

PU-19-144 Merricourt Wind Power Project Construction Inspection Report



Prepared for:
**North Dakota
Public Service Commission**

600 E. Boulevard Avenue
Bismarck, ND 58505-0480



Prepared by:

WENCK Associates, Inc.
3303 Fiechtner Drive Ste 100
Fargo, ND 58103
Phone: 701-297-9600
Fax: 701-297-9601

Table of Contents

EXECUTIVE SUMMARY 1-1

1.0 BACKGROUND AND SCOPE..... 1-2

 1.1 Introduction 1-2

 1.2 Regulatory Purpose and Scope of Work..... 1-2

2.0 FINDINGS OF SITE INSPECTION..... 2-1

 2.1 Methods..... 2-1

 2.2 On-Site Inspection Observations 2-1

3.0 RECOMMENDATIONS FOR RESOLUTION OF ISSUES 3-1

4.0 SIGNATURES 4-1

TABLES

1. Observation Points

FIGURES

1-5 Construction Observation Locations

APPENDICES

A Observation Point Photolog

Executive Summary

The North Dakota Public Service Commission (PSC) retained Wenck Associates, Inc. (Wenck) to complete site inspections during construction of the EDF Renewable Development, Inc. (EDF)/Otter Tail Power Company (OTP) Merricourt Wind Power Project (Project). The purpose of the inspections was to ensure the Project is constructed in compliance with the siting laws and rules and the applicable PSC Orders for the Project, which includes a requirement that topsoil must be segregated from subsoil during Project installation. This Project was initially identified as case PU-08-932 and is understood to ultimately be transferred from EDF Renewable Development, Inc. to Otter Tail Power via PU-19-144.

The Project is located in McIntosh and Dickey County, North Dakota. The Project boundary includes approximately 13,156 acres of land which consists of 75 wind turbine generators with approximately 23.3 miles of access roads. Up to 4 meteorological towers with approximately 0.5 miles of access roads are proposed to be constructed. In addition, 6 alternate turbine locations with 1.8 miles of access roads have been identified. Approximately 41.0 miles of underground electrical collector cables are proposed to connect turbines to the Merricourt 230kV switch station owned by Montana Dakota Utilities. This switch station is centrally located within the Project boundary. A separate 230kV collection substation constructed by EDF is immediately adjacent to the switch station to eliminate the need for an overhead generation intertie. An operations and maintenance facility is also located within the Project area.

Wenck was present when construction involving soil disturbance for the Project began 8 August 2019. Prior to Project construction, Wenck reviewed Project documents to become familiar with the Project and PSC Orders for the Project. Wenck visually inspected the Project area on three separate occasions including 8 August, 10 and 19 September 2019 and observed topsoil and subsoil removal and segregation done by Wanzek Construction (Wanzek) and Strata Corporation (Strata). Aside from a single isolated issue where a topsoil stockpile was observed to have some minor mixing with subsoil, soil removal and storage processes were satisfactory and completed properly during the 2019 inspections.

Wenck conducted a construction inspection of the Project on 21 July 2020. Project construction was ongoing, with work being done at turbine locations and collection lines. Turbine pads appeared to be sited at the locations previously proposed and collection line installations appeared satisfactory. There was an observed lack of topsoil segregation at some locations, most notably turbines #48, #49, and the MET2 tower. Some of the access roads being used appeared inadequately stripped of topsoil, primarily the access roads leading to MET2 and a temporary access road leading toward Turbine #81. Multiple instances of soil erosion resulting from failing sediment fences were encountered throughout the project area.

1.0 Background and Scope

1.1 INTRODUCTION

The Merricourt Wind Power Project is under the jurisdiction of the North Dakota Public Service Commission (PSC), which issued its Second Amended Findings of Fact, Conclusions of Law, and Order in Case No. PU-08-932 on 16 November 2017 and order of the Commission in Case No. PU-19-144 on 26 June 2019, granting Certificates of Site Compatibility No. 23 for the Project.

The Project will be a 75 primary wind turbine facility with 6 alternate turbine locations capable of producing 150 MW of power. The Project is located within McIntosh and Dickey County, North Dakota. The Project boundary is within the southern half of T131N, R67W, the northern sections and northeastern half of T130N, R67W and Section 1 of T130N, R68W of McIntosh County. The Project boundary within Dickey County includes Section 30, northwest quarter of Section 31, and Section 29, T131N, R66W. 41 miles of underground electrical collector cables are proposed to transport energy to an existing 230kV switch station and a separate proposed 230kV collection substation that are both centrally located within the Project boundary in the northwest quarter of Section 3, T130N, R67W.

As noted in the application, the turbines EDF plans to utilize for the Project are Vestas, V110-2.0 MW turbines. These turbines reach a height of 262 feet at the hub, and the maximum height from tower base to blade tip will be 443 feet. The 13.5-foot diameter wind turbine towers will be mounted on concrete foundations approximately 25 feet in diameter and will each occupy an approximately 116-foot diameter gravel pad. These turbines will activate at windspeeds of 6.7 mph and have a rotor swept area of 102,289 square feet with a 361 feet rotor diameter. These turbines will shut off when windspeeds reach 44.7 mph. The withstandable windspeed for the turbines are 100 mph.

1.2 REGULATORY PURPOSE AND SCOPE OF WORK

The North Dakota Energy Conversion and Transmission Facility Act (North Dakota Century Code Chapter 49-22) authorizes the Public Service Commission to determine that the location, construction, and operation of jurisdictional energy conversion and transmission facilities will produce minimal adverse effects on the environment and the welfare of citizens of North Dakota. Construction inspections ensure that such projects are constructed in compliance with the siting laws (North Dakota Century Code Chapter 49-22) and rules (North Dakota Administrative Code Article 69-06) and the applicable Commission Orders.

The North Dakota PSC retained Wenck Associates, Inc. (Wenck) to complete a construction inspection of the Project. The inspection process included a review of the Application for Certificate of Site Compatibility, the Project's Order, and other applicable documents. Wenck's scope of work was to perform and document on-site inspections during project construction to verify that the project is constructed in compliance with the siting laws, siting rules, and applicable Commission Orders. As part of the construction inspection, topsoil segregation, stockpiles, erosional controls, and constructed turbine setback locations approved by the PSC were examined. This report includes, but is not limited to, documentation of site visit observations and a summary of findings and issues that should be addressed for the Project to be considered in compliance.

2.0 Findings of Site Inspection

2.1 METHODS

Wenck staff members Matt Retka, Project Manager/Soil Scientist and Zach Bartsch, Field Inspector/Natural Resources Scientist, visited the Project site to conduct construction inspections on 21 July 2020. Representatives from EDF, Bob Turner, Electrical Superintendent, and John Papasergia, Consultant, made themselves available to answer any questions. Wenck did not require an accompany; however, did contact these representatives and inquired about pertinent Project location works, progress, goals, and concerns.

The site was inspected visually by driving access roads, inspecting site infrastructure, turbine locations and environmental sensitive areas (drainages/wetlands), and observing soil characteristics to check that soils had been properly removed, segregated, and replaced during the construction process. Contractors/equipment operators were observed backfilling pad foundations, constructing collection lines, and working at turbine sites. Wenck verbally verified collection line depths with Olsen Electric, Inc. (Olsen).

Digital photographs were taken showing typical Project infrastructure and documenting problem areas (**Appendix A**). Geographic coordinates were recorded at observation points and potential problem areas using a handheld Global Positioning System (GPS) (Trimble GeoXT, submeter accuracy, NAD83 datum) (**Table 1**). Observation Point locations were then overlaid on GIS generated maps for the Project area (**Figures 1-5**).

2.2 ON-SITE INSPECTION OBSERVATIONS

The construction inspection was conducted on 21 July 2020. Mr. Retka and Mr. Bartsch contacted Bob Turner and John Papasergia as notification of construction inspection proceedings and to gain an up to date understanding of active construction locations and progress of previous and future planned work. Collection line trenching and foundation backfilling had begun in May. At the time of the inspection, it was reported by EDF that all primary turbine foundations were poured.

There were frequent observations made revealing issues with topsoil stripping requirements. The contractors appear to have done a satisfactory job with the stripping of topsoil during the 2019 topsoil inspections conducted by Wenck. However, observations made during the July 2020 inspections show construction sites appear to have inconsistencies with proper soil stripping and segregation. This was most notable at turbine locations #48, #49, and MET2, as well as an access road leading to Tower #81. The access road to MET2 was not adequately stripped of topsoil before gravel grade was laid.

Observations at trenched collection lines showed that topsoil had been stripped and returned appropriately with minor mixing. Collection line construction is contracted by Olsen, and was not observed actively trenching at the time of the inspection; however Wenck was verbally informed in a discussion with the crew that the depth of underground line placement was 52 to 53 inches below ground. Wenck is of the opinion, Olsen is following the requirement for collection line depth-of-cover from discussions with the one-pass trenching machine operators. However, because Olsen was finished trenching and

moving equipment when Wenck Inspectors were on site, there was not an active trench to measure.

Construction safety measures were implemented, including but not limited to, posted warning signs, traffic control, overhead electrical wires marked, equipment spotters, and personal protective equipment was worn. A new face covering requirement was put on the worksite, and this guideline was observed during most encounters with construction crews. Work areas visited during the inspection were kept free of debris and waste. No damage to existing roadways was observed.

The problematic observations made included:

1. Access Roads not stripped of topsoil (**Observation Points 2846, 2847, 2860, 2861**).
 - a. Project map indicates MET2 contains a permitted primary access road. Approximately 8-inches of unstripped topsoil remained underneath the placed gravel at observation point 2846/2847.
 - b. Follow-up discussion after the construction inspection with John Papasergia informed Wenck that points 2860/2861 were at the temporary "A" road, which is proposed to be removed and reclaimed by Wanzek in the near future.
2. Multiple sediment control (Silt Fences) failures and soil erosion from water throughout the project area (**Observation Points 2832, Z-3, Z-4, Z-8, Z-9, Z-10, 2835, 2853, 2857**).
 - a. This was a reoccurring observation during the inspection. Additional problematic areas were visible but not documented. Follow-up discussion with John Papasergia revealed crews were employed to repair silt fences across the project area the following week.
3. Subsoil stockpiles encroaching or laid directly on unstripped topsoil (**Observation Points Z-5, Z-6, 2837, 2838, 2840, 2842**).
4. Moderate topsoil and subsoil mixing in stockpiles (i.e. inadequate segregation) (**Observation Points Z-5, 2841, 2842, 2844, 2848**).
 - a. Turbine site 49 appears to have some moderate stockpile mixing, and use of the mixed soil as backfill. While there is a large topsoil stockpile around this site, it seems as though topsoil at the northern end was not appropriately stripped nor segregated.
5. Use of mixed topsoil as subsoil backfill (**Observation Points 2841, 2848**).
 - a. Both points had no discernable soil segregation. Crews backfilling foundations were not able to identify which stockpiles were topsoil or subsoil at point 2848. Discussion with Wanzek crews onsite revealed issues obtaining desired Soil Proctor results during compaction testing (i.e., reporting 92% vs. specified 95%) and admitted subsoil was stockpiled atop in-situ topsoil.

Wenck reviewed the Project's proposed construction locations for various roads, collection lines, substation, and turbines, to verify that EDF/OTP and Wanzek has followed the setback distances as approved in the layout plans as of 17 April 2020 (PU-08-932 Docket no. 268). At the time of the visit, not all roads were constructed, and some turbine locations not yet stripped or constructed. There were no indications of issues with turbine locations per siting

criteria or other infringements into exclusion areas; however, not all turbine locations were verified.

3.0 Recommendations for Resolution of Issues

Construction Inspections of the Merricourt Wind Power Project PU-19-144 have indicated some issues regarding topsoil stripping, topsoil segregation and erosion control. No other major issues or compliance concerns with the siting laws, rules, or PSC orders were observed during construction inspections. Wenck makes the following recommendations to alleviate issues observed at the project:

- ▲ Incorporate frequent inspection of erosion control measures, especially along shoulder and backslopes and near waterbodies, as well as frequently monitor, replace, and repair non-functioning BMPs (i.e., silt fences).
- ▲ Install erosion control devices such as straw wattles, or velocity-reducing barriers along access roads (Observation Point Z-4) where channels can form and degrade soils and waterbodies.
- ▲ Inquire about previous topsoil stripping and segregation near Observation Points Z-5, Z-6, 2837, 2838, 2840, 2842, 2846, 2847, 2860, 2861 (Turbine Locations 36, 48, 49, MET2 and MET2 access road) and proposed reclamation techniques.
- ▲ Implement methods to alleviate compaction during abandonment and reclamation at temporary road "A" as documented at observation point 2860/2861.
- ▲ Inquire as to how stripping information is disseminated across the construction crews and organization for soil handling work. If construction crews cannot identify stockpile types, inquire as to what communication methods and available information is used to distinguish the appropriate use for stockpiled soil replacement.
- ▲ Implement erosional control methods for covering topsoil stockpiles, such as hydromulches, to prevent erosion of stockpiled topsoil, especially if stockpiled soil is to be left over winter.

4.0 Signatures

The services performed by Wenck staff for this project have been conducted in a manner consistent with the degree of care and technical skill appropriately exercised by professionals currently practicing in this area under similar time and budget constraints. Recommendations and findings contained in this report represent our professional judgment and are based upon available information and technically accepted practices at the present time and location. Other than this, no warranty is implied or expressed.



Matthew Retka, Project Manager

08/03/2020

Date



Zachary Bartsch, Natura Resources Scientist

08/03/2020

Date

Tables

1. Observation Point Coordinates

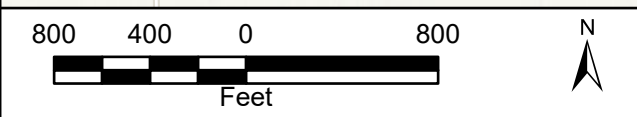
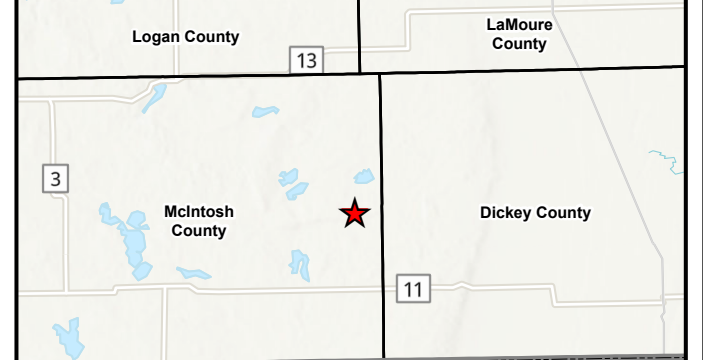
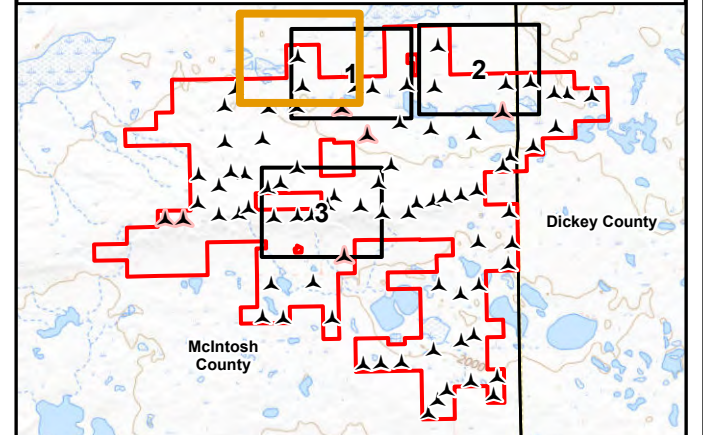
Observation Number	Date	Latitude	Longitude	Observation Number	Date	Latitude	Longitude
2829	7/21/2020	46.140721	-99.039029	2855	7/21/2020	46.114633	-99.064099
2830	7/21/2020	46.140956	-99.037988	2856	7/21/2020	46.117819	-99.084631
2831	7/21/2020	46.1411	-99.038671	2857	7/21/2020	46.11769	-99.084888
2832	7/21/2020	46.147849	-99.072791	2858	7/21/2020	46.117538	-99.08709
2834	7/21/2020	46.147409	-99.072673	2859	7/21/2020	46.117538	-99.08709
Z-1	7/21/2020	46.146903	-99.07229	2860	7/21/2020	46.121191	-99.043743
Z-2	7/21/2020	46.145699	-99.071137	2861	7/21/2020	46.121191	-99.043743
Z-3	7/21/2020	46.145699	-99.071137	2862	7/21/2020	46.132723	-99.041707
Z-4	7/21/2020	46.14416	-99.070264	2863	7/21/2020	46.13258	-99.042288
Z-5	7/21/2020	46.11646	-99.026656				
Z-6	7/21/2020	46.11646	-99.026656				
Z-7	7/21/2020	46.116349	-99.026679				
Z-8	7/21/2020	46.116895	-99.027656				
Z-9	7/21/2020	46.116895	-99.027656				
Z-10	7/21/2020	46.11598	-99.027858				
Z-11	7/21/2020	46.116032	-99.027371				
2835	7/21/2020	46.115421	-99.030562				
2836	7/21/2020	46.115391	-99.032057				
2837	7/21/2020	46.079987	-99.041887				
2838	7/21/2020	46.079987	-99.041887				
2839	7/21/2020	46.079798	-99.041628				
2840	7/21/2020	46.079798	-99.041628				
2841	7/21/2020	46.079593	-99.048214				
2842	7/21/2020	46.079551	-99.048012				
2843	7/21/2020	46.079551	-99.048012				
2844	7/21/2020	46.079589	-99.048617				
2845	7/21/2020	46.079068	-99.04845				
2846	7/21/2020	46.078999	-99.044846				
2847	7/21/2020	46.078999	-99.044846				
2848	7/21/2020	46.078674	-99.044868				
2849	7/21/2020	46.078864	-99.045171				
2850	7/21/2020	46.113387	-99.066351				
2851	7/21/2020	46.115936	-99.062952				
2852	7/21/2020	46.116246	-99.062634				
2853	7/21/2020	46.115458	-99.061882				
2854	7/21/2020	46.115158	-99.061994				

Construction Observation Locations

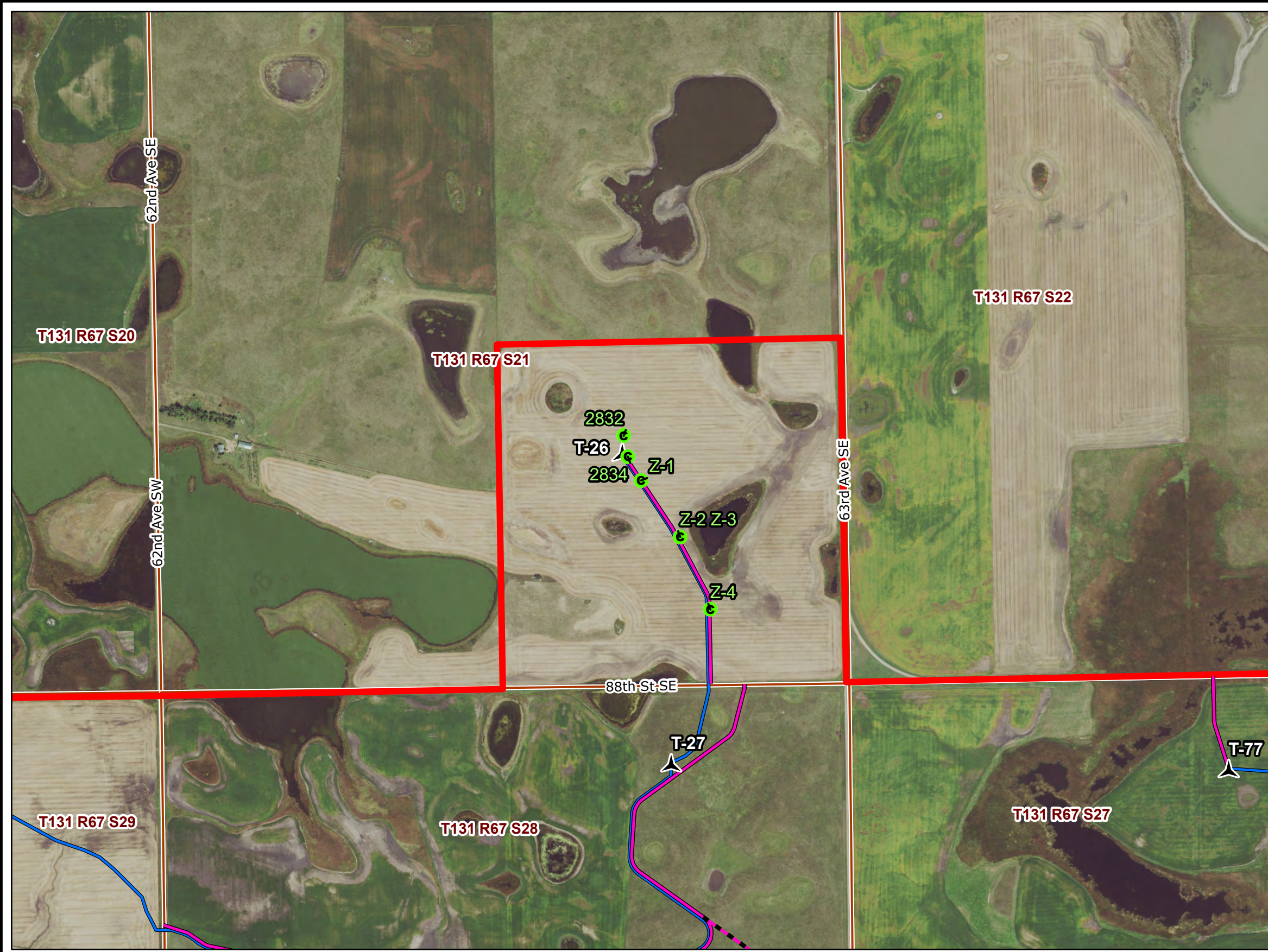
**North Dakota
Public Service Commission**

**Merricourt Wind Farm
Figure 1**

- Construction Observation Point Location
- ▲ Primary Turbine Location
- ▲ Alternate Turbine Location
- Met Tower Location
- Substation
- O&M Area
- Primary Access Road
- Alternate Access Road
- Collection Line
- Project Boundary



2018 Aerial Photograph (Source: NAIP)
 Path: U:\GIS\2579\0037\proj\Merricourt_Wind\Merricourt_Wind.aprx
 Date: 7/30/2020 Time: 9:34 AM User: MueKJ0907



PU-08-932 MERRICOURT WIND FARM CONSTRUCTION INSPECTION

Construction Observation Locations



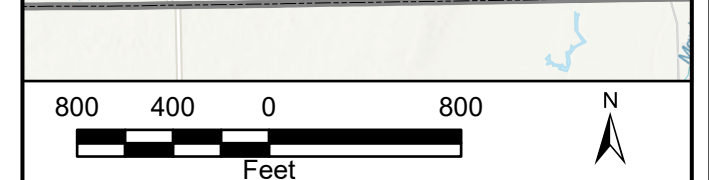
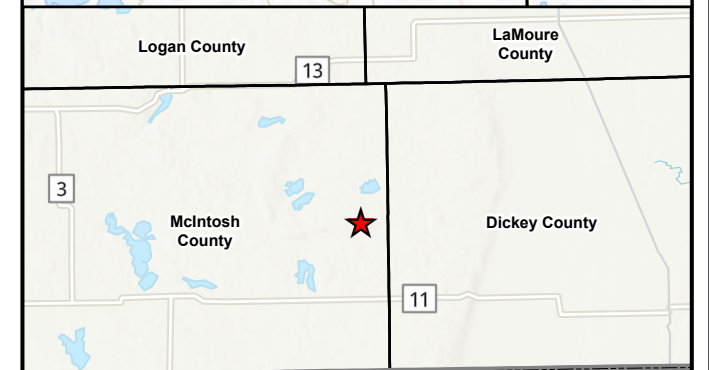
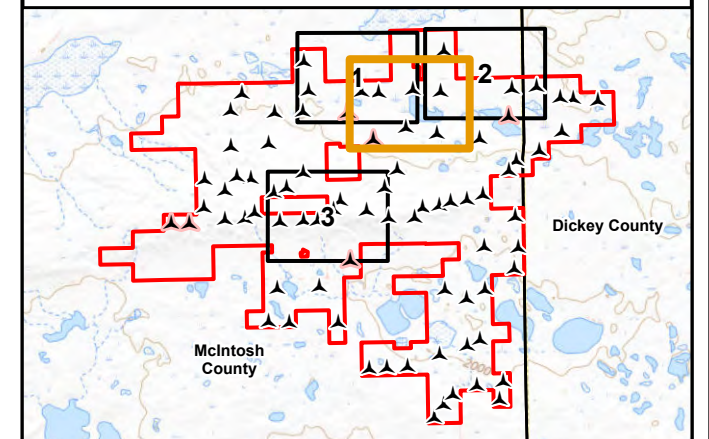
JULY 2020

Map 1 of 5

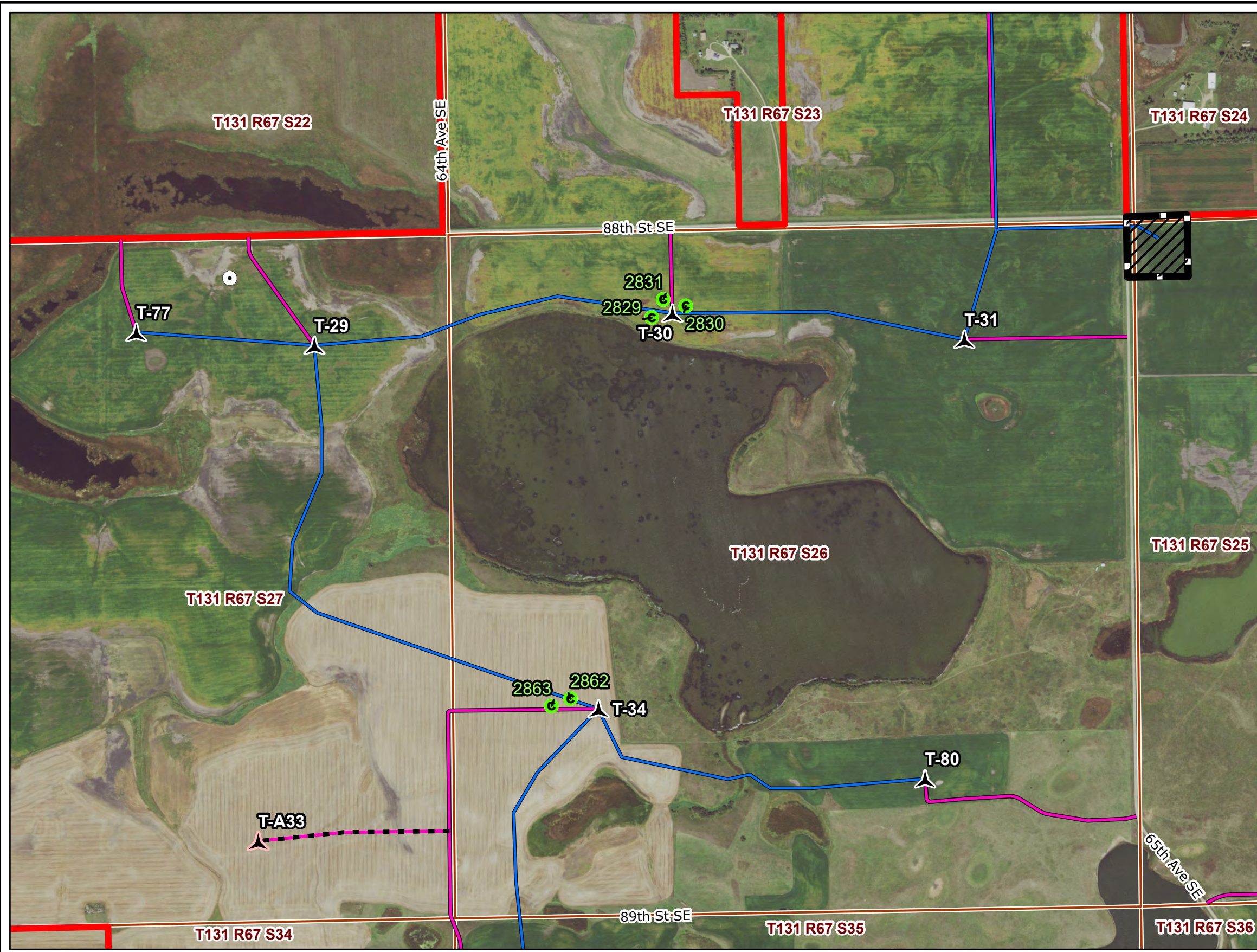
**North Dakota
Public Service Commission**

**Merricourt Wind Farm
Figure 2**

- Construction Observation Point Location
- ▲ Primary Turbine Location
- ▲ Alternate Turbine Location
- Met Tower Location
- Substation
- O&M Area
- Primary Access Road
- Alternate Access Road
- Collection Line
- Project Boundary



2018 Aerial Photograph (Source: NAIP)
 Path: U:\GIS\2579\0037\proj\Merricourt_Wind\Merricourt_Wind.aprx
 Date: 7/30/2020 Time: 9:34 AM User: MueKJ0907



PU-08-932 MERRICOURT WIND FARM CONSTRUCTION INSPECTION

Construction Observation Locations



Responsive partner. Exceptional outcomes.

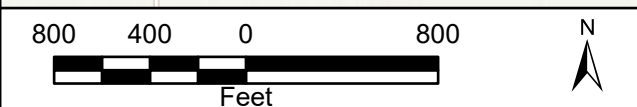
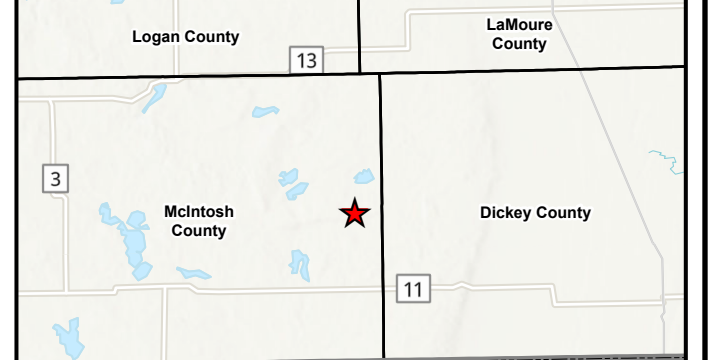
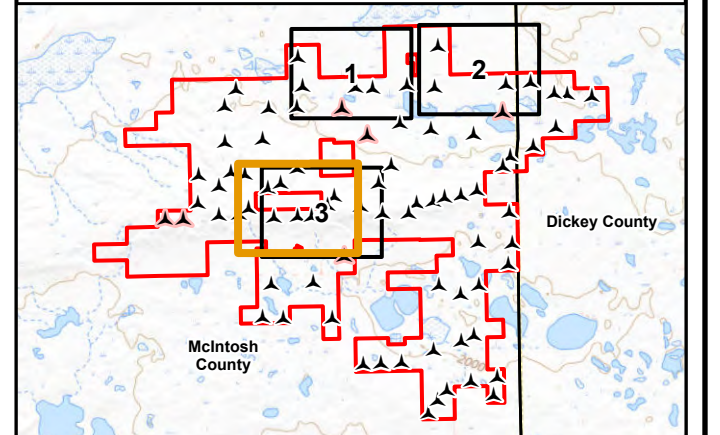
JULY 2020

Map 2 of 5

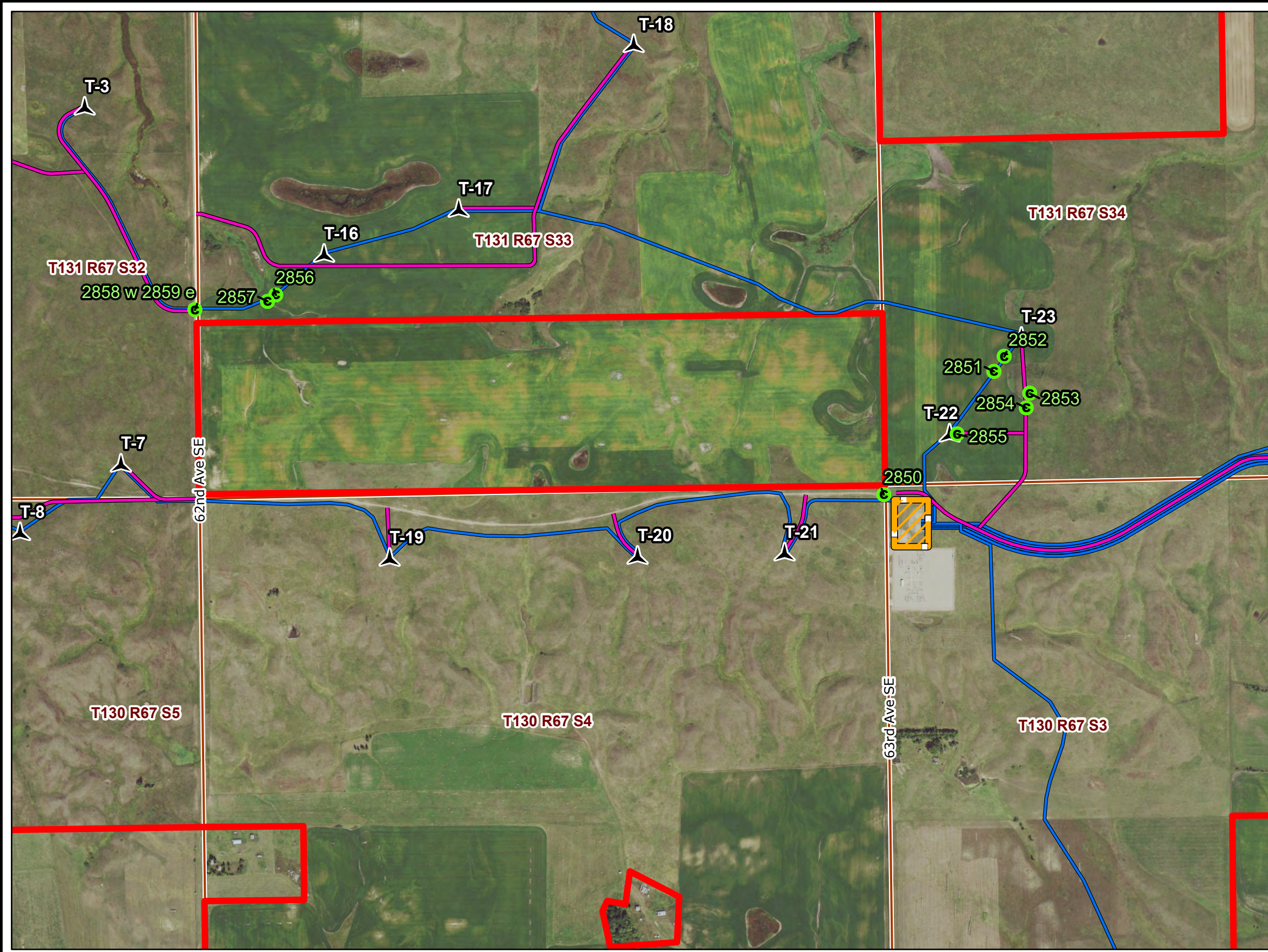
**North Dakota
Public Service Commission**

**Merricourt Wind Farm
Figure 3**

- Construction Observation Point Location
- ▲ Primary Turbine Location
- ▲ Alternate Turbine Location
- Met Tower Location
- Substation
- O&M Area
- Primary Access Road
- Alternate Access Road
- Collection Line
- Project Boundary



2018 Aerial Photograph (Source: NAIP)
 Path: U:\GIS\2579\0037\proj\Merricourt_Wind\Merricourt_Wind.aprx
 Date: 7/30/2020 Time: 9:34 AM User: MueKJ0907



PU-08-932 MERRICOURT WIND FARM CONSTRUCTION INSPECTION

Construction Observation Locations



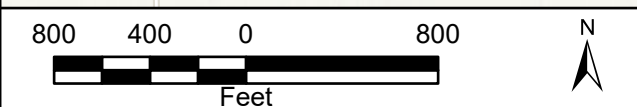
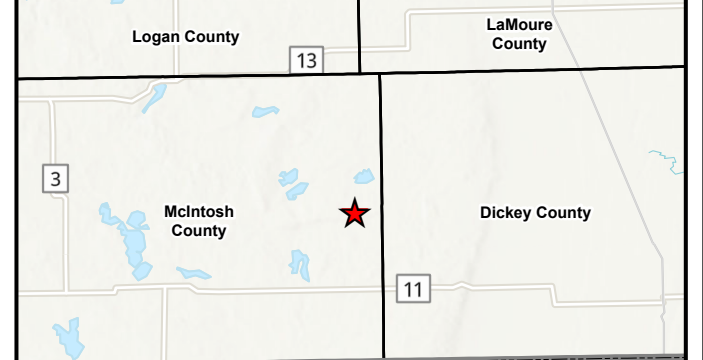
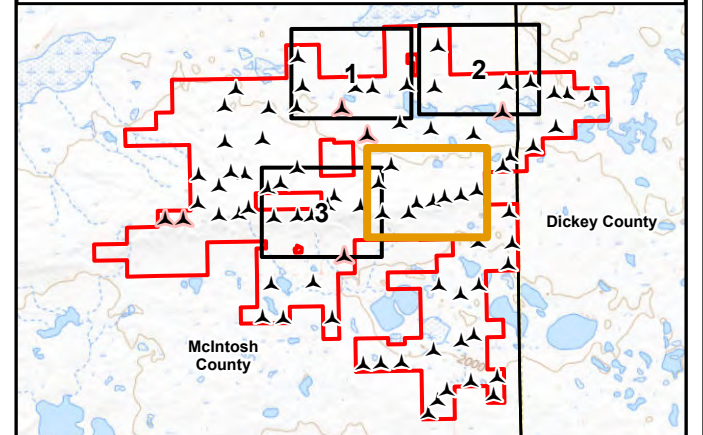
JULY 2020

Map 3 of 5

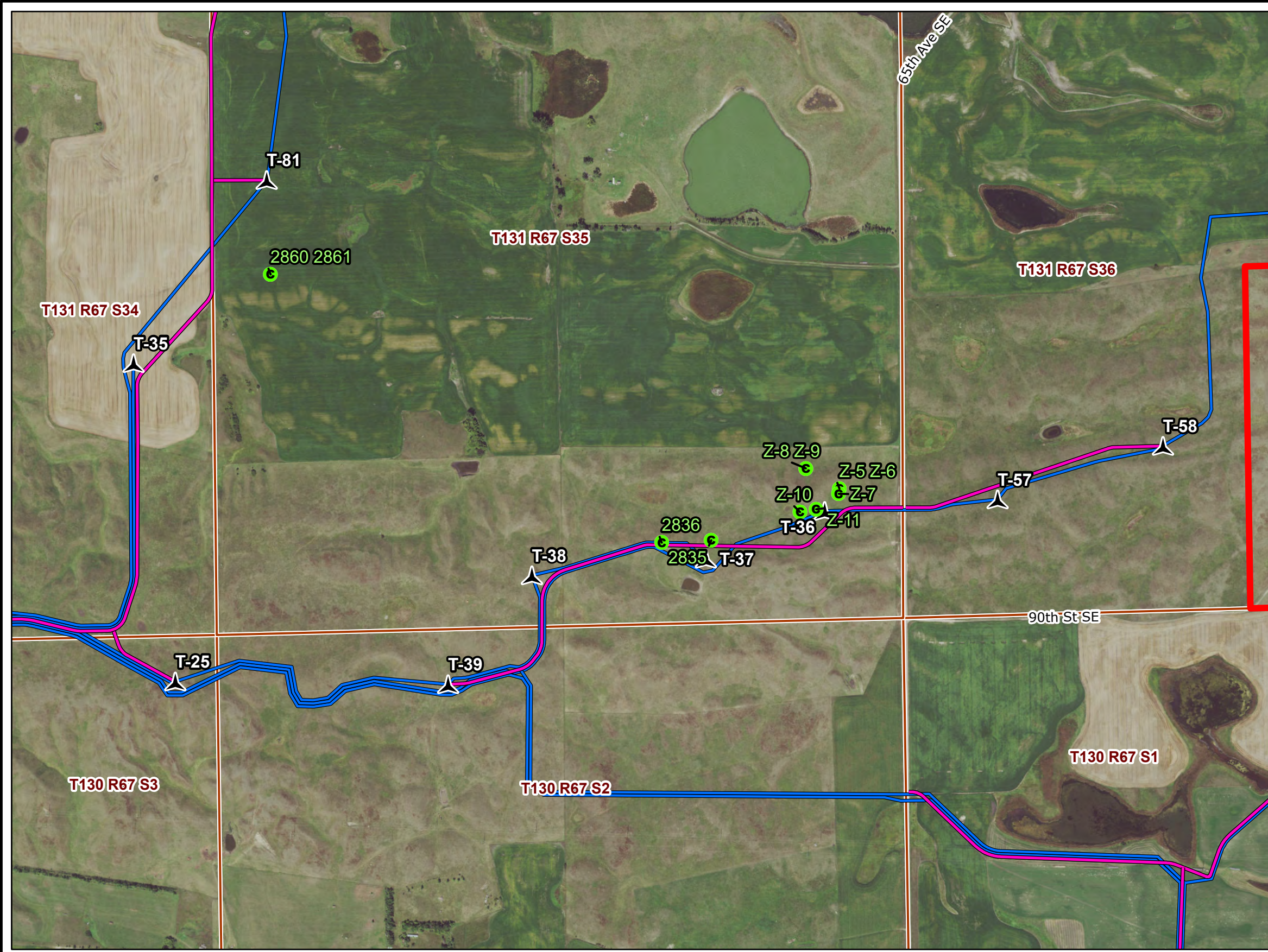
**North Dakota
Public Service Commission**

**Merricourt Wind Farm
Figure 4**

- Construction Observation Point Location
- ▲ Primary Turbine Location
- ▲ Alternate Turbine Location
- Met Tower Location
- Substation
- O&M Area
- Primary Access Road
- Alternate Access Road
- Collection Line
- Project Boundary



2018 Aerial Photograph (Source: NAIP)
 Path: U:\GIS\2579\0037\proj\Merricourt_Wind\Merricourt_Wind.aprx
 Date: 7/30/2020 Time: 9:34 AM User: MueKJ0907



PU-08-932 MERRICOURT WIND FARM CONSTRUCTION INSPECTION

Construction Observation Locations



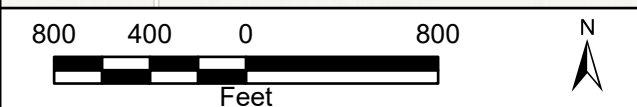
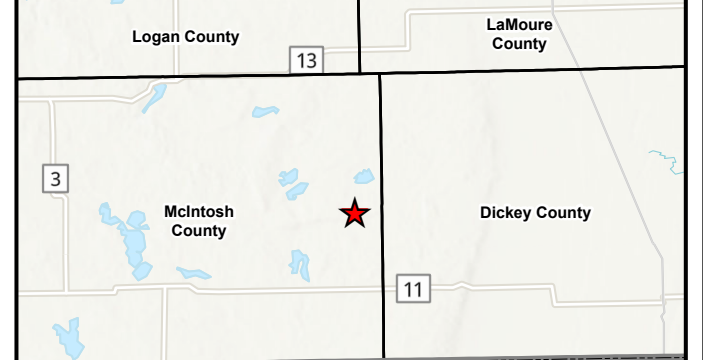
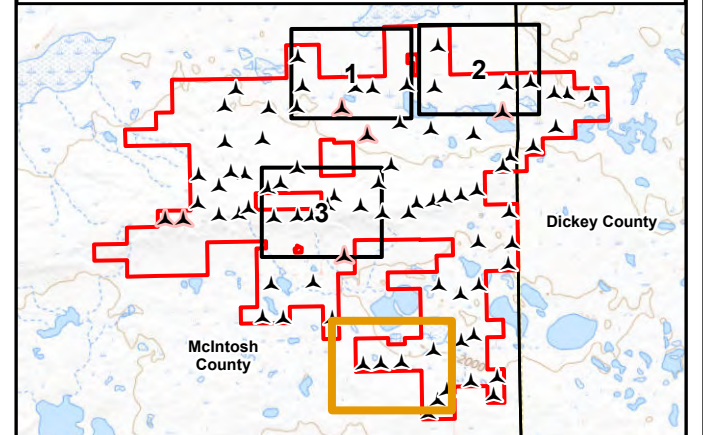
JULY 2020

Map 4 of 5

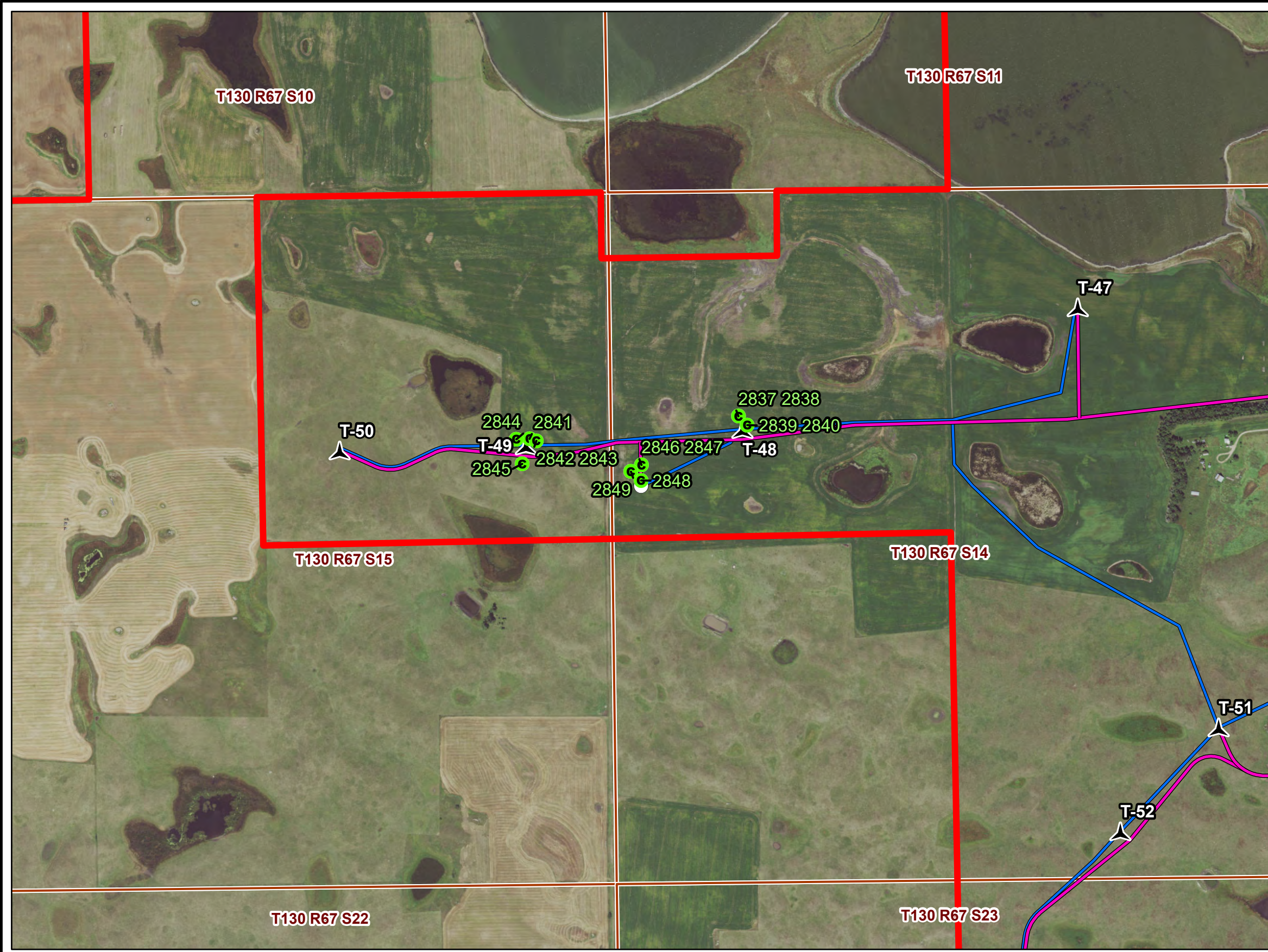
**North Dakota
Public Service Commission**

**Merricourt Wind Farm
Figure 5**

- Construction Observation Point Location
- ▲ Primary Turbine Location
- ▲ Alternate Turbine Location
- Met Tower Location
- Substation
- O&M Area
- Primary Access Road
- Alternate Access Road
- Collection Line
- Project Boundary



2018 Aerial Photograph (Source: NAIP)
 Path: U:\GIS\2579\0037\proj\Merricourt_Wind\Merricourt_Wind.aprx
 Date: 7/30/2020 Time: 9:35 AM User: MueKJ0907



PU-08-932 MERRICOURT WIND FARM CONSTRUCTION INSPECTION



Construction Observation Locations





JULY 2020



Map 5 of 5


Observation Point Photolog



Photo Point: 2829	
Location of Photo: Lat: 46.14072135 Long: -99.03902935	
Direction Taken: West Description: Stockpile on the area around Turbine 30, and the face shows minor topsoil/subsoil mixing. Other piles near this tower look appropriate.	
Photo Point: 2830	
Location of Photo: Lat: 46.14095589 Long: -99.03798776	
Direction Taken: N/A Description: Stripped area for Turbine 30. The stripping at this location should have included approximately 3 more inches of topsoil.	



<p>Photo Point: 2831</p>	
<p>Location of Photo: Lat: 46.14110049 Long: -99.03867054</p>	
<p>Direction Taken: North</p> <p>Description: Overlooking the construction of Turbine Tower 30.</p>	
<p>Photo Point: 2832</p>	
<p>Location of Photo: Lat: 46.147849 Long: -99.072791</p>	
<p>Direction Taken: North</p> <p>Description: Silt fence near Turbine 26 needs repairs/maintenance before complete failure occurs.</p>	



<p>Photo Point: 2834</p>	
<p>Location of Photo: Lat: 46.147409 Long: -99.072673</p>	
<p>Direction Taken: West</p> <p>Description: Recently constructed Turbine 26 platform that looked appropriately stripped. Good topsoil separation.</p>	
<p>Photo Point: Z-1</p>	
<p>Location of Photo: Lat: 46.146903 Long: -99.07229</p>	
<p>Direction Taken: South</p> <p>Description: Access road coming to Turbine 26.</p>	

<p>Photo Point: Z-2</p>	
<p>Location of Photo: Lat: 46.14569851 Long: -99.0711368</p>	
<p>Direction Taken: East</p> <p>Description: Soil erosion along Turbine 26 access road. Silt Fence noted as needing repair.</p>	
<p>Photo Point: Z-3</p>	
<p>Location of Photo: Lat: 46.14569851 Long: -99.0711368</p>	
<p>Direction Taken: East</p> <p>Description: Soil erosion along Turbine 26 access road. Silt Fence needs repair.</p>	

<p>Photo Point: Z-4</p>	
<p>Location of Photo: Lat: 46.14416038 Long: -99.07026406</p>	
<p>Direction Taken: North</p> <p>Description: Channelized erosion along access road to Turbine 26. Looking towards the silt fences from points 2 and 3.</p>	
<p>Photo Point: Z-5</p>	
<p>Location of Photo: Lat: 46.11645956 Long: -99.02665577</p>	
<p>Direction Taken: NA</p> <p>Description: Soil mixing present, with subsoil being placed atop in-situ topsoil near Turbine 36.</p>	

<p>Photo Point: Z-6</p>	
<p>Location of Photo: Lat: 46.11645956 Long: -99.02665577</p>	
<p>Direction Taken: South</p> <p>Description: Soil mixing present, with subsoil being placed atop in-situ topsoil. Turbine 36.</p>	
<p>Photo Point: Z-7</p>	
<p>Location of Photo: Lat: 46.11634933 Long: -99.02667935</p>	
<p>Direction Taken: East</p> <p>Description: Large stockpile that was stripped appropriately. Turbine 36.</p>	

<p>Photo Point: Z-8</p>	
<p>Location of Photo: Lat: 46.11689514 Long: -99.027656</p>	
<p>Direction Taken: East</p> <p>Description: Soil Erosion visible from a failing sediment fence needing repair. Turbine 36.</p>	
<p>Photo Point: Z-9</p>	
<p>Location of Photo: Lat: 46.11689514 Long: -99.027656</p>	
<p>Direction Taken: North</p> <p>Description: Soil Erosion and washout area visible from a failing sediment fence needing repair. Turbine 36.</p>	

<p>Photo Point: Z-10</p>	
<p>Location of Photo: Lat: 46.11598029 Long: -99.02785801</p>	
<p>Direction Taken: Northwest</p> <p>Description: Runoff and sediment erosion entering pothole wetland. Turbine 36.</p>	
<p>Photo Point: Z-11</p>	
<p>Location of Photo: Lat: 46.141357 Long: -99.038387</p>	
<p>Direction Taken: Southeast</p> <p>Description: Constructed Turbine 36 foundation with appropriately stripped topsoil.</p>	

<p>Photo Point: 2835</p>	
<p>Location of Photo: Lat: 46.1154215 Long: -99.03056239</p>	
<p>Direction Taken: North</p> <p>Description: Soil erosion occurring along access road near Turbine 37. The silt fence depicted needs repair.</p>	
<p>Photo Point: 2836</p>	
<p>Location of Photo: Lat: 46.11539061 Long: -99.03205694</p>	
<p>Direction Taken: West</p> <p>Description: Looking towards Turbine 38. Road and silt fences are in good condition.</p>	







Photo Point: 2837	
Location of Photo: Lat: 46.0799869 Long: -99.04188718	 A close-up photograph showing a shovel with a red and yellow handle and a black blade, partially buried in a large pile of light-colored, clumpy soil. The soil appears to be a mix of subsoil and topsoil. A person's leg in blue jeans and a yellow safety vest is visible on the right side of the frame.
Direction Taken: Northeast Description: Subsoil in stockpile appears to be segregated from topsoil, but is piled on unstripped in-situ topsoil.	
Photo Point: 2838	
Location of Photo: Lat: 46.0799869 Long: -99.04188718	 A wide-angle photograph of a large, conical stockpile of soil. The soil is light-colored and appears to be a mix of subsoil and topsoil. A shovel with a red and yellow handle is visible in the foreground on the right side. The background shows a clear blue sky with some clouds and a green field in the distance.
Direction Taken: Northeast Description: Subsoil in stockpile appears to be segregated from topsoil, but is piled on unstripped in-situ topsoil.	

Photo Point: 2839	
Location of Photo: Lat: 46.07979824 Long: -99.04162833	
Direction Taken: West Description: Turbine 48 foundation poured. Topsoil was stripped over the foundation's area, but does not appear to be stripped where subsoil was piled.	
Photo Point: 2840	
Location of Photo: Lat: 46.07979824 Long: -99.04162833	
Direction Taken: West Description: Turbine 48 foundation poured. Topsoil was stripped over the foundation's area, but does not appear to be stripped where subsoil was piled.	

<p>Photo Point: 2841</p>	
<p>Location of Photo: Lat: 46.07959267 Long: -99.0482143</p>	
<p>Direction Taken: South</p> <p>Description: Wanzek crew backfilling a poured pad for Turbine 49. Some mixed topsoil was observed being returned as subsoil for compaction and proctor testing.</p>	
<p>Photo Point: 2842</p>	
<p>Location of Photo: Lat: 46.07955069 Long: -99.04801241</p>	
<p>Direction Taken: West</p> <p>Description: Mixed soil stockpile placed on top of unstripped in-situ topsoil at Turbine 49 site.</p>	

<p>Photo Point: 2843</p>	 A large, conical pile of mixed soil and rocks. The soil is light-colored and appears to be unstripped topsoil. A shovel with a red handle and a black blade is stuck vertically into the center of the pile. The background shows a clear blue sky with some light clouds.
<p>Location of Photo: Lat: 46.07955069 Long: -99.04801241</p>	
<p>Direction Taken: West</p> <p>Description: Mixed soil stockpile placed on top of unstripped topsoil at Turbine 49 site.</p>	
<p>Photo Point: 2844</p>	 A close-up view of the open stockpile face. The soil is dark and appears to be mixed with some larger rocks or clumps. The texture is rough and uneven. The background shows a clear blue sky with some light clouds.
<p>Location of Photo: Lat: 46.07955069 Long: -99.04801241</p>	
<p>Direction Taken: East</p> <p>Description: Open stockpile face displays mixed soil being used as backfill at Turbine 49.</p>	



<p>Photo Point: 2845</p>	
<p>Location of Photo: Lat: 46.07955069 Long: -99.04801241</p>	
<p>Direction Taken: South</p> <p>Description: Large, and appropriately stripped topsoil stockpile with good vegetation cover at Turbine 49.</p>	
<p>Photo Point: 2846</p>	
<p>Location of Photo: Lat: 46.07899856 Long: -99.04484566</p>	
<p>Direction Taken: North</p> <p>Description: Road to MET2 Tower not stripped of topsoil. Class 5 and/or grade (gravel) laid on top. Wanzek crew mentioned this will likely be a permanent road.</p>	



Photo Point: 2847	
Location of Photo: Lat: 46.07899856 Long: -99.04484566	
Direction Taken: North Description: Profile slice of soil on access road to MET2 Tower. Road to MET2 Tower not stripped of topsoil. Class 5 and/or grade (gravel) laid on top of in-situ topsoil. Topsoil appeared to be compacted.	
Photo Point: 2848	
Location of Photo: Lat: 46.07867418 Long: -99.04486776	
Direction Taken: South Description: No discernable soil segregation at stockpiles around MET2 Tower. Stockpiles contained a mix a topsoil and subsoil.	

Photo Point: 2849	
Location of Photo: Lat: 46.140633 Long: -99.006286	
Direction Taken: East Description: Wetland 19-1 was delineated in 2019. No observed impacts to wetland from construction. Soil stockpile nearby, but no visual erosion into wetland was observed.	
Photo Point: 2850	
Location of Photo: Lat: 46.11338727 Long: -99.06635112	
Direction Taken: Southeast Description: Overlooking constructed substation. No issues identified.	

Photo Point: 2851	
Location of Photo: Lat: 46.11593583 Long: -99.06295154	
Direction Taken: North Description: Appropriately stripped collection line corridor. A one pass machine was used to bury feeder lines to 52-53 in. Some areas had limited topsoil for stripping. Looking towards Turbine 23.	
Photo Point: 2852	
Location of Photo: Lat: 46.11624554 Long: -99.06263366	
Direction Taken: North Description: Depicting non-stripped topsoil within an isolated area along the collection line corridor. Soil is mixed. Turbine 23.	



<p>Photo Point: 2853</p>	
<p>Location of Photo: Lat: 46.11545849 Long: -99.06188194</p>	
<p>Direction Taken: Southeast</p> <p>Description: Minor topsoil erosion off topsoil stockpile.</p>	
<p>Photo Point: 2854</p>	
<p>Location of Photo: Lat: 46.11515849 Long: -99.06199446</p>	
<p>Direction Taken: North</p> <p>Description: Access road to turbine 23 appropriately stripped of topsoil.</p>	

Photo Point: 2855	
Location of Photo: Lat: 46.114633 Long: -99.064099	
Direction Taken: Southeast Description: One-Pass trencher machine used by Olsen Electric to lay collection line. Photo near Turbine 22	
Photo Point: 2856	
Location of Photo: Lat: 46.11781931 Long: -99.08463144	
Direction Taken: East Description: Collection line corridor from the one pass machine. Overall, construction procedures appear adequate, aside from minor soil mixing over the trench.	

Photo Point: 2857	
Location of Photo: Lat: 46.11768952 Long: -99.08488822	
Direction Taken: North Description: Collection line trenching through an intermittent drainage. No silt fences in place and some soil erosion observed.	
Photo Point: 2858	
Location of Photo: Lat: 46.11753776 Long: -99.08708963	
Direction Taken: West Description: Overlooking collection line corridor through/underneath 62 nd st. to the west. Uncertain the extent of trenching through this area was as of site visit. Road intact.	




<p>Photo Point: 2859</p>	
<p>Location of Photo: Lat: 46.11753776 Long: -99.08708963</p>	
<p>Direction Taken: East</p> <p>Description: Overlooking collection line corridor through/underneath 62nd st. to the East. Trenching appears to have been completed. Road intact.</p>	
<p>Photo Point: 2860</p>	
<p>Location of Photo: Lat: 46.12119102 Long: -99.04374281</p>	
<p>Direction Taken: East</p> <p>Description: Access road not stripped of topsoil. Adjacent undisturbed areas had 12" of topsoil, and there was 6" of topsoil remaining on the road. EDF contact mentioned in follow-up call that this temporary road will be decommissioned.</p>	

Photo Point: 2861	
Location of Photo: Lat: 46.12119102 Long: -99.04374281	
Direction Taken: East Description: Access road not stripped of topsoil. Adjacent undisturbed areas had 12" of topsoil, and there was 6" of topsoil remaining on the road. EDF contact mentioned this temporary road will be decommissioned.	
Photo Point: 2862	
Location of Photo: Lat: 46.13272286 Long: -99.04170711	
Direction Taken: West Description: Completed collection line at Turbine 34 traveling towards Turbine 29.	

<p>Photo Point: 2863</p>	
<p>Location of Photo: Lat: 46.13258037 Long: -99.04228839</p>	
<p>Direction Taken: Southeast</p> <p>Description: Turbine 34 construction, timber mats being used.</p>	

