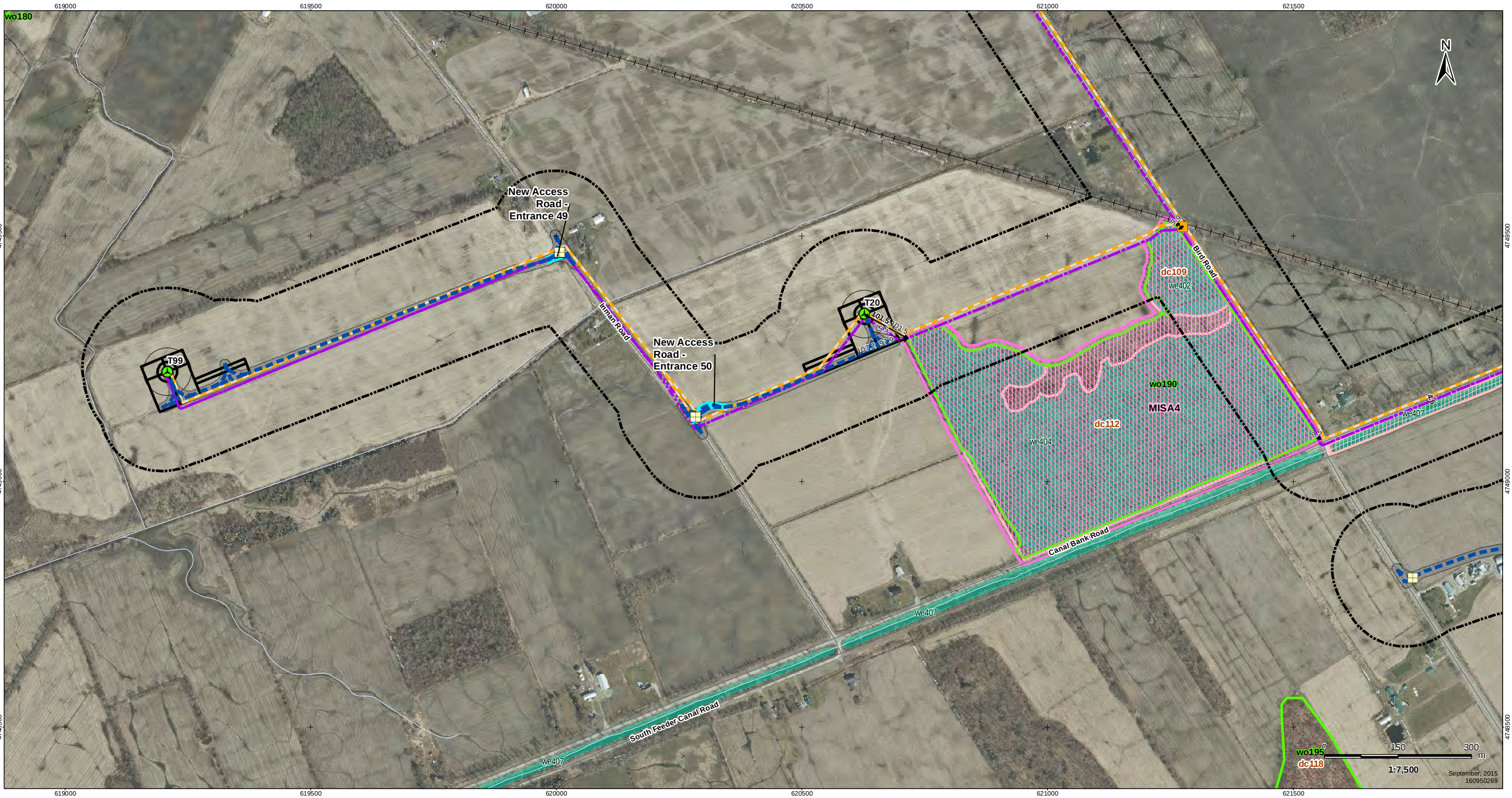


Client/Project
FWRN LP
Natural Heritage Assessment Report

Figure No.
7.48

Title
**Significant Natural
Features
Figure 7.48
Revised**

V:\01609\Active\160950269\planning\drawing\mxd_Modification_Reports\NHA\160950269_Figure_7_Significant_Natural_Features_Mapbook.mxd
Revised: 2015-09-21 By: bowper

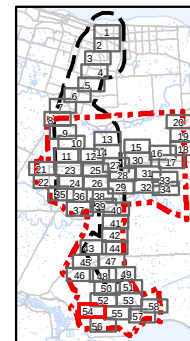


Legend

- | | | |
|-----------------------------------|---|---|
| Project Study Area | Junction Box | Potential Access Road |
| 120m Zone of Investigation | Proposed Culvert | Access Road 20m Construction Area |
| Zone of Investigation Adjustments | Temporary Laydown Area | Significant Wildlife Habitat |
| Area Added | Collector Lines – Underground or Overhead | Snake Hibernacula |
| Proposed Turbine Location | Fibre Optic Line | Landbird Migratory Stopover |
| Turbine Blade Length | | Wetland Communities |
| | | Woodland Communities |
| | | Generalized Wildlife Habitat |
| | | Deer Congregation Areas (MNR) (Generalized) |

Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
- Orthoimagery © First Base Solutions, 2010.



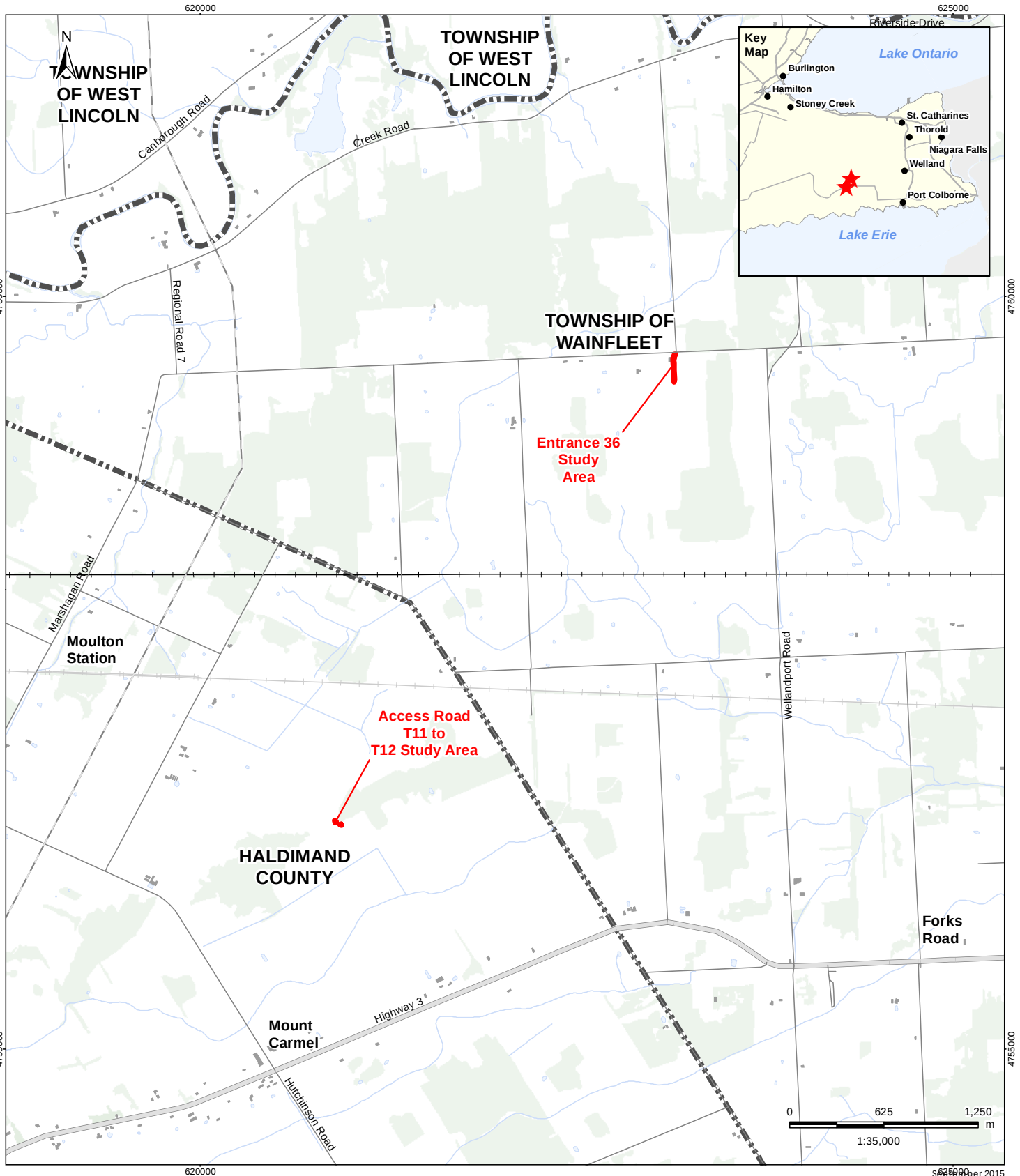
Client/Project
FWRN LP
Natural Heritage Assessment Report

Figure No.
7.54

Title
**Significant Natural
Features
Figure 7.54
Revised**

September, 2015
160950269

V:\01609 (Active)\160950269 (planning)\drawing\mxd_Modification_Reports\Archaeology_Stage_2AA_160950269_S2AA_Figure_1_Location_of_Study_Area.mxd
Revised: 2015-09-21 By: bcowper
4755000



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

Legend

- Study Area
- Road
- Expressway / Highway
- Active Railway
- Abandoned Railway
- Existing Structures
- Existing Transmission Line
- Watercourse
- Waterbody
- Wooded Area
- Municipality Lower Tier

Client/Project

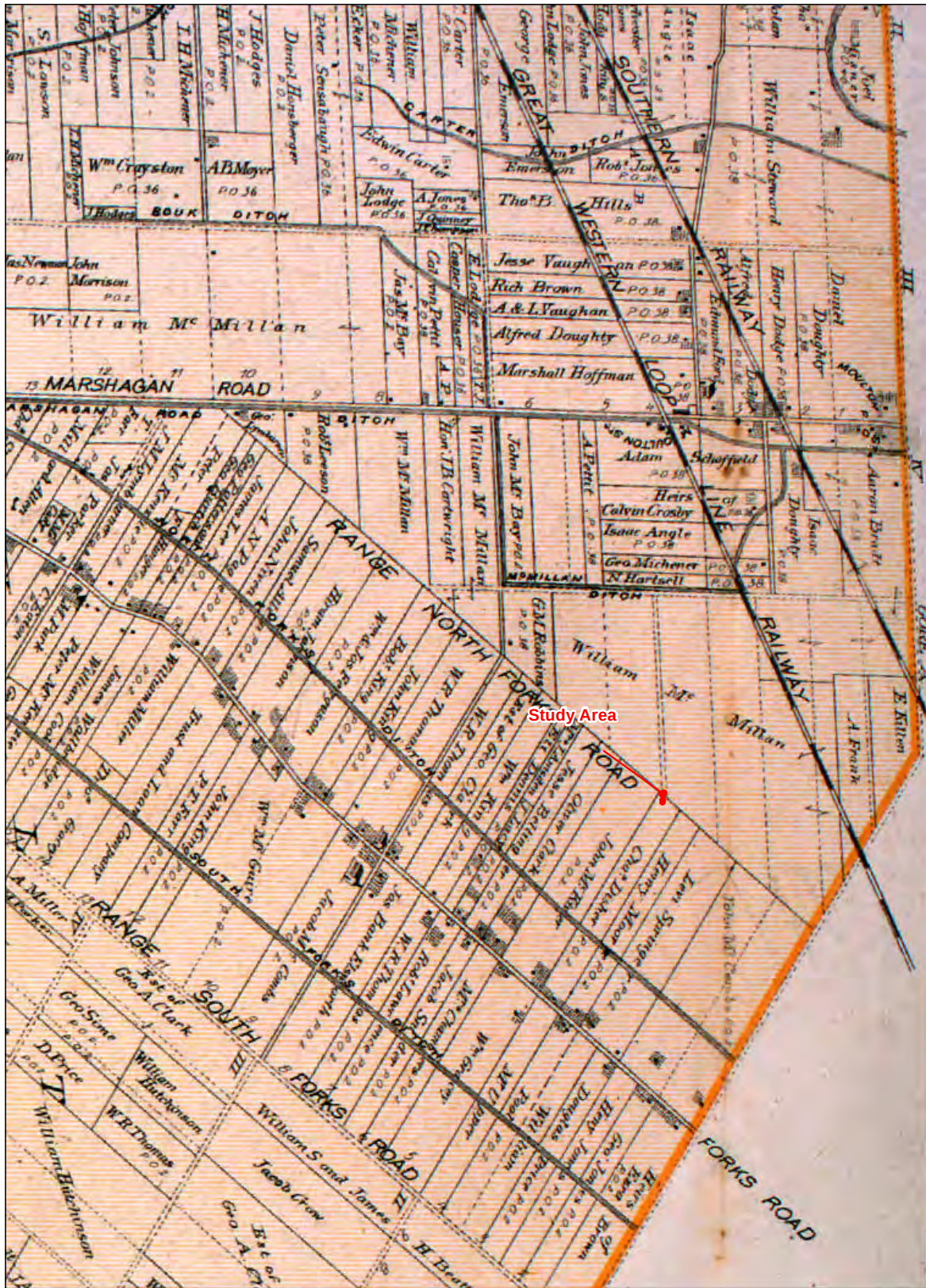
FWRN LP
Niagara Region Wind Farm
Stage 2 Archaeological Assessment

Figure No.

1

Title

Location of Study Area



Study Area



Stantec

Legend



Study Area

Client/Project

FWRN LP
 Niagara Region Wind Farm
 Stage 2 Archaeological Assessment

Figure No.

2

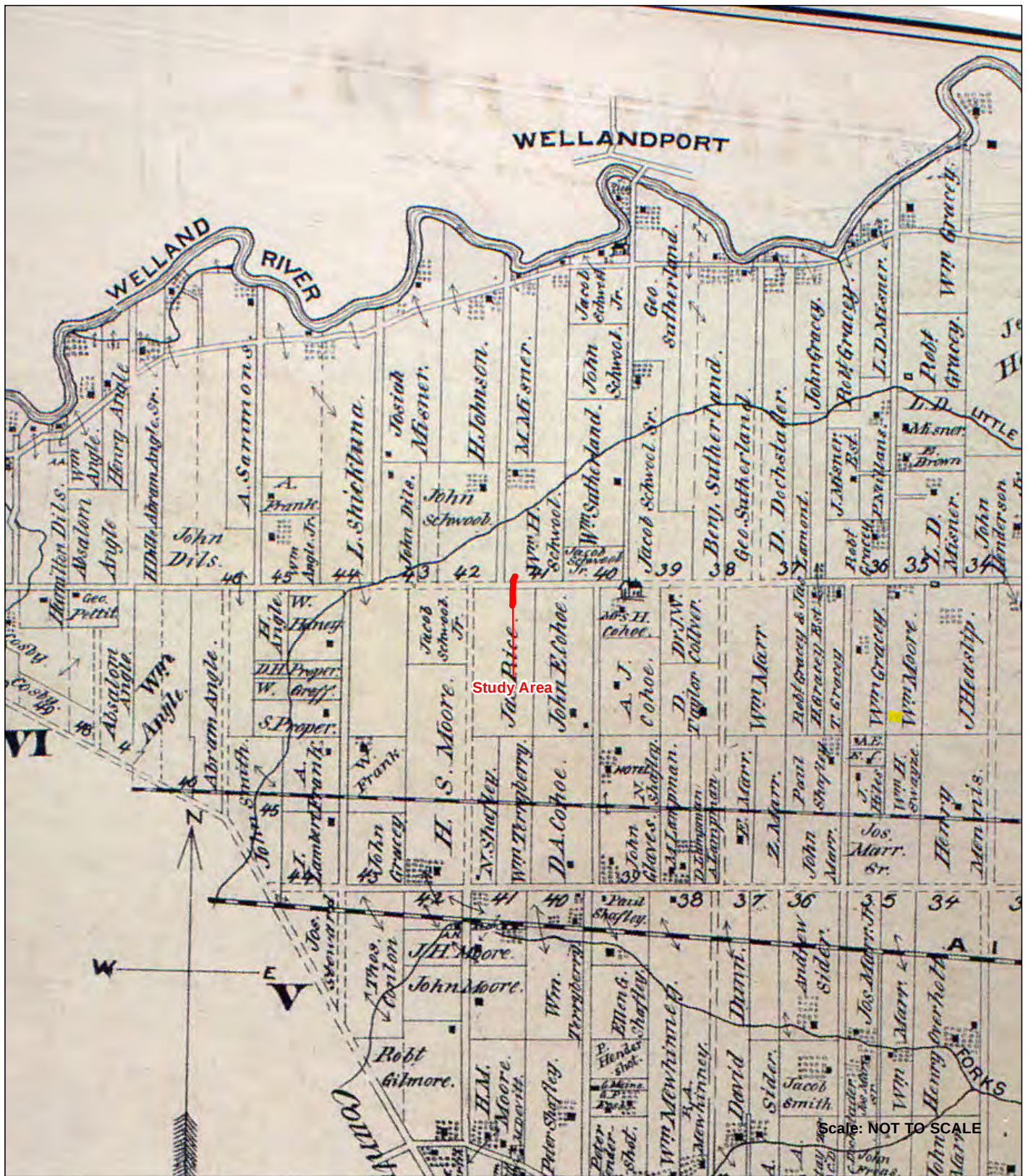
Title

Portion of 1879 Historic
 Atlas Map of the
 Township of Wainfleet

Notes

1. Historic Map reference: Illustrated Historical Atlas of the County of Haldimand, Ont. Toronto: H.R. Page & Co., 1879.
2. Not Scale.

September 2015
 160950269



September 2015
 160950269



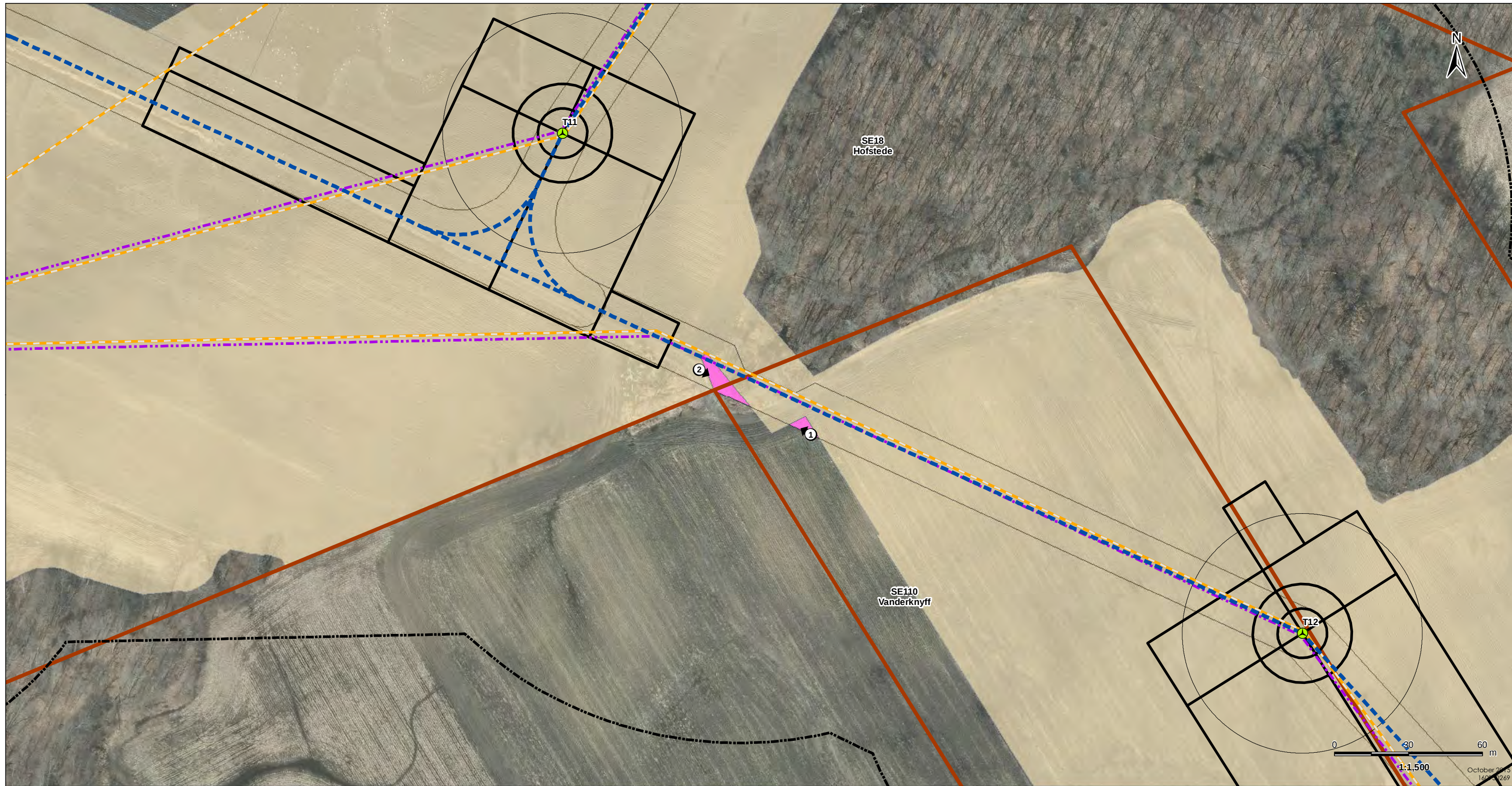
Legend
 Study Area

Client/Project
 FWRN LP
 Niagara Region Wind Farm
 Stage 2 Archaeological Assessment

- Notes
1. Historic Map reference: Page, H.R. and Co. 1876. Illustrated Historical Atlas of the Counties of Lincoln and Welland, Ontario. Toronto: H.R. Page and Co.
 2. Not Scale.

Figure No.
 3
 Title
 Portion of 1876 Historic
 Atlas Map of the
 Township of Wainfleet

V:\01609\Active\160950269\planning\drawing\mxd_Modification_Reports\Archaeology_Stage_2AA\160950269_S2AA_Figure_4-5_Stage2_Results.mxd
Revised: 2015-10-05 By: bcrowper

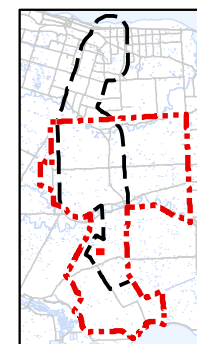


Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.
3. Orthoimagery © First Base Solutions, 20xx.

Legend

- | | |
|----------------------------|---|
| Signed Property | Collector Lines – Underground or Overhead |
| 120m Zone of Investigation | Fibre Optic Line |
| Proposed Turbine Location | Potential Access Road |
| Turbine Blade Length | Access Road 20m Construction Area |
| Temporary Laydown Area | Stage 2 Archaeological Assessment |
| | Test Pitted at 5 metre Intervals |
| | Previously Assessed, 2012 (P002-289-2012) |
| | Photograph Location and Direction |



Client/Project

FWRN LP
Niagara Region Wind Farm

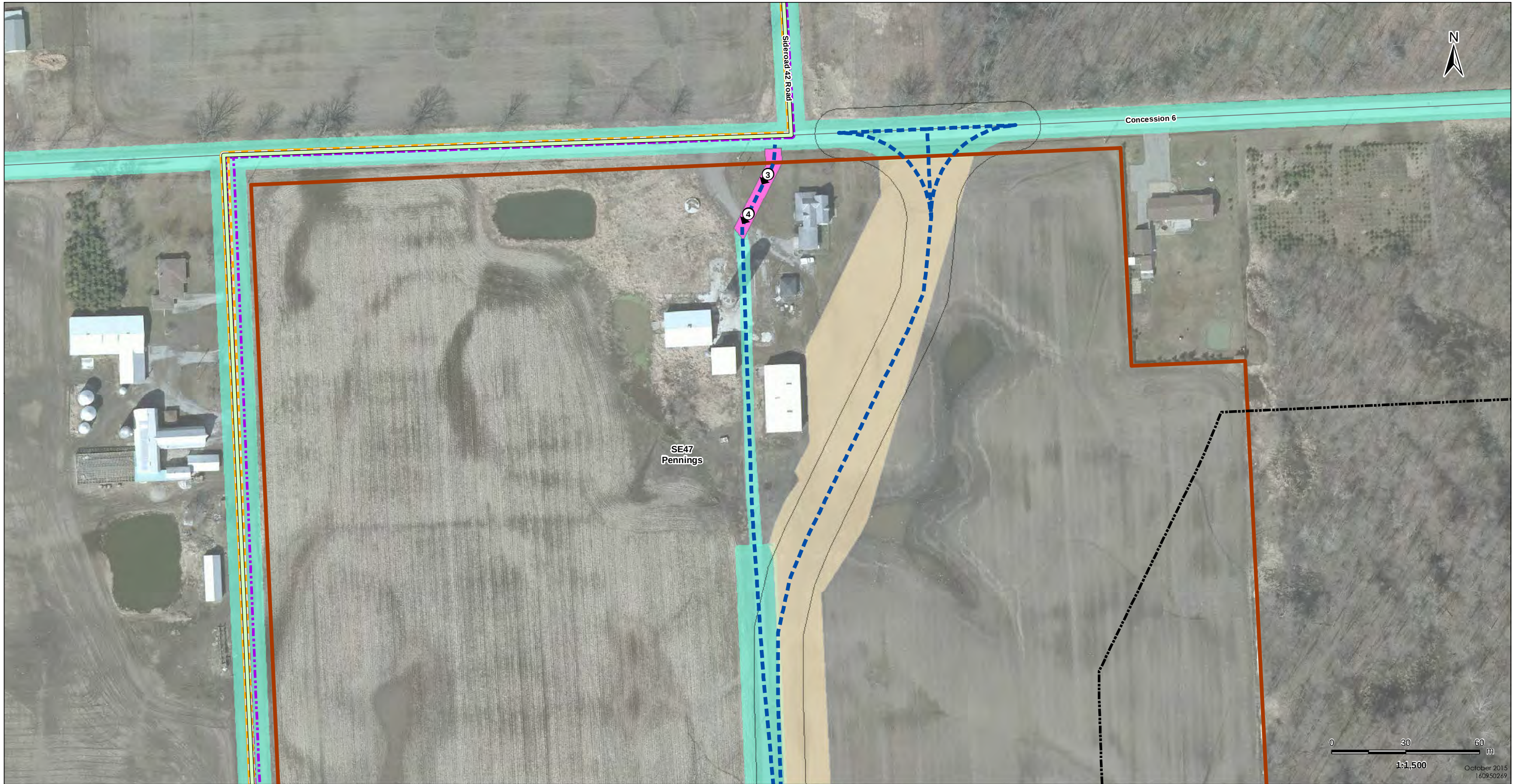
Figure No.

4

Title

Stage 2 Results
Access Road T11 to T12

V:\01609\Active\160950269\planning\drawing\mxd_Modification_Reports\Archaeology_Stage_2AA\160950269_S2AA_Figure_4-5_Stage2_Results.mxd
Revised: 2015-10-05 By: bcrowper

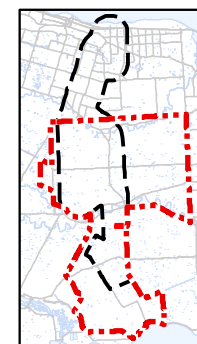


Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.
3. Orthoimagery © First Base Solutions, 20xx.

Legend

- Signed Property
- 120m Zone of Investigation
- Preferred Transmission Line Route
- Collector Lines – Underground or Overhead
- Fibre Optic Line
- Potential Access Road
- Access Road 20m Construction Area
- Stage 2 Archaeological Assessment
 - Test Pitted at 5 metre Intervals
 - Previously Assessed, 2012 (P002-289-2012)
 - Previously Disturbed, not Surveyed
 - Photograph Location and Direction



Client/Project

FWRN LP
Niagara Region Wind Farm

Figure No.

5

Title

Stage 2 Results
Entrance 36



Notes

1. Coordinate System:
NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012.

Legend

- Project Study Area
- Interconnector Study Area
- Proposed Turbine Location - E101 3.0 MW
- Proposed Turbine Location - E101 2.9 MW G2/G3
- Transformer Substation
- Tap-in Location
- Existing Met Tower
- Sound Level Contours (40 dBA)

- Road
- Expressway / Highway
- Active Railway
- Abandoned Railway
- Existing Structures
- Existing Transmission Line
- Municipality Lower Tier

- Participating Noise Receptors
 - Occupied
 - Vacant
- Non-participating Receptors
 - Occupied
 - Vacant

Other Wind Turbines

- Mohawk Wind Farm (Existing)
- Rosa Flora Turbine (Existing)
- Wainfleet Wind Energy Project (Proposed)
- HAF Wind Energy Project (Proposed)
- Grand Renewable Energy Park (Proposed)
- Other Wind Farm Project (Proposed)

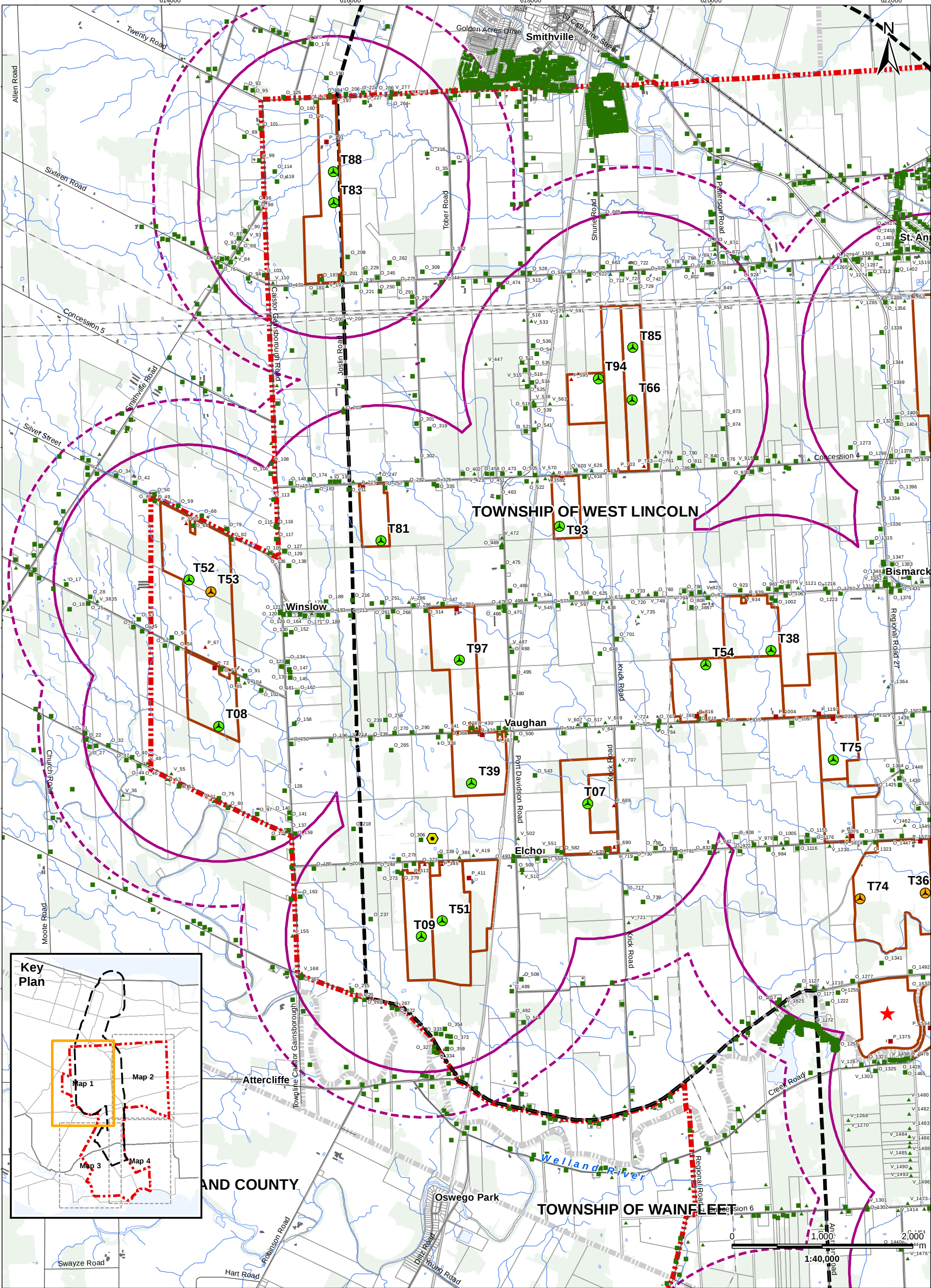


Client/Project
FWRN LP
Niagara Region Wind Farm
Acoustic Assessment Report

Figure No.
1-1

Title
**Predicted Equivalent Sound Level Contours
(Cumulative Effects - Day/Nighttime Hours) -
Map 1**

September 2015
160950269



Notes

- Coordinate System: NAD 1983 UTM Zone 17N
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012.
- Scenario 1 - T36, T46, T53 are E82 model at hub height 135 metre; T18, T45, T47, T55, T60 and T74 are E101 model at hub height 135 metre and the rest are E101 model at hub height 124 metre. Scenario 2 - T36, T46, T53 are E82 model at hub height 135 metre; and the rest are E101 model at hub height 135 metre.

Legend

- | | | | | | |
|--|--|--|----------------------------|--|-----------------------------------|
| | Project Study Area | | Road | | Participating Noise Receptors |
| | Interconnector Study Area | | Expressway / Highway | | Occupied |
| | Proposed Turbine Location - E101 3.0 MW | | Active Railway | | Vacant |
| | Proposed Turbine Location - E101 2.9 MW G2/G3 | | Abandoned Railway | | Non-participating Noise Receptors |
| | Transformer Substation | | Existing Transmission Line | | Occupied |
| | Tap-in Location | | Existing Structures | | Vacant |
| | Existing Met Tower | | Watercourse | | |
| | 1.5 km Radius from Proposed Turbine Centre Point | | Waterbody | | |
| | 2km Radius from Proposed Turbine Centre Point | | Wooded Area | | |
| | | | Municipal Boundary | | |

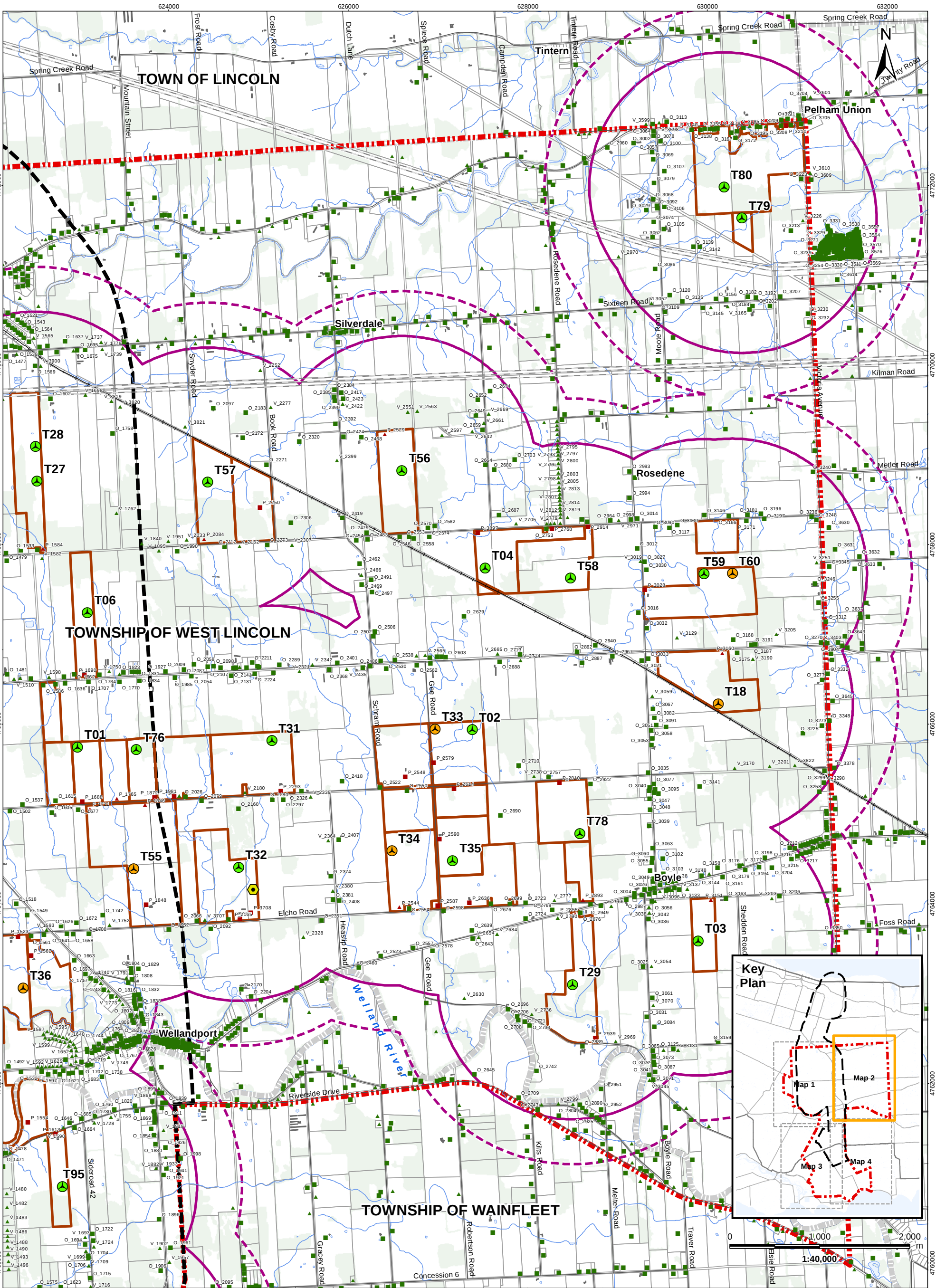
Client/Project
FWRN LP
Niagara Region Wind Farm
Acoustic Assessment Report

Figure No.
2.1a

Title
Locations of Project
Infrastructure within Study Area:
Map 1 of 4

October 2015
160950269

V:\01609\Active\160950269\planning\drawing\mxd_Modification_Reports\Acoustic_Assessment\160950269_Figure_2a_2d_Locations_of_Infrastructure.mxd
Revised: 2015-10-02 By: bcowper



Legend

- | | | | | | |
|--|--|--|----------------------------|--|-----------------------------------|
| | Project Study Area | | Road | | Participating Noise Receptors |
| | Interconnector Study Area | | Expressway / Highway | | Occupied |
| | Proposed Turbine Location - E101 3.0 MW | | Active Railway | | Vacant |
| | Proposed Turbine Location - E101 2.9 MW G2/G3 | | Abandoned Railway | | Non-participating Noise Receptors |
| | Transformer Substation | | Existing Transmission Line | | Occupied |
| | Tap-in Location | | Existing Structures | | Vacant |
| | Existing Met Tower | | Watercourse | | |
| | 1.5 km Radius from Proposed Turbine Centre Point | | Waterbody | | |
| | 2km Radius from Proposed Turbine Centre Point | | Wooded Area | | |
| | | | Municipal Boundary | | |

Client/Project
FWRN LP
Niagara Region Wind Farm
Acoustic Assessment Report

Figure No.
2.1b

Title

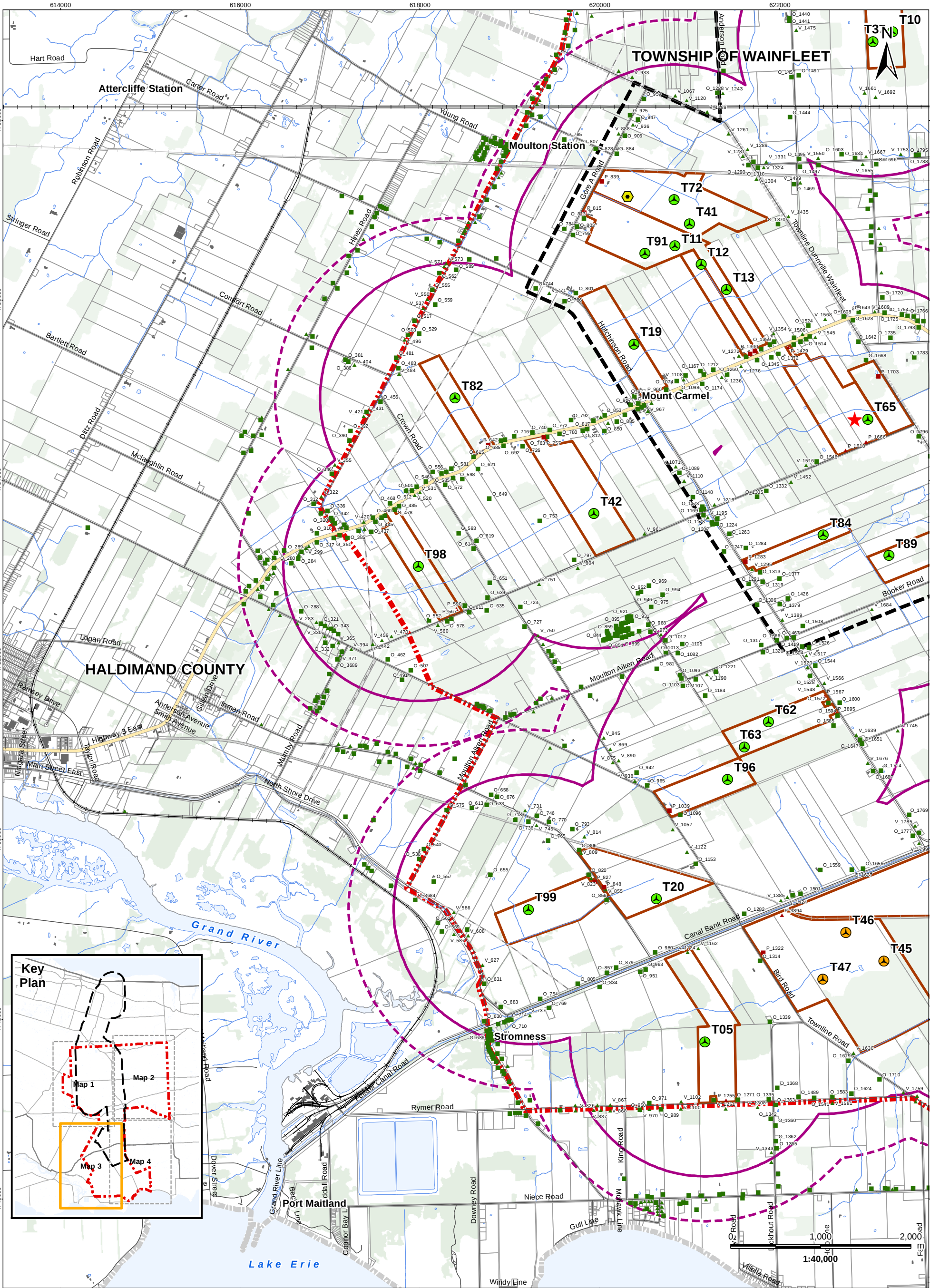
Locations of Project
Infrastructure within Study Area:
Map 2 of 4

October 2015
160950269

Notes

- Coordinate System: NAD 1983 UTM Zone 17N
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012.
- Scenario 1 - T36, T46, T53 are E82 model at hub height 135 metre; T18, T45, T47, T55, T60 and T74 are E101 model at hub height 135 metre and the rest are E101 model at hub height 124 metre. Scenario 2 - T36, T46, T53 are E82 model at hub height 135 metre; and the rest are E101 model at hub height 135 metre.

\\01609\Active\160950269\planning\drawing\mxd_Modification_Reports\Acoustic_Assessment\160950269_Figure_2a_2d_Locations_of_Infrastructure.mxd
Revised: 2015-10-02 By: bcowper



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012.
3. Scenario 1 - T36, T46, T53 are E82 model at hub height 135 metre; T18, T45, T47, T55, T60 and T74 are E101 model at hub height 135 metre and the rest are E101 model at hub height 124 metre. Scenario 2 - T36, T46, T53 are E82 model at hub height 135 metre; and the rest are E101 model at hub height 135 metre.

Legend

- | | | |
|--|----------------------------|-----------------------------------|
| Project Study Area | Road | Participating Noise Receptors |
| Interconnector Study Area | Expressway / Highway | Occupied |
| Proposed Turbine Location - E101 3.0 MW | Active Railway | Vacant |
| Proposed Turbine Location - E101 2.9 MW G2/G3 | Abandoned Railway | Non-participating Noise Receptors |
| Transformer Substation | Existing Transmission Line | Occupied |
| Tap-in Location | Existing Structures | Vacant |
| Existing Met Tower | Watercourse | |
| 1.5 km Radius from Proposed Turbine Centre Point | Waterbody | |
| 2km Radius from Proposed Turbine Centre Point | Wooded Area | |
| | Municipal Boundary | |

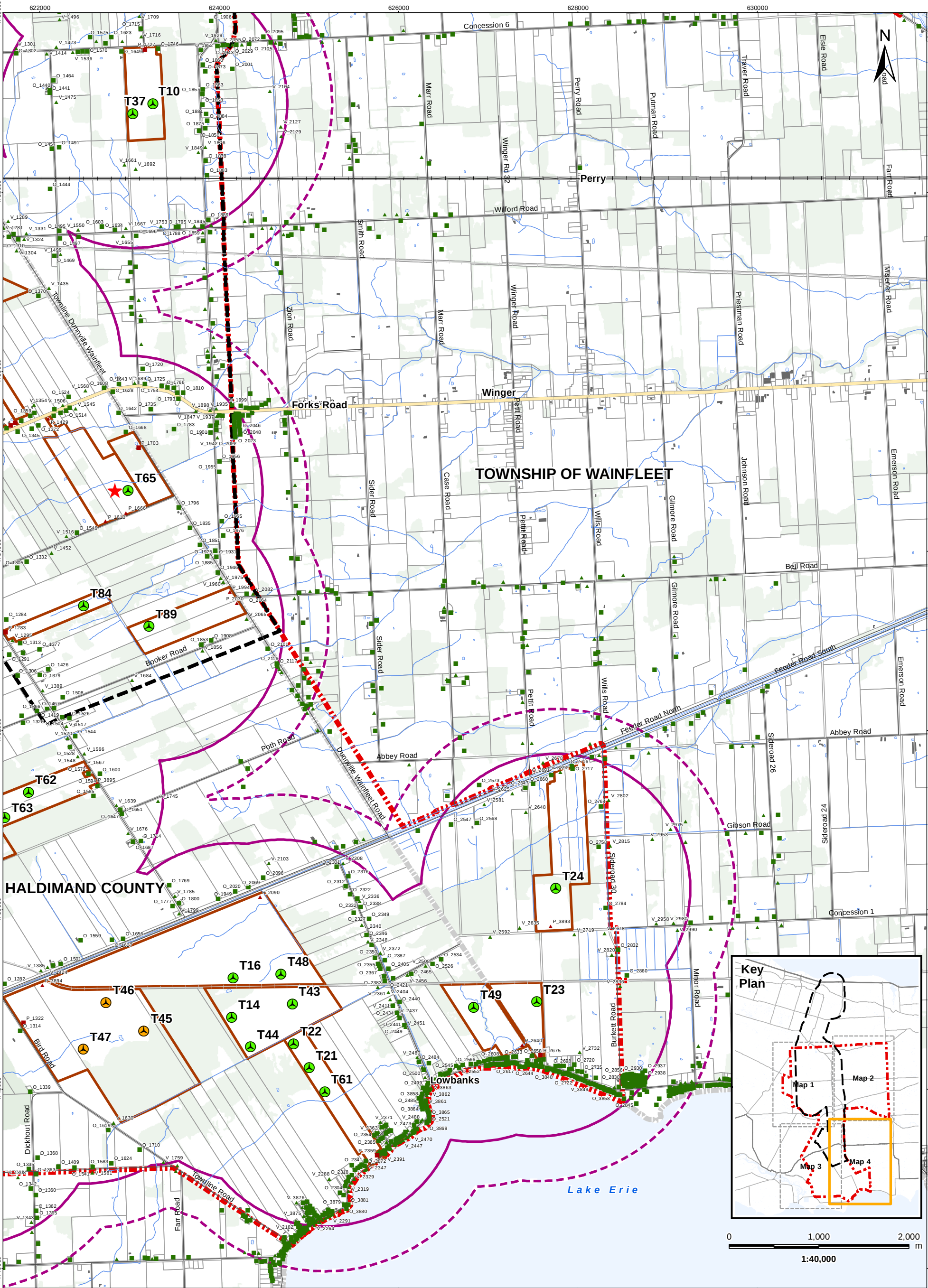
Client/Project
FWRN LP
Niagara Region Wind Farm
Acoustic Assessment Report

Figure No.
2.1c

Title
Locations of Project
Infrastructure within Study Area:
Map 3 of 4

October 2015
160950269

V:\01609\Active\160950269\planning\drawing\mxd_Modification_Reports\Acoustic_Assessment\160950269_Figure_2a_2d_Locations_of_Infrastructure.mxd
Revised: 2015-10-02 By: bcowper



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012.
3. Scenario 1 – T36, T46, T53 are E82 model at hub height 135 metre; T18, T45, T47, T55, T60 and T74 are E101 model at hub height 135 metre and the rest are E101 model at hub height 124 metre. Scenario 2 - T36, T46, T53 are E82 model at hub height 135 metre; and the rest are E101 model at hub height 135 metre.

Legend

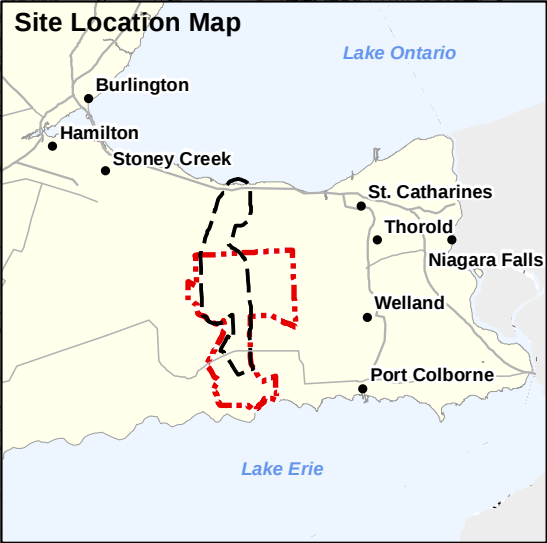
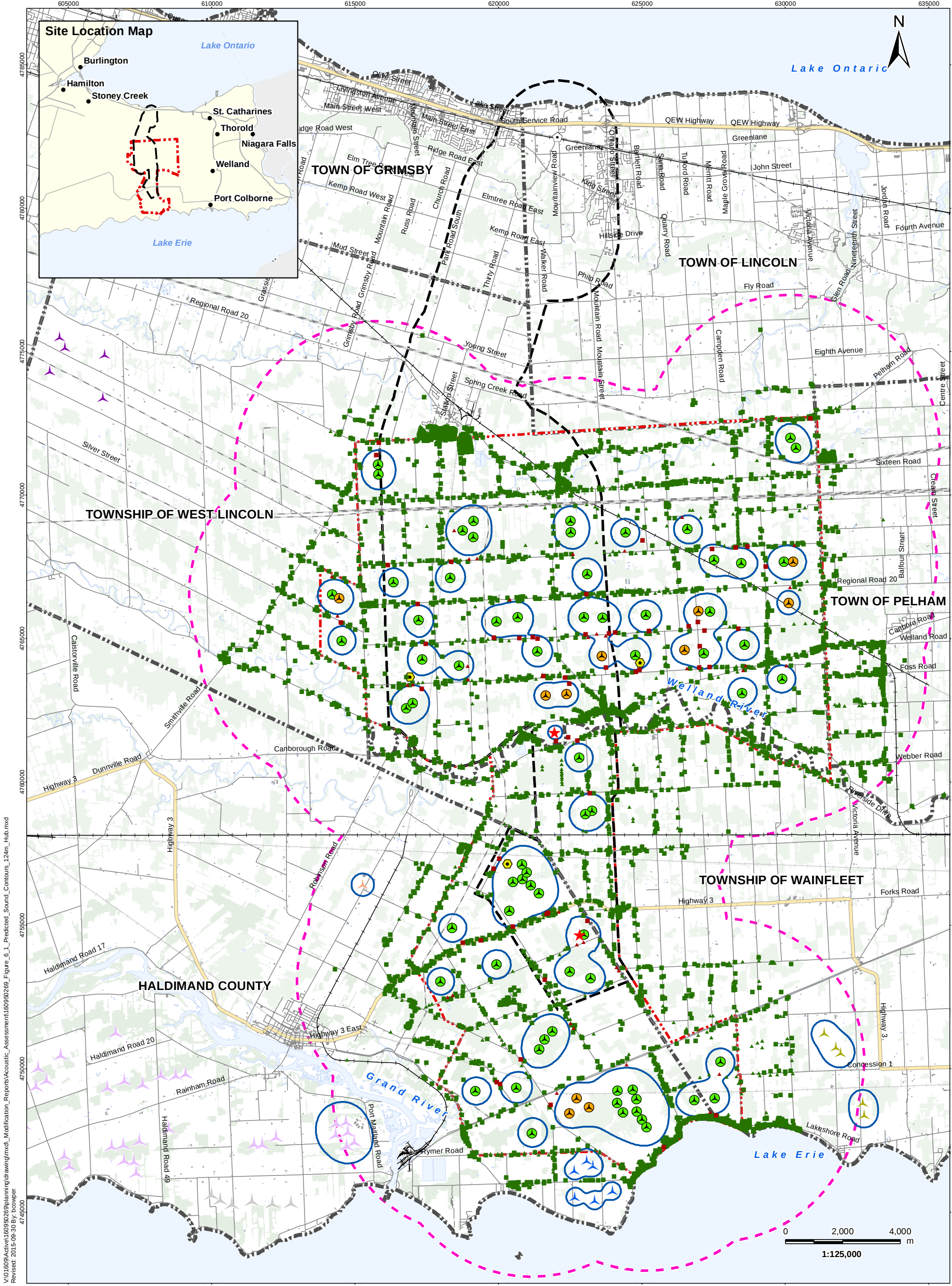
- | | | | | | |
|--|--|--|----------------------------|--|-----------------------------------|
| | Project Study Area | | Road | | Participating Noise Receptors |
| | Interconnector Study Area | | Expressway / Highway | | Occupied |
| | Proposed Turbine Location - E101 3.0 MW | | Active Railway | | Vacant |
| | Proposed Turbine Location - E101 2.9 MW G2/G3 | | Abandoned Railway | | Non-participating Noise Receptors |
| | Transformer Substation | | Existing Transmission Line | | Occupied |
| | Tap-in Location | | Existing Structures | | Vacant |
| | Existing Met Tower | | Watercourse | | |
| | 1.5 km Radius from Proposed Turbine Centre Point | | Waterbody | | |
| | 2km Radius from Proposed Turbine Centre Point | | Wooded Area | | |
| | | | Municipal Boundary | | |

Client/Project
FWRN LP
Niagara Region Wind Farm
Acoustic Assessment Report

Figure No.
2.1d

Title
Locations of Project
Infrastructure within Study Area:
Map 4 of 4

October 2015
160950269



V:\01609\Active\160950269\planning\drawing\mxd Modification_Reports\Acoustic_Assessment\160950269_Figure_6.1_Predicted_Sound_Contours_124m_Hub.mxd
Revised: 2015-09-30 By: bowper



Notes

- Coordinate System:
NAD 1983 UTM Zone 17N
- Base features produced under license with the Ontario Ministry of Natural Resources
© Queen's Printer for Ontario, 2012.

Legend

- Project Study Area
- Interconnector Study Area
- Proposed Turbine Location - E101 3.0 MW
- Proposed Turbine Location - E101 2.9 MW G2/G3
- Transformer Substation
- Tap-in Location
- Existing Met Tower
- 5km Buffer from Proposed Turbine Locations
- Sound Level Contours (40 dBA)

- Road
- Expressway / Highway
- Active Railway
- Abandoned Railway
- Existing Structures
- Existing Transmission Line
- Waterbody
- Wooded Area
- Municipality Lower Tier

- Participating Noise Receptors
 - Occupied
 - Vacant
- Non-participating Receptors
 - Occupied
 - Vacant

- Other Wind Turbines
 - Mohawk Wind Farm (Existing)
 - Rosa Flora Turbine (Existing)
 - Wainfleet Wind Energy Project (Proposed)
 - HAF Wind Energy Project (Proposed)
 - Grand Renewable Energy Park (Proposed)
 - Other Wind Farm Project (Proposed)

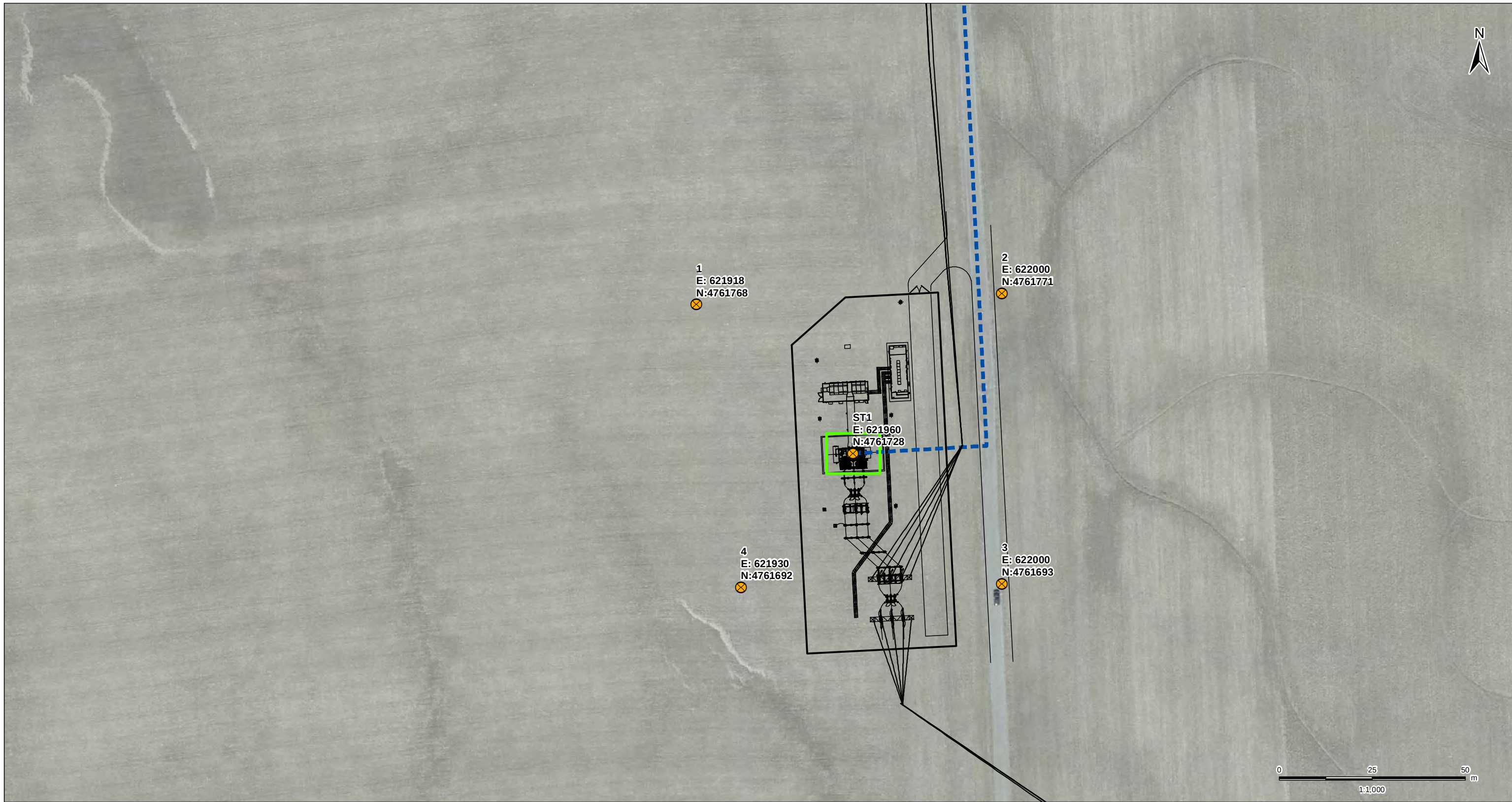
Client/Project
FWRN LP
Niagara Region Wind Farm
Acoustic Assessment Report

Figure No.
6.1

Predicted Equivalent Sound Level Contours (Cumulative Effects - Day/Nighttime Hours)

September 2015
160950269

V:\01609\A\0160950269\Planning\drawing\mxd\Modification_Reports\Acoustic_Assessment\160950269_Figure_F1_F2_Substations_Layout.mxd
Revised: 2015-09-30 By: bcowper

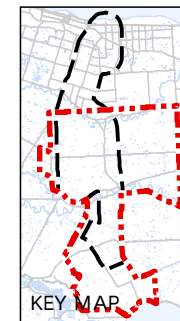


Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.
3. Orthoimagery © First Base Solutions, 20xx.

Legend

- ⊗ Noise Emission Locations
- Barrier
- - - Potential Access Road
- ▭ Transformer Substation



Client/Project

FWRN LP
Niagara Region Wind Farm
Acoustic Assessment Report

Figure No.

F.1

Title

North Transformer Station

September 2015
133560006

V:\1609\Active\160950269\Planning\drawing\mxd\Modification_Reports\Acoustic_Assessment\160950269_Figure_F2_Substations_Layout.mxd
Revised: 2015-09-30 By: bcowper

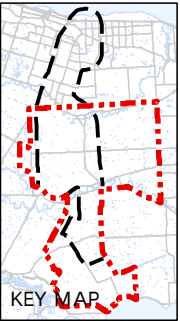


Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.
3. Orthoimagery © First Base Solutions, 20xx.

Legend

- Noise Emission Locations
- Barrier
- Proposed Turbine Location - E101 3.0 MW
- Potential Access Road
- Temporary Laydown Area
- Watercourse
- Transformer Substation
- Turbine Blade Length



Client/Project
FWRN LP
Niagara Region Wind Farm
Acoustic Assessment Report

Figure No.
F.2

Title
South Transformer Station

Appendix B:
Correspondence with MNRF

Ministry of Natural Resources
and Forestry

Confirmation Email

From: [Beal, Jim \(MNRF\)](#)
To: [St. James, Katherine](#)
Subject: RE: Niagara Region Wind Farm - NHA Addendum
Date: Wednesday, September 30, 2015 1:12:51 PM

Based on the information you have just provided in the email below, no re-confirmation is required.

JB

From: St. James, Katherine [mailto:Katherine.St.James@stantec.com]
Sent: September-30-15 7:45 AM
To: Beal, Jim (MNRF)
Cc: Skillen, Kerrie; Powell, Chris; Adam Rosso (adam.rosso@boralex.com)
Subject: Niagara Region Wind Farm - NHA Addendum

Hi Jim,

We've completed the NHA Addendum document which we discussed last week. As discussed, the amendments have resulted in a few changes to the 120m zone of investigation as a result of minor adjustments to the location of some project components (i.e. entrances, access roads, interconnection station footprint). No new vegetation communities were added to the project previously addressed in the NHA. One natural heritage feature type has been updated: since the original NHA, the MNRF has added a new community to the Marshville Station Provincially-Significant Wetland Complex. This feature was previously identified and assessed as part of the original NHA as a lowland forest; however, has now been updated to a wetland to match MNRF records. Mitigation for this feature will follow what is described for significant wetlands in the original NHA.

No new features have been added and no new mitigation is required.

Please download the addendum for full details: <ftp://s1014053815:1806089@fptmp.stantec.com>.
Upon your review, please provide written re-confirmation for the NHA/EIS and let us know if you have any concerns with the amendments.

Thank you!

Katherine St. James

Terrestrial Ecologist
Stantec
1-70 Southgate Drive Guelph ON N1G 4P5
Phone: (519) 780-8173
Cell: (226) 979-8230
Fax: (519) 836-2493
Katherine.StJames@stantec.com

The content of this email is the confidential property of Stantec and should not be copied, modified, retransmitted, or used for any purpose except with Stantec's written authorization. If you are not the intended recipient, please delete all copies and notify us immediately.

 Please consider the environment before printing this email.



Stantec Consulting Ltd.
1-70 Southgate Drive, Guelph ON N1G 4P5

September 22, 2015
File: 160961052

Attention: Jim Beal

Ontario Ministry of Natural Resources and Forestry
Peterborough District
1st Floor, South Tower
300 Water St
Peterborough ON K9J 8M5

Dear Jim Beal,

**Reference: Natural Heritage Assessment Addendum - Technical and Project Design Changes
Niagara Region Wind Farm**

The purpose of this memo is to provide the Ministry of Natural Resources and Forestry (MNRF) with an addendum to the 'Natural Heritage Assessment and Environmental Impact Study for the Niagara Region Wind Farm' (Stantec, 2013) to address proposed modifications to the Niagara Region Wind Farm (NRWC, the 'Project').

Since the proposed adjustments are minor, the majority of information contained in the NHA/EIS as confirmed by the MNRF through their letter dated April 2, 2013 remains applicable to this Project. The following information is provided to update to the records review, site investigation, evaluation of significance, and environmental impact study sections of the Natural Heritage Assessment and Environmental Impact Study (NHA/EIS) for the expanded zone of investigation (ZOI) where the modifications would trigger the need for additional information.

Section 1 – Description of Project Changes

The proposed modifications include:

- A. Revised footprint of interconnection station to accommodate additional equipment requested by Hydro One Networks Inc. and associated construction area – this project design change does require a new ZOI area (**Figure 2.1, Attachment A**);
- B. Alternate access road between T12, T11, and T41 to avoid delivery of components from Gore A Road which was identified as a concern by Haldimand County – this project design change does require a new ZOI area (**Figure 2.43, Attachment A**);
- C. Revised footprint of north substation to avoid archaeological resources identified nearby – this technical change does not require a new ZOI area (**Figure 2.39, Attachment A**);
- D. Relocation of junction boxes to increase operational flexibility and help with municipal concerns of the current locations – this technical change does not require a new ZOI (text change only);



September 22, 2015

Jim Beal

Page 2 of 11

**Reference: Natural Heritage Assessment Addendum - Technical and Project Design Changes
Niagara Region Wind Farm**

- E. Alternate turbine model for 11 of the Project's 80 turbines – customized Enercon E101-2.9 MW turbines on 124 m towers in place of Enercon E82-2.3 MW and Enercon E101-3.0MW turbines – this technical change does not require a new ZOI, and as a conservative approach for the project footprint was included in the original NHA/EIS with regards to blade length, height, and noise, no changes to original NHA/EIS or ZOI are required (text change only);
- F. Alternate transformer to reduce sound power level as well as move noise barriers closer to transformer location – this technical change does not require a new ZOI (text change only); and,
- G. Revised access road entrances (T79/T80, T76, T09/T51, T10/T37, T84, T99, and T20) to allow for increased turning radii for component delivery – this technical change does not require a new ZOI with the exception of the entrance to T79/80 (**Figures 2.20, 2.28, 2.35, 2.41, 2.48, and 2.54, Attachment A**).

As a result, the modifications which require a new ZOI will be addressed in this letter, including modifications A, B, and G (entrance to T79/T80 only).

The other technical changes (C, D, E, F, and the remaining entrances listed under G) do not result in any changes to the Natural Heritage Assessment and Environmental Impact Study (NHA/EIS), and all other commitments within the NHA/EIS and Environmental Effects Monitoring Plan (EEMP) for post-construction monitoring, mitigation and contingency measures remain unchanged for these modifications.

Section 2 – Policies

Ontario Regulation 359/09 (as amended by O. Reg. 195/12) issued under the *Environmental Protection Act* outlines the application, approval, consultation and reporting requirements necessary to obtain approval of a renewable energy project, such as a wind, solar, thermal treatment or anaerobic digestion facility. This NHA and EIS Addendum report is intended to satisfy sections 24 through 28, 37 and 38 of O. Reg. 359/09. The policy framework for this NHA/EIS addendum has not changed from the NHA/EIS.

Section 3 – Records Review

The records review included in the NHA/EIS, which was completed in accordance with Section 25 of O. Reg. 359/09, included the entire Study Area (**Figure 1, Attachment A**), which encompasses the minor modifications.

Because the Study Area expanded further than the 120 m ZOI for the Project, the original NHA/EIS encompassed the new ZOI for modifications A, B, and G (entrance to T79/T80). The other modifications listed under G did not result in a change to the ZOI.



September 22, 2015

Jim Beal

Page 3 of 11

**Reference: Natural Heritage Assessment Addendum - Technical and Project Design Changes
Niagara Region Wind Farm**

Following the same methods found in the NRWC NHA/EIS, an additional records review was conducted for the new ZOI to confirm if new known natural features are present. According to the Natural Heritage Information Centre (NHIC, 2015) and Land Information Ontario (LIO, 2015) databases, there are no new areas designated as significant woodland, Area of Natural or Scientific Interest (ANSI), or significant wildlife habitat within the new ZOI. Near modification B, one new area of Provincially-Significant Wetland (PSW) has been added: Marshville Station PSW Complex. This feature is shown on **Figure 2.43, Attachment A**. The Project is located within 120 m of this natural feature. The Marshville Station PSW Complex is included in the NHA/EIS; however, this additional wetland community has been added by the MNRF to the Marshville Station PSW complex since the original records review.

No new rare species were identified as potentially occurring in the new ZOI. No additional changes are required to the Records Review of the NHA/EIS.

Section 4 - Site Investigation

The new ZOI for modifications A, B, and G (entrance to T79/T80) was surveyed on foot in the field as part of the original NHA/EIS. No new site investigations were required to assess the new ZOI; however, additional site investigations were conducted at modification B.

Detailed dates, time and weather conditions of the site investigations are provided in **Table 1**. Additional staff qualifications have been added to **Attachment B**.

Table 1. Survey Details and Summary

Survey Date and Time	Surveyor(s)	Type of Survey	Weather Conditions
July 22, 2015 9:00-11:00	Lisa Uskov	Site Investigation (modification B)	17°C, Wind 1 (Beaufort scale), cloud cover 15%, no precipitation

* Note: Site investigations for other modifications were completed as part of the original NHA/EIS.

No new vegetation communities have been added in the new ZOI. Near modification B, the boundary of woodland wo153 has been updated following removal of a portion of this woodland by the landowner for agricultural purposes. The update to this woodland boundary is shown on **Figure 5.43, Attachment A**. This also resulted in the change of corresponding candidate significant wildlife habitats that followed this boundary, including candidate amphibian woodland breeding habitat AH48 (no vernal pooling found in this section), deer winter congregation area dc93, and generalized woodland vole habitat. These features have all been reduced by 0.06 ha (0.2 %). No vegetation removal is required in this woodland or candidate significant wildlife habitat features.



September 22, 2015

Jim Beal

Page 4 of 11

**Reference: Natural Heritage Assessment Addendum - Technical and Project Design Changes
Niagara Region Wind Farm**

Near modification B, wetland we445 (now part of the Marshville Station PSW Complex) is a new wetland feature. No additional site investigation work was undertaken for this feature as it had been included in the original ZOI. This feature was not identified by Stantec as wetland in the NHA/EIS. The ELC communities in this feature were identified as FOD6-5 Fresh-Moist Sugar Maple-Hardwood Deciduous Forest, FOD9-1 Fresh-Moist Oak-Sugar Maple Deciduous Forest, FOD3-1 Dry to Fresh Poplar Deciduous Forest, FOD5-8 Dry-Fresh Sugar Maple-White Ash Deciduous forest, and FOD9-2 Fresh-Moist Oak-Maple Deciduous Forest (as described for woodland wo153 in the NHA/EIS). The FOD9-1 and FOD9-2 communities have since been identified as PSW by the MNRF, so a conservative approach has been used for this addendum and these ELC communities will be included as a wetland feature (we445) in this NHA addendum.

Site investigations focused on determining whether candidate significant wildlife habitats have the potential to occur in the new ZOI. Criteria used to identify candidate significant wildlife habitat were derived from the Significant Wildlife Habitat Technical Guide (MNR, 2000) and the Significant Wildlife Habitat Ecoregion 7E Criterion Schedule (MNRF, 2015). Specific emphasis was placed on determining whether the critical habitat features required to support significant wildlife habitat were present in natural features in the new ZOI. No new candidate significant wildlife habitats have been added as a result of the modifications. No changes to the original NHA/EIS for the candidate significant wildlife habitat assessments are required. The results of this assessment in the new ZOI are provided in Table 2 below.

Table 2: Summary of Site Investigation Results for Significant Wildlife Habitat for the New ZOI

Candidate Significant Wildlife Habitat	Present in or within 120 m of Project Location	Rationale	Carried Forward to Summary and EOS (Y/N)
Waterfowl Stopover and Staging Area (Terrestrial)	No	Spring air photos were reviewed of the new ZOI and no areas of spring flooding were identified in the new ZOI.	No
Waterfowl Stopover and Staging Area (Aquatic)	No	No large wetlands or marshes, ponds, or bays with a diversity of vegetation communities were identified in the ZOI.	No
Shorebird Migratory Stopover Area	No	No known shorebird migratory stopover areas were identified within the new ZOI. No large wetland features with shorelines were identified in the new ZOI.	No
Raptor Wintering Area	No	Grasslands are predominantly small, fragmented and under active agriculture – there were no CUM, CUS, or CUT communities >15 ha identified in the new ZOI.	No



September 22, 2015

Jim Beal

Page 5 of 11

**Reference: Natural Heritage Assessment Addendum - Technical and Project Design Changes
Niagara Region Wind Farm**

Table 2: Summary of Site Investigation Results for Significant Wildlife Habitat for the New ZOI

Candidate Significant Wildlife Habitat	Present in or within 120 m of Project Location	Rationale	Carried Forward to Summary and EOS (Y/N)
Bat Hibernacula	No	There were no caves, abandoned mine shafts, underground foundations, or karsts or crevice/cave communities identified within 1120 m of the new Project Location.	No
Turtle Wintering Areas	No	No large bodies of water or wetlands with permanent water were identified in the ZOI.	No
Reptile Hibernacula	No	No candidate snake hibernacula features, such as rock piles, slopes or rock fences were identified in the new ZOI during site investigations.	No
Colonial-Nesting Bird Breeding Habitat (bank/cliff)	No	No eroding banks, sandy hills, borrow pits, steep slopes or sand piles present were identified in the ZOI.	No
Colonial-Nesting Bird Breeding Habitat (tree/shrub)	No	No stick nest colonies were observed in the new ZOI.	No
Colonial-Nesting Bird Breeding Habitat (ground)	No	No lakes or large rivers providing shoreline habitat or containing rocky island or peninsula features were identified in the new ZOI.	No
Migratory Butterfly Stopover Areas	No	No habitat a minimum of 10 ha in size with a combination of field and forest habitat was found in and within the new ZOI within 5 km of Lake Erie.	No
Landbird Migratory Stopover Areas	No	There are no new woodland features >5 ha in size within 5 km of Lake Erie located in the new ZOI.	No
Deer Winter Congregation Area	No	No new deer winter congregation areas were identified during the Records Review in the new ZOI.	No
Cliffs and Talus Slopes	No	Rare vegetation communities (cliffs and talus slopes) were not observed during ELC and vegetation surveys in the new ZOI.	No
Sand Barrens	No	Rare vegetation communities (sand barrens) were not observed during ELC and vegetation surveys in the new ZOI.	No
Alvars	No	Rare vegetation communities (alvars) were not observed during ELC and vegetation surveys in the new ZOI.	No
Old-growth Forest	No	Old growth forest communities were not observed during vegetation surveys and woodland assessment of woodlands in the new ZOI.	No



September 22, 2015

Jim Beal

Page 6 of 11

**Reference: Natural Heritage Assessment Addendum - Technical and Project Design Changes
Niagara Region Wind Farm**

Table 2: Summary of Site Investigation Results for Significant Wildlife Habitat for the New ZOI

Candidate Significant Wildlife Habitat	Present in or within 120 m of Project Location	Rationale	Carried Forward to Summary and EOS (Y/N)
Savannahs	No	Rare vegetation communities (savannahs) were not observed during ELC and vegetation surveys in the new ZOI.	No
Tall-grass Prairies	No	Rare vegetation communities (tall-grass prairie) were not observed during ELC and vegetation surveys in the new ZOI.	No
Other Rare Vegetation Communities	No	Rare vegetation communities were not observed during ELC and vegetation surveys in the new ZOI.	No
Waterfowl Nesting Area	No	Site investigations were used identify upland areas of open habitat >120 m wide that occurred adjacent to a large marsh, pond, swamp or swamp thicket communities or clusters of these vegetation communities within the new ZOI. Habitats adjacent to wetlands without standing water were not considered candidate SWH. No candidate waterfowl nesting areas identified in the new ZOI.	No
Bald Eagle and Osprey Nesting, Foraging, and Perching Habitat	No	No FOD, FOM, FOC, SWD, SWM, or SWC communities adjacent to riparian areas were identified in the new ZOI.	No
Woodland Raptor Nesting Habitat	No	No woodlands >30 ha with >4 ha of interior habitat were identified in the new ZOI.	No
Turtle Nesting Areas	No	No exposed mineral soil (sand or gravel) were identified in the new ZOI.	No
Seeps and Springs	No	No seeps and springs were observed during site investigations in the new ZOI.	No
Amphibian Breeding Habitat (Woodland)	No	No new wetland features or woodlands with vernal pooling were observed during site investigations in the new ZOI.	No
Amphibian Breeding Habitat (Wetland)	No	No vernal pooling was observed during site investigations in the new ZOI.	No
Woodland Area-sensitive Bird Breeding Habitat	No	No woodlands >30 ha with interior habitat were identified in the new ZOI.	No



September 22, 2015

Jim Beal

Page 7 of 11

**Reference: Natural Heritage Assessment Addendum - Technical and Project Design Changes
Niagara Region Wind Farm**

Table 2: Summary of Site Investigation Results for Significant Wildlife Habitat for the New ZOI

Candidate Significant Wildlife Habitat	Present in or within 120 m of Project Location	Rationale	Carried Forward to Summary and EOS (Y/N)
Marsh Bird Breeding Habitat	No	No marsh communities with shallow standing water or emergent aquatic vegetation were identified in the new ZOI.	No
Open Country Breeding Bird Habitat	No	No grasslands >30 ha were identified in the new ZOI.	No
Shrub/Early Successional Bird Breeding Habitat	No	No large natural field areas succeeding to shrub and thicket habitats > 10 ha in size were identified in the ZOI.	No
Terrestrial Crayfish	No	No terrestrial crayfish chimneys were observed in the new ZOI.	No
S1-S3, Special Concern Species and Communities	No	Candidate significant habitat for S1-S3, Special Concern Species and Communities was searched for during site investigations. Methods for site investigation followed those described in the NHA/EIS. No new habitat features for S1-S3 and Special Concern species and communities were identified in the new ZOI.	No
Amphibian Movement Corridors	No	No amphibian breeding habitat for wetlands was observed in the new ZOI; therefore, no candidate amphibian movement corridors were identified.	No

Section 5 - Evaluation of Significance

No new woodlands or candidate significant wildlife habitats were added in the new ZOI. The following updates to the evaluation of significance are required:

- New wetland we445 (part of the Marshville Station PSW Complex) is provincially-significant, as determined by the MNRF. No additional evaluation of significance of this feature is required;
- Wo153 has changed from 25.98 ha to 25.92 ha, and it is still considered a significant woodland;
- Dc93 has changed from 25.98 ha to 25.92 ha, and it is still considered a generalized significant deer winter congregation area; and,



September 22, 2015

Jim Beal

Page 8 of 11

**Reference: Natural Heritage Assessment Addendum - Technical and Project Design Changes
Niagara Region Wind Farm**

- Generalized woodland vole habitat corresponding with the boundary of wo153 has changed from 25.98 ha to 25.92 ha, and it is still considered a generalized significant woodland vole habitat.

Snake hibernaculum feature SH3, located within 120 m of the new access road to T12 (modification B), was found to be not significant during pre-construction surveys (Stantec, 2014). Candidate amphibian woodland breeding habitat AH48 was found to be not significant in the original NHA (Stantec, 2013).

Section 6 - Environmental Impact Study

An assessment of the impacts associated with the installation of all project components within the original ZOI was undertaken as part of the original NHA/EIS. Parts of the Project are located within 120 m of significant wetlands, woodlands, and wildlife habitat and as such, an EIS was required to assess the potential negative environmental effects and identify mitigation measures designed to prevent or minimize potential negative effects. No changes to distances between Project components and significant features are required for modifications A and G. The addition of access roads at modification B has resulted in changes to distances between Project components and significant features, as described in **Table 3**.

Table 3: Updates to Distances to Project Components for Modification B

Feature Number	Feature Size (ha)	Project Component(s) located within 120 m (approximate closest point in parenthesis)
Woodland wo153	25.92	• Access Road (0.7m) • Collector Line (2.4m) • Laydown Area (8.1m, 14.0m, 8.6m) • Fibre Optic Line (within 0.5m, 110.7m, 61.3m, 37.2m) • T11 (64.2m to turbine base, 28.2m to blade tip) • T12 (58.8m to turbine base, 22.8m to blade tip) • T41 (98.2m to turbine base, 62.2m to blade tip)
Wetland we445	17.03	• Access Road (55.3m) • Collector Line (65.2m) • Laydown Area (12.4m) • Fibre Optic Line (65.2m) • T12 (65.2 to turbine base, 29.2m to blade tip)
Generalized significant wildlife habitats (deer winter congregation area dc93 and woodland vole habitat)	25.92	• Access Road (0.7m) • Collector Line (2.4m) • Laydown Area (8.1m, 14.0m, 8.6m) • Fibre Optic Line (within 0.5m, 110.7m, 61.3m, 37.2m) • T11 (64.2m to turbine base, 28.2m to blade tip) • T12 (58.8m to turbine base, 22.8m to blade tip) • T41 (98.2m to turbine base, 62.2m to blade tip)



September 22, 2015

Jim Beal

Page 9 of 11

**Reference: Natural Heritage Assessment Addendum - Technical and Project Design Changes
Niagara Region Wind Farm**

The constructible area for the access road to T12 is now located within 120 m of wo153, we445, dc93, and woodland vole habitat.

Impacts to wo153

Potential impacts of access roads on woodlands within 120 m include temporary dust generation, sedimentation and erosion, accidental intrusion and vegetation removal, the potential for spills and contamination to the woodland, and temporary disturbance to habitat from construction noise. The constructible area for access roads and underground collector lines has been sited away from woodlands. Given access roads would be narrow, relatively flat, unpaved roads that will receive relatively little regular traffic during the operation of the Project, they are not anticipated to cause significant root zone disturbance or changes to surface water flow from existing conditions.

Mitigation measures specific to all significant woodlands are outlined in Table 6.1, Appendix B in the NHA/EIS. No changes are required for wo153.

Impacts to we445

Changes in surface water drainage can affect wetlands. Access roads would be narrow, relatively flat, unpaved roads that would receive relatively little regular traffic. Mitigation measures will be implemented to ensure there is no alteration of surface runoff quantity and patterns.

During construction, there will be increased vehicular traffic and the potential for accidental spills. These potential impacts will be avoided where possible and mitigated via implementation of a sediment and erosion protection plan, including the identification of specific locations for material stock-piling and maintenance activities to isolate any spills from the wetland. The proposed development plan may slightly alter surface water inputs to the wetland. New access roads and infrastructure can alter surface flow, and the small increase in hard surface area could result in increased run-off quantities during precipitation events. The percent area converted to hard surfaces is negligible and no effect to the water balance is anticipated. In some instances, new access roads cross drainage features in the upstream catchment of wetlands. Construction of these crossings may disrupt the quality of surface water input to wetlands. Consideration of these crossings is also required to maintain existing flow conditions through the duration of the Project.

Mitigation measures specific to all significant wetlands are outlined in Table 6.1, Appendix B in the NHA/EIS. No changes are required for we445.



September 22, 2015

Jim Beal

Page 10 of 11

**Reference: Natural Heritage Assessment Addendum - Technical and Project Design Changes
Niagara Region Wind Farm**

Impacts to Generalized Significant Wildlife Habitat (Deer Winter Congregation Area dc93 and Woodland Vole Habitat)

No operational impacts to these features are anticipated from the Project on these two features. In accordance with the Natural Heritage Assessment Guide (OMNR, 2011), potential impacts to these habitats are typically associated with the temporary disturbance of construction activity and can be grouped together as generalized impacts and mitigation measures.

A comprehensive list of general construction mitigation measures that will be implemented during the construction and decommissioning phases of the Project is provided in Table 6.2, Appendix B of the NHA/EIS. No changes are required for these two features.

Monitoring

The pre and post construction disturbance and mortality monitoring as proposed in Section 6.11 of the NHA/EIS and the Environmental Effects Monitoring Plan (EEMP) applies to this EIS Addendum. No changes to the monitoring program are required to address the modifications.

SUMMARY AND CONCLUSION

Given the results of this assessment, the modifications can be implemented with no new net negative environmental effects.

If you have any questions or concerns, please do not hesitate to contact us (contact information provided below) at any time.

Regards,

STANTEC CONSULTING LTD.

Katherine St. James

Katherine St. James
Terrestrial Ecologist
Phone: (519) 836-6050
Fax: (519) 836-2493
katherine.stjames@stantec.com

Shari Muscat

Shari Muscat
Project Manager/Environmental Planner
Phone: (519) 575-4116
Fax: (519) 579-6733
shari.msucat@stantec.com

Attachments: A) Figures
B) Additional Staff CVs

c. Chris Powell (Stantec), Kerrie Skillen (Stantec), Adam Rosso (Boralex)



September 22, 2015

Jim Beal

Page 11 of 11

**Reference: Natural Heritage Assessment Addendum - Technical and Project Design Changes
Niagara Region Wind Farm**

REFERENCES

Ontario Ministry of Natural Resources (OMNR). 2011. Natural Heritage Assessment Guide for Renewable Energy Projects. 99 pp. First Edition. July, 2011.

Stantec Consulting Ltd. 2013. Natural Heritage Assessment and Environmental Impact Study for the Niagara Region Wind Farm. 661 pgs.

Stantec Consulting Ltd. 2014. Pre-Construction Monitoring Report: Niagara Region Wind Farm. 159 pgs.



September 22, 2015
Jim Beal

**Reference: Natural Heritage Assessment Addendum - Technical and Project Design Changes
Niagara Region Wind Farm**

Attachment A: Figures



September, 2015
160950269

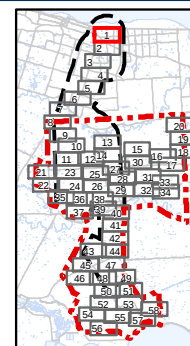


Legend

- | | | | |
|-----------------------------------|---|---|---|
| Project Study Area | Tap-in Location | Access Road 20m Construction Area | ANSI, Earth Science, Provincially Significant (MNR) |
| Interconnector Study Area | Junction Box | Potential Construction Laydown Area | ANSI, Life Science, Provincially Significant (MNR) |
| 120m Zone of Investigation | Proposed Culvert | Transformer Substation | ANSI, Life Science, Regionally Significant (MNR) |
| Zone of Investigation Adjustments | Temporary Laydown Area | Unevaluated Wetland (NPCA) | Greenbelt Natural Heritage System |
| Area Added | Collector Lines - Underground or Overhead | Woodland (MNR) | Niagara Escarpment |
| Area Removed | Fibre Optic Line | Provincially Significant Wetland (MNR) | |
| Proposed Turbine Location | Potential Access Road | Other/Locally Significant Wetland (MNR) | |
| Turbine Relocated | | Deer Wintering Yard (MNR) | |
| Turbine Blade Length | | | |

Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
- Orthoimagery source: First Base Solutions, Date Spring 2010.

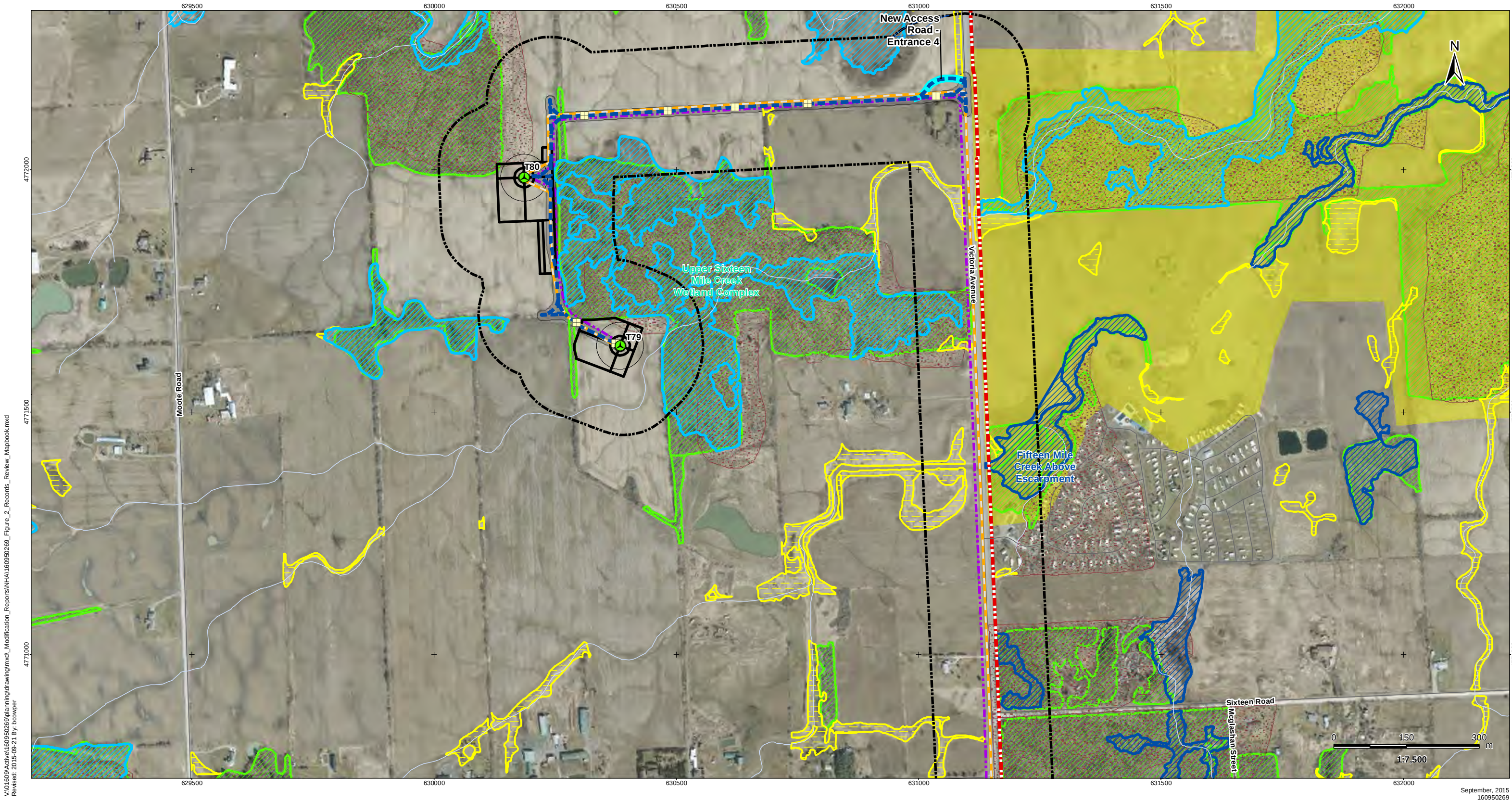


Client/Project
FWRN LP
Natural Heritage Assessment Report

Figure No.
2.1

Title

**Records Review -
Natural Features
Figure 2.1
Revised**

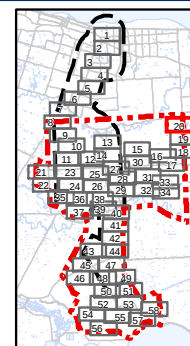


Legend

- | | | | |
|-----------------------------------|---|---|---|
| Project Study Area | Tap-in Location | Access Road 20m Construction Area | ANSI, Earth Science, Provincially Significant (MNR) |
| Interconnector Study Area | Junction Box | Potential Construction Laydown Area | ANSI, Life Science, Provincially Significant (MNR) |
| 120m Zone of Investigation | Proposed Culvert | Transformer Substation | ANSI, Life Science, Regionally Significant (MNR) |
| Zone of Investigation Adjustments | | | |
| Area Added | Temporary Laydown Area | Unevaluated Wetland (NPCA) | Greenbelt Natural Heritage System |
| Area Removed | Collector Lines - Underground or Overhead | Woodland (MNR) | Niagara Escarpment |
| Proposed Turbine Location | Fibre Optic Line | Provincially Significant Wetland (MNR) | |
| Turbine Relocated | Potential Access Road | Other/Locally Significant Wetland (MNR) | |
| Turbine Blade Length | | Deer Wintering Yard (MNR) | |

Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
- Orthoimagery source: First Base Solutions, Date Spring 2010.



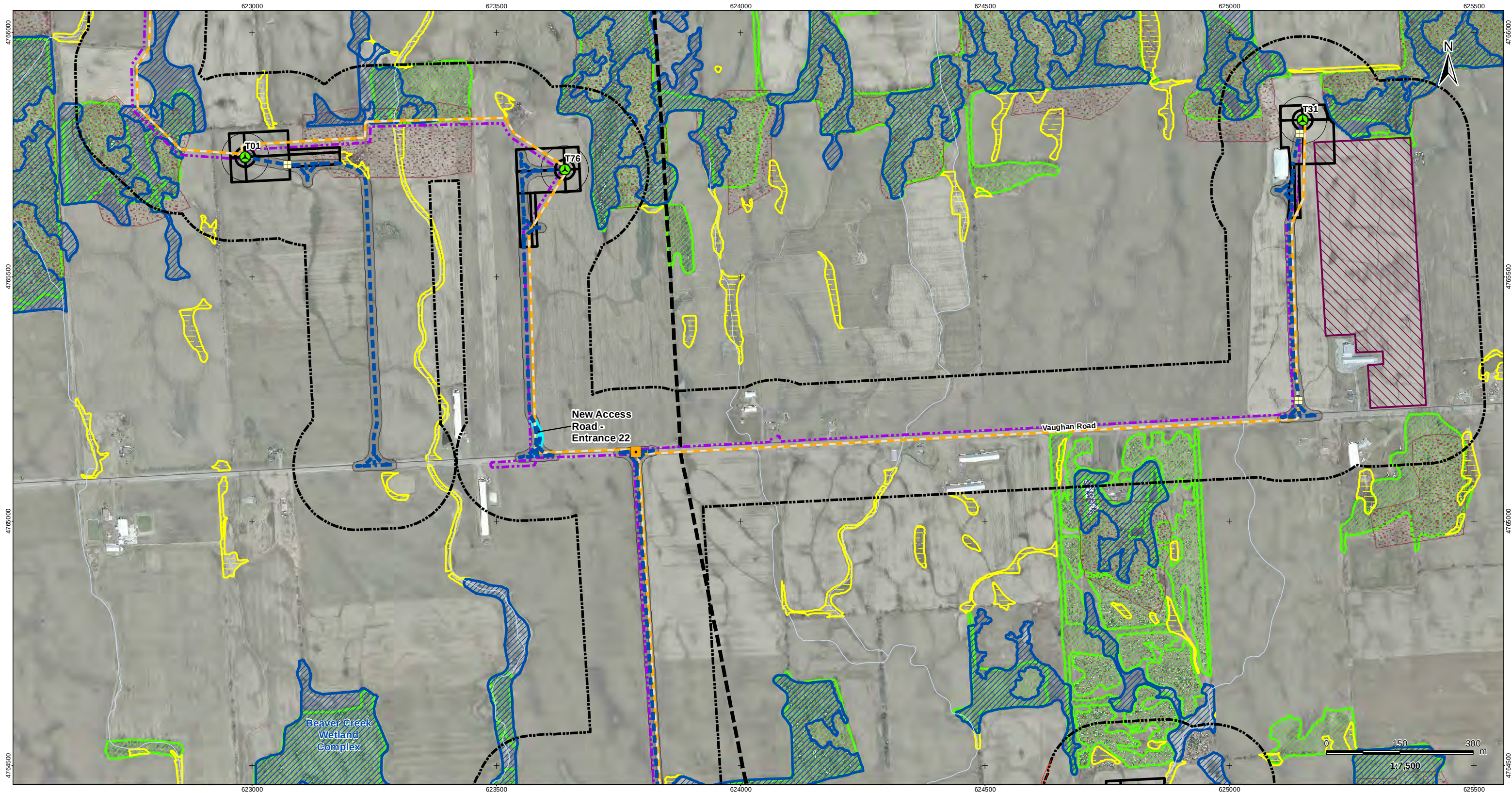
Client/Project
FWRN LP
Natural Heritage Assessment Report

Figure No.
2.20

Title

**Records Review -
Natural Features
Figure 2.20
Revised**

V:\01609\Active\160950269\planning\drawing\mxd_Modification_Reports\NHA\160950269_Figure_2_Records_Review_Mapbook.mxd
Revised: 2015-09-21 By: bowper



625500
September, 2015
160950269

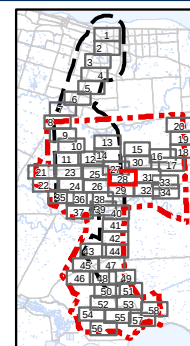


Legend

- | | | | |
|-----------------------------------|---|---|---|
| Project Study Area | Tap-in Location | Access Road 20m Construction Area | ANSI, Earth Science, Provincially Significant (MNR) |
| Interconnector Study Area | Junction Box | Potential Construction Laydown Area | ANSI, Life Science, Provincially Significant (MNR) |
| 120m Zone of Investigation | Proposed Culvert | Transformer Substation | ANSI, Life Science, Regionally Significant (MNR) |
| Zone of Investigation Adjustments | Temporary Laydown Area | Unevaluated Wetland (NPCA) | Greenbelt Natural Heritage System |
| Area Added | Collector Lines - Underground or Overhead | Woodland (MNR) | Niagara Escarpment |
| Area Removed | Fibre Optic Line | Provincially Significant Wetland (MNR) | |
| Proposed Turbine Location | Potential Access Road | Other/Locally Significant Wetland (MNR) | |
| Turbine Relocated | | Deer Wintering Yard (MNR) | |
| Turbine Blade Length | | | |

Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
- Orthoimagery source: First Base Solutions, Date Spring 2010.

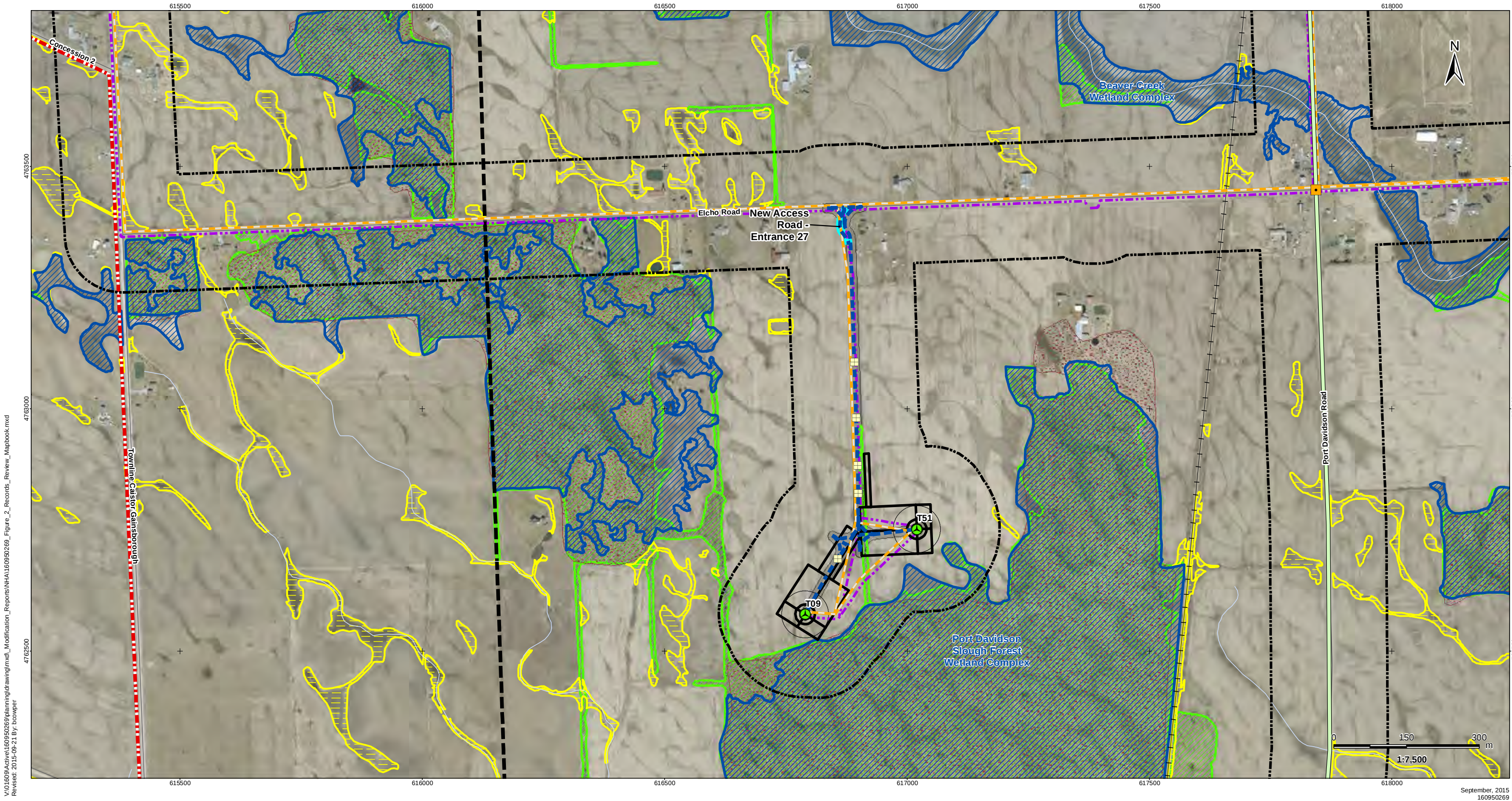


Client/Project
FWRN LP
Natural Heritage Assessment Report

Figure No.
2.28

Title

**Records Review -
Natural Features
Figure 2.28
Revised**



V:\01609\Active\160950269\planning\drawing\mxd_Modification_Reports\NHA\160950269_Figure_2_Records_Review_Mapbook.mxd
Revised: 2015-09-21 By: bowper

September, 2015
160950269

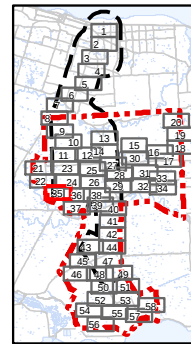


Legend

- | | | | |
|-----------------------------------|---|---|---|
| Project Study Area | Tap-in Location | Access Road 20m Construction Area | ANSI, Earth Science, Provincially Significant (MNR) |
| Interconnector Study Area | Junction Box | Potential Construction Laydown Area | ANSI, Life Science, Provincially Significant (MNR) |
| 120m Zone of Investigation | Proposed Culvert | Transformer Substation | ANSI, Life Science, Regionally Significant (MNR) |
| Zone of Investigation Adjustments | | | |
| Area Added | Temporary Laydown Area | Unevaluated Wetland (NPCA) | Greenbelt Natural Heritage System |
| Area Removed | Collector Lines - Underground or Overhead | Woodland (MNR) | Niagara Escarpment |
| Proposed Turbine Location | Fibre Optic Line | Provincially Significant Wetland (MNR) | |
| Turbine Relocated | Potential Access Road | Other/Locally Significant Wetland (MNR) | |
| Turbine Blade Length | | Deer Wintering Yard (MNR) | |

Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
- Orthomagey source: First Base Solutions, Date Spring 2010.

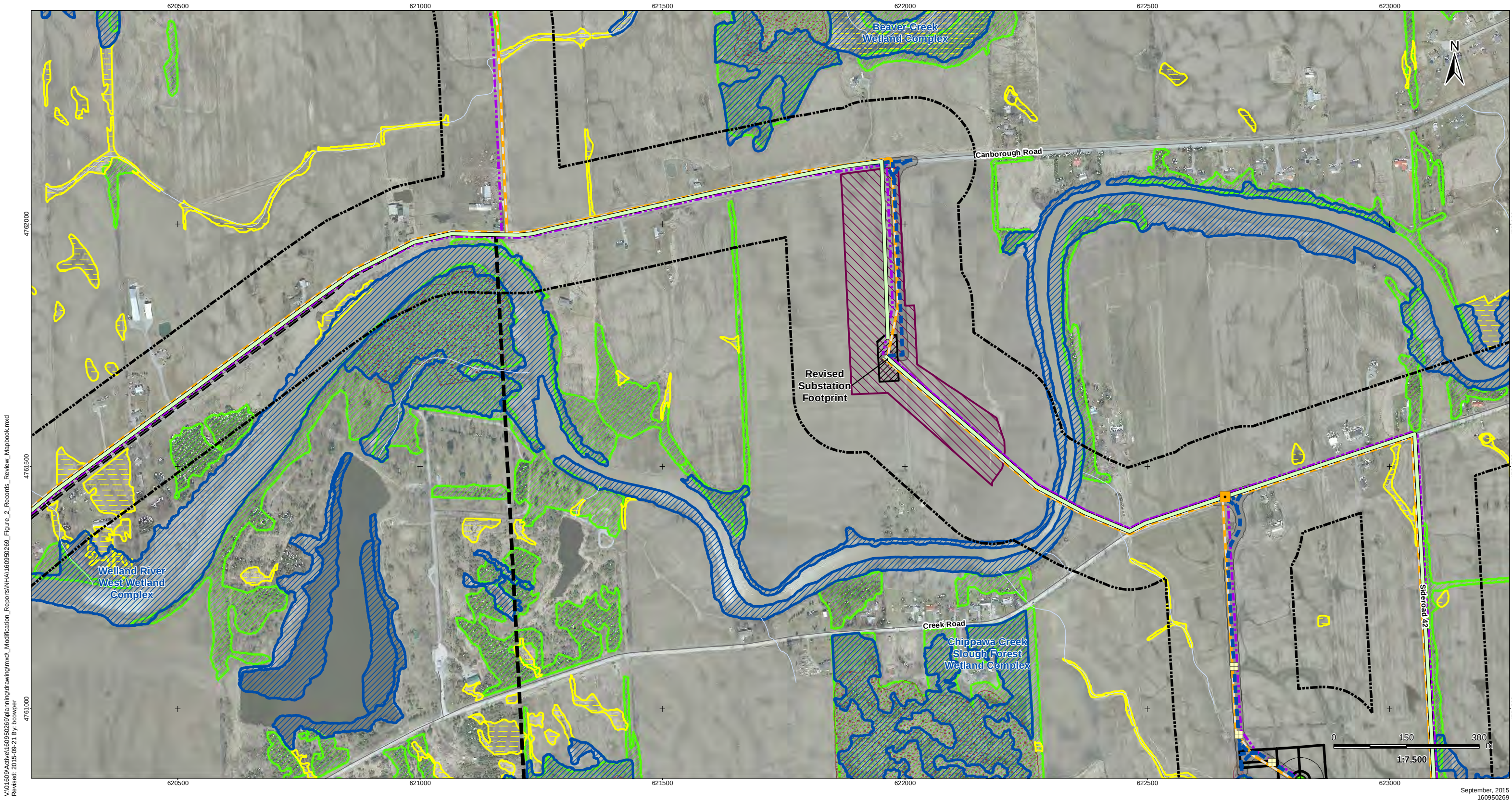


Client/Project
FWRN LP
Natural Heritage Assessment Report

Figure No.
2.35

Title

**Records Review -
Natural Features
Figure 2.35
Revised**



V:\01609\Active\160950269\planning\drawing\mxd_Modification_Reports\NHA\160950269_Figure_2_Records_Review_Mapbook.mxd
Revised: 2015-09-21 By: bowper

September, 2015
160950269

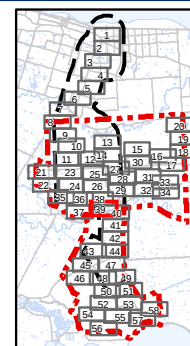


Legend

- | | | | |
|-----------------------------------|---|---|---|
| Project Study Area | Tap-in Location | Access Road 20m Construction Area | ANSI, Earth Science, Provincially Significant (MNR) |
| Interconnector Study Area | Junction Box | Potential Construction Laydown Area | ANSI, Life Science, Provincially Significant (MNR) |
| 120m Zone of Investigation | Proposed Culvert | Transformer Substation | ANSI, Life Science, Regionally Significant (MNR) |
| Zone of Investigation Adjustments | | Unevaluated Wetland (NPCA) | Greenbelt Natural Heritage System |
| Area Added | Temporary Laydown Area | Woodland (MNR) | Niagara Escarpment |
| Area Removed | Collector Lines - Underground or Overhead | Provincially Significant Wetland (MNR) | |
| Proposed Turbine Location | Fibre Optic Line | Other/Locally Significant Wetland (MNR) | |
| Turbine Relocated | Potential Access Road | Deer Wintering Yard (MNR) | |
| Turbine Blade Length | | | |

Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
- Orthomagey source: First Base Solutions, Date Spring 2010.

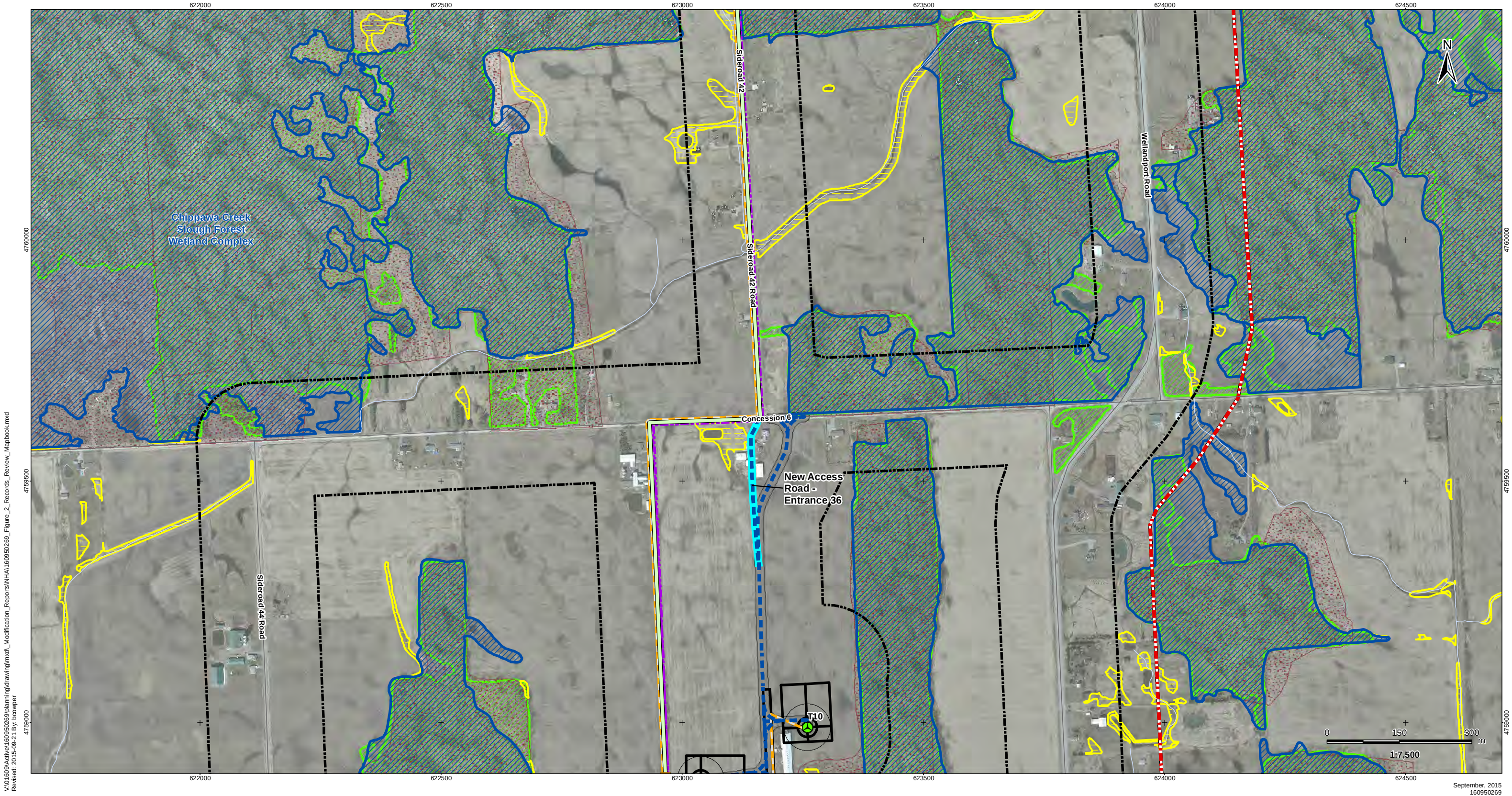


Client/Project
FWRN LP
Natural Heritage Assessment Report

Figure No.
2.39

Title

**Records Review -
Natural Features
Figure 2.39
Revised**



V:\01609\Active\160950269\planning\drawing\mxd_Modification_Reports\NHA\160950269_Figure_2_Records_Review_Mapbook.mxd
Revised: 2015-09-21 By: bowper

September, 2015
160950269

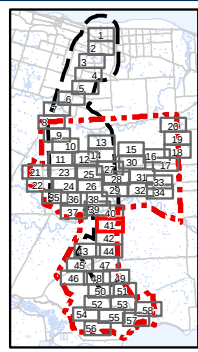


Legend

- | | | | |
|-----------------------------------|---|---|---|
| Project Study Area | Tap-in Location | Access Road 20m Construction Area | ANSI, Earth Science, Provincially Significant (MNR) |
| Interconnector Study Area | Junction Box | Potential Construction Laydown Area | ANSI, Life Science, Provincially Significant (MNR) |
| 120m Zone of Investigation | Proposed Culvert | Transformer Substation | ANSI, Life Science, Regionally Significant (MNR) |
| Zone of Investigation Adjustments | | | |
| Area Added | Temporary Laydown Area | Unevaluated Wetland (NPCA) | Greenbelt Natural Heritage System |
| Area Removed | Collector Lines - Underground or Overhead | Woodland (MNR) | Niagara Escarpment |
| Proposed Turbine Location | Fibre Optic Line | Provincially Significant Wetland (MNR) | |
| Turbine Relocated | Potential Access Road | Other/Locally Significant Wetland (MNR) | |
| Turbine Blade Length | | Deer Wintering Yard (MNR) | |

Notes

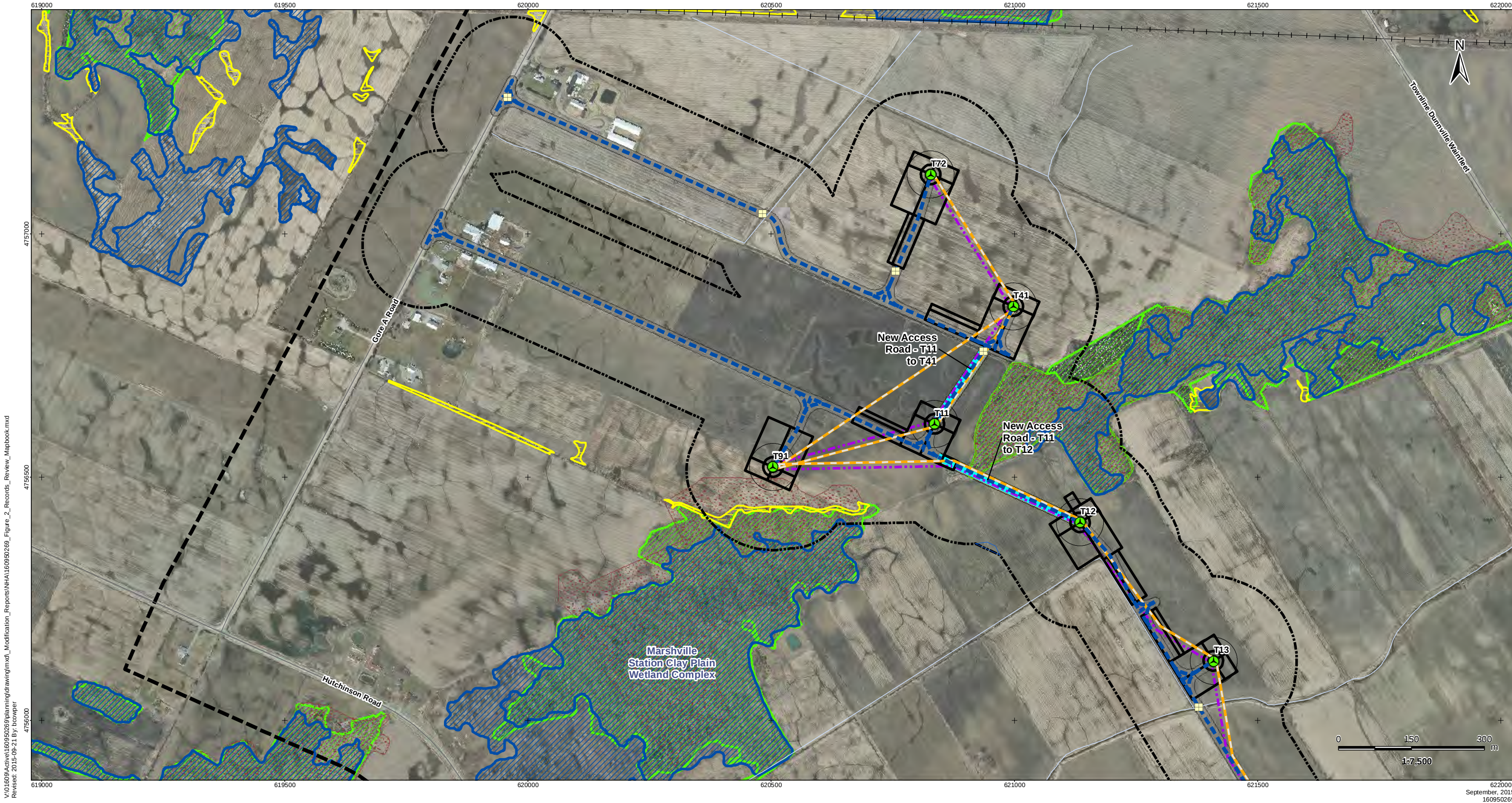
- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
- Orthimagery source: First Base Solutions, Date Spring 2010.



Client/Project
FWRN LP
Natural Heritage Assessment Report

Figure No.
2.41

Title
**Records Review -
Natural Features
Figure 2.41
Revised**



V:\01609\Active\160950269\planning\drawing\mxd_Modification_Reports\NHA\160950269_Figure_2_Records_Review_Mapbook.mxd
Revised: 2015-09-21 By: bowper

September, 2015
160950269

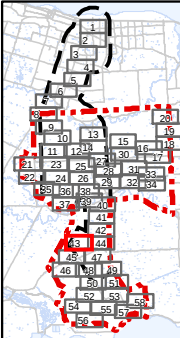


Legend

- | | | | |
|-----------------------------------|---|---|---|
| Project Study Area | Tap-in Location | Access Road 20m Construction Area | ANSI, Earth Science, Provincially Significant (MNR) |
| Interconnector Study Area | Junction Box | Potential Construction Laydown Area | ANSI, Life Science, Provincially Significant (MNR) |
| 120m Zone of Investigation | Proposed Culvert | Transformer Substation | ANSI, Life Science, Regionally Significant (MNR) |
| Zone of Investigation Adjustments | | | |
| Area Added | Temporary Laydown Area | Unevaluated Wetland (NPCA) | Greenbelt Natural Heritage System |
| Area Removed | Collector Lines - Underground or Overhead | Woodland (MNR) | Niagara Escarpment |
| Proposed Turbine Location | Fibre Optic Line | Provincially Significant Wetland (MNR) | |
| Turbine Relocated | Potential Access Road | Other/Locally Significant Wetland (MNR) | |
| Turbine Blade Length | | Deer Wintering Yard (MNR) | |

Notes

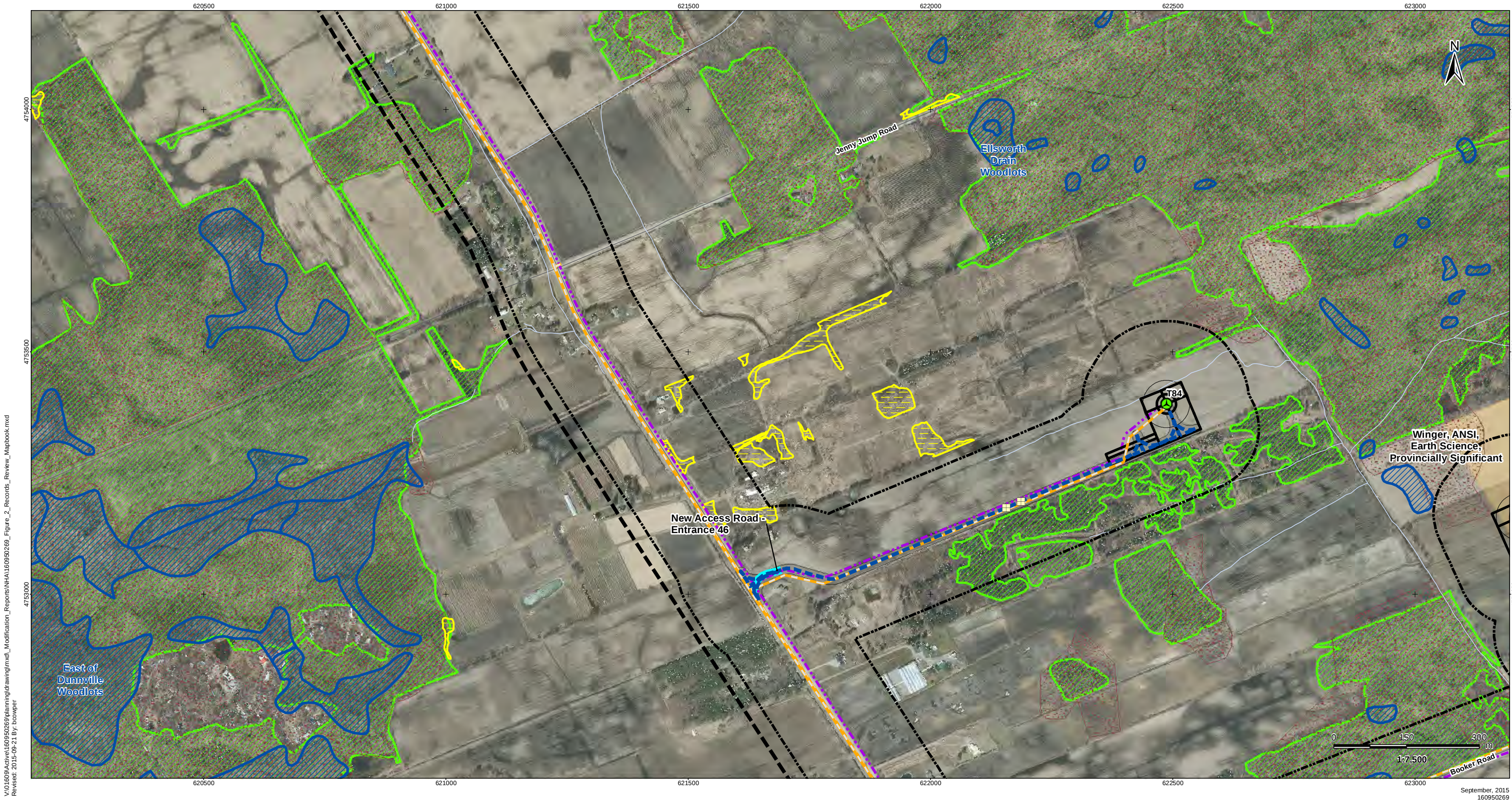
- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
- Orthoimagery source: First Base Solutions, Date Spring 2010.



Client/Project
FWRN LP
Natural Heritage Assessment Report

Figure No.
2.43

Title
**Records Review -
Natural Features
Figure 2.43
Revised**



September, 2015
160950269

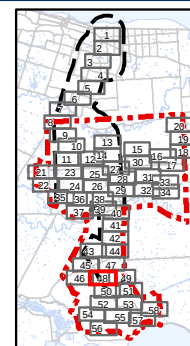


Legend

- | | | | |
|-----------------------------------|---|---|---|
| Project Study Area | Tap-in Location | Access Road 20m Construction Area | ANSI, Earth Science, Provincially Significant (MNR) |
| Interconnector Study Area | Junction Box | Potential Construction Laydown Area | ANSI, Life Science, Provincially Significant (MNR) |
| 120m Zone of Investigation | Proposed Culvert | Transformer Substation | ANSI, Life Science, Regionally Significant (MNR) |
| Zone of Investigation Adjustments | | | |
| Area Added | Temporary Laydown Area | Unevaluated Wetland (NPCA) | Greenbelt Natural Heritage System |
| Area Removed | Collector Lines - Underground or Overhead | Woodland (MNR) | Niagara Escarpment |
| Proposed Turbine Location | Fibre Optic Line | Provincially Significant Wetland (MNR) | |
| Turbine Relocated | Potential Access Road | Other/Locally Significant Wetland (MNR) | |
| Turbine Blade Length | | Deer Wintering Yard (MNR) | |

Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
- Orthoimagery source: First Base Solutions, Date Spring 2010.

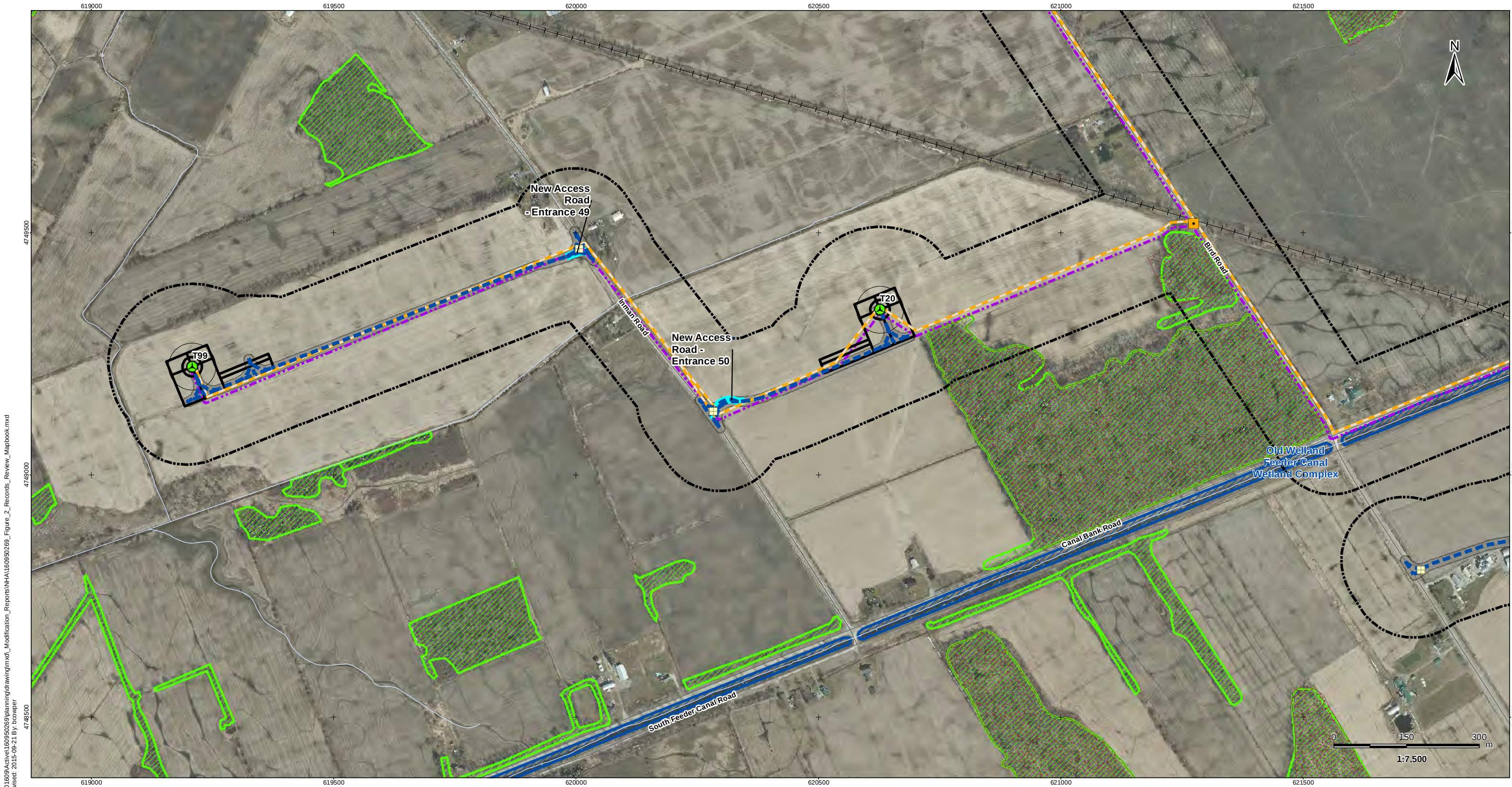


Client/Project
FWRN LP
Natural Heritage Assessment Report

Figure No.
2.48

Title

**Records Review -
Natural Features
Figure 2.48
Revised**



V:\01609\Active\160950269\planning\drawing\mxd_Modification_Reports\NHA\160950269_Figure_2_Records_Review_Mapbook.mxd
Revised: 2015-09-21 By: bowper

September, 2015
160950269

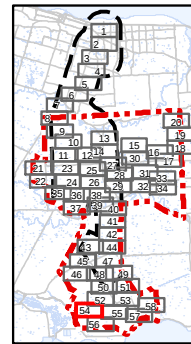


Legend

- | | | | |
|-----------------------------------|---|---|---|
| Project Study Area | Tap-in Location | Access Road 20m Construction Area | ANSI, Earth Science, Provincially Significant (MNR) |
| Interconnector Study Area | Junction Box | Potential Construction Laydown Area | ANSI, Life Science, Provincially Significant (MNR) |
| 120m Zone of Investigation | Proposed Culvert | Transformer Substation | ANSI, Life Science, Regionally Significant (MNR) |
| Zone of Investigation Adjustments | Temporary Laydown Area | Unevaluated Wetland (NPCA) | Greenbelt Natural Heritage System |
| Area Added | Collector Lines - Underground or Overhead | Woodland (MNR) | Niagara Escarpment |
| Area Removed | Fibre Optic Line | Provincially Significant Wetland (MNR) | |
| Proposed Turbine Location | Potential Access Road | Other/Locally Significant Wetland (MNR) | |
| Turbine Relocated | | Deer Wintering Yard (MNR) | |
| Turbine Blade Length | | | |

Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
- Orthomagey source: First Base Solutions, Date Spring 2010.



Client/Project
FWRN LP
Natural Heritage Assessment Report

Figure No.
2.54

Title
**Records Review -
Natural Features
Figure 2.54
Revised**