Hamre, John G.

From: Lein, Jerry R.
Sent: Wednesday, May 18, 2016 1:32 PM
To: Gibbs, Pamela K; -Info-Public Service Commission; G1019997CourtWind
Cc: Haile, Amanuel T; Sederquist, Dave
Subject: RE: PU-13-64 and PU-15-174 Courtenay Wind_Summary of Proosed Changes NSP 051116

Dear Ms. Gibbs:

Please consider this email as staff approval of the Courtenay site plan revisions as requested below on May 11th in Case Nos. PU-13-64 and PU-15-174,

Please contact me if you have questions.

Thanks.

Jerry Lein
Staff Engineer
701 328-1035

From: Gibbs, Pamela K [mailto:Pamela.K.Gibbs@xcelenergy.com]
Sent: Wednesday, May 11, 2016 1:04 PM
To: -Info-Public Service Commission; Lein, Jerry R.; G1019997CourtWind
Cc: Haile, Amanuel T; Sederquist, Dave
Subject: PU-13-64 and PU-15-174 Courtenay Wind_Summary of Proosed Changes NSP 051116

Attached is NSP's Summary of Proposed Changes in the Courtenay Wind Project, Dockets PU-13-64 and PU-15-174. Please let me know if you have any questions regarding this email.

Thank you,
Pam

Pamela K. Gibbs
Xcel Energy
Regulatory Affairs
414 Nicollet Mall, 7th Floor, Minneapolis, MN 55401
P: 612-330-2889 C: 612-237-8835
E: pamela.k.gibbs@xcelenergy.com

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414 Nicollet Mall
Minneapolis, MN 55401
(507)202-1100

May 11, 2016

VIA U. S. AND ELECTRONIC MAIL

Darrel Nitschke, Executive Director
North Dakota Public Service Commission
State Capitol Building, Dept. 408
600 East Boulevard
Bismarck, ND 58505-0480

Re: XCEL ENERGY'S COURTENAY WIND PROJECT- SUMMARY OF PROPOSED CHANGES
CASE NO.'S PU-13-64 AND PU-15-174

Dear Mr. Nitschke:

Northern States Power Co., (Xcel Energy or the Company) herewith summarizes constructive changes that are proposed to be made to the design of Courtenay Wind Farm since the Notice to Proceed (NTP) was provided in September of 2015. These design revisions are being made to better facilitate farming activities, assist with future project maintenance, accommodate requests by the U. S. Fish and Wildlife Service (USFWS), and/or reduce costs. This letter documents the changes for the Commission in accordance with the Commission's Order in Case No. PU-13-64.

Design changes have occurred to the location of Turbine 66, the access roads, the crane routes, the Supervisory Control And Data Acquisition (SCADA) fiber, and the collection line. Following is a brief summary of the design changes:

- Turbine 66 has been shifted back to its previously approved, pre-microsited position due to poor soil conditions.
- Two access roads have been added within previously approved survey corridors.
- Alternate crane routes have been surveyed for cultural significance and a concurrence letter of no impact has been received from the State Historic Preservation Office (SHPO).
- The end of the SCADA Fiber will now run from Turbine 46 to the O&M Building. Additional cultural surveys were completed and a concurrence letter of no impact has been received from SHPO.
- Collection line design has been changed to accommodate requests by the USFWS, to reduce impact on farming activities, to assist with future maintenance activities, and to reduce costs. Additional cultural surveys have been completed and we are currently awaiting a concurrence letter from SHPO.

The attached documents identifying these proposed changes are as follows:

Exhibit A - Courtenay PSC Map Updates
Exhibit B - PSC CWF Detailed Design Changes Table
Exhibit C - Turbine 66 Map.

47 PU-15-174 Filed 05/11/2016 Pages: 23
Proposed windfarm site revisions
Northern States Power Company
Amanuel Haile, Project Engineer

The surveyed structure and location of the Collector Substation are attached and provided in accordance with the Commission's Order as follows:

Exhibit C - Substation Parcel
Exhibit D - Substation Layout and Landscape Plan.

For all the items identified above, the USFWS has reviewed the project survey reports and determined that there are no permanent impacts to any protected wetlands located within USFWS wetland easements and the Courtenay Wind Project continues to be compliant with the Wetland Special Use Permit that was Issued by USFWS in 2015. Finally, no exclusion or avoidance areas have been impacted due to the identified changes above.

Please contact me if you have any questions or comments.

Sincerely,

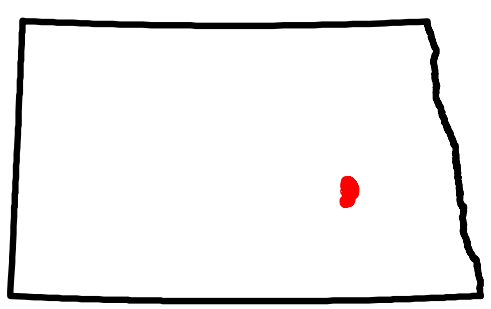
/S/

AMANUEL HAILE
PROJECT ENGINEER

Enclosures

Courtenay Wind Farm
Exhibit A
PSC Map Updates
04/14/2016

Turbine Location
Map Sheet Index
Laydown Yard
O&M Building
Substation
Project Boundary



Stustman County, ND

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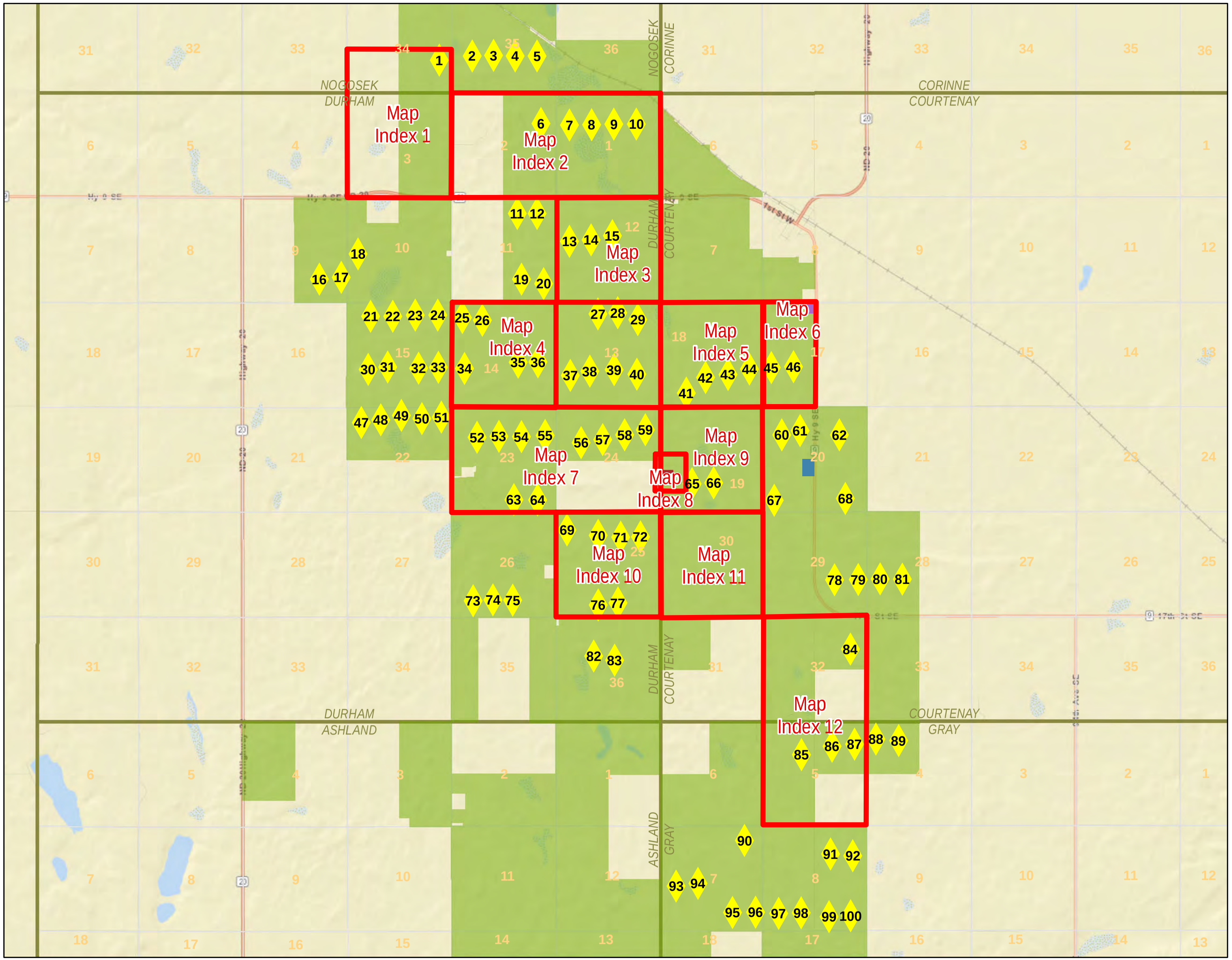

Courtenay Wind Farm
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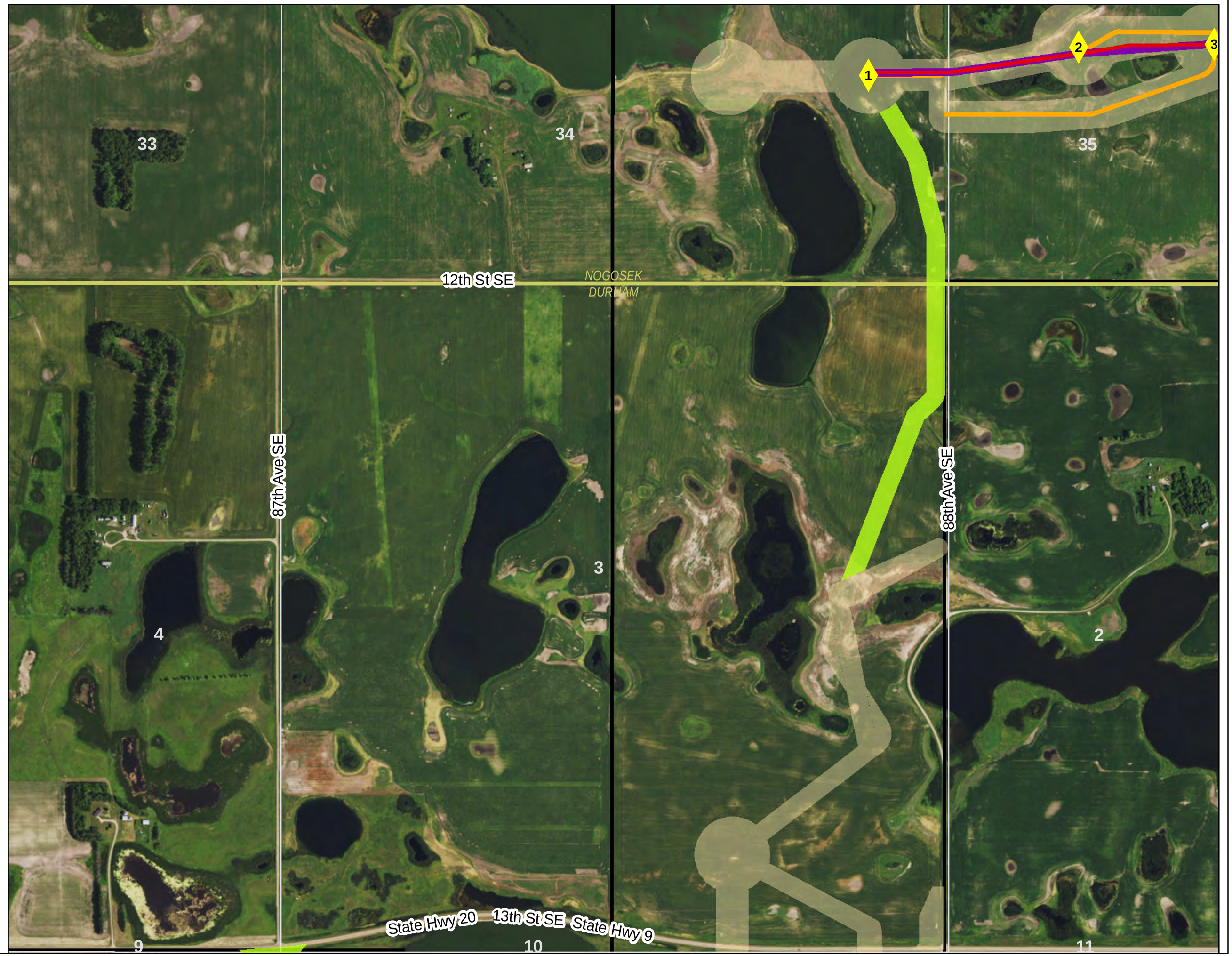

- Turbine Location
- Transmission Pole
- Laydown Yard
- O&M Building Parcel
- Substation
- Proposed Collector Lines
- PSC Approved Collector Lines
- PSC Approved Access Road
- 2015 USFWS/SHPO Approved Corridor
- PSC Approved Original Corridor
- Project Boundary

0 650 1,300 Feet

1 inch = 0.2 miles

N

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Courtenay Wind Farm
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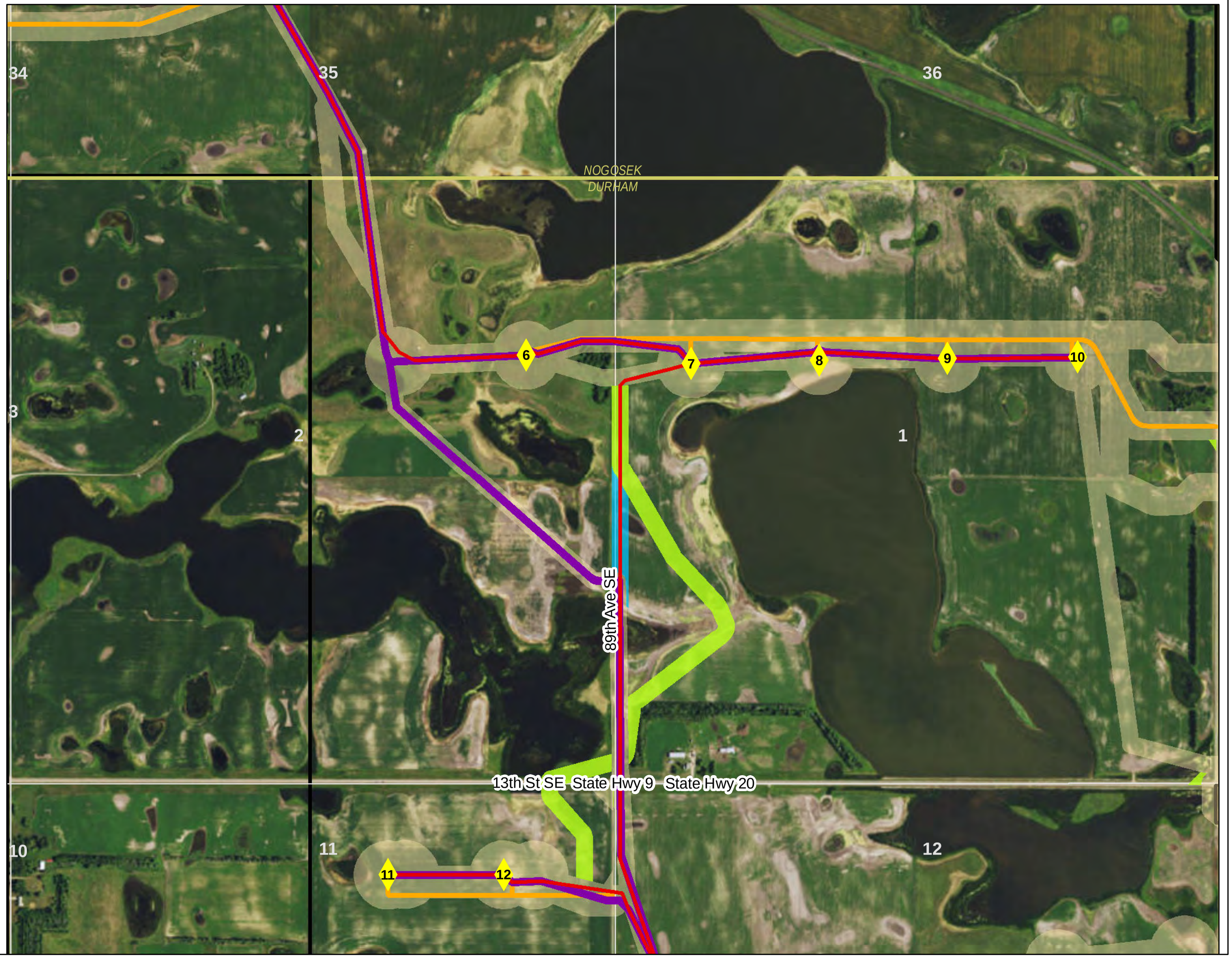

- Turbine Location
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- Laydown Yard
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- Substation
- Proposed Collector Lines
- PSC Approved Collector Lines
- PSC Approved Access Road
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- 2016 USFWS/SHPO Pending Approval
- PSC Approved Original Corridor
- Project Boundary

0 700 1,400 Feet

1 inch = 0.22 miles

N

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Courtenay Wind Farm
Exhibit A
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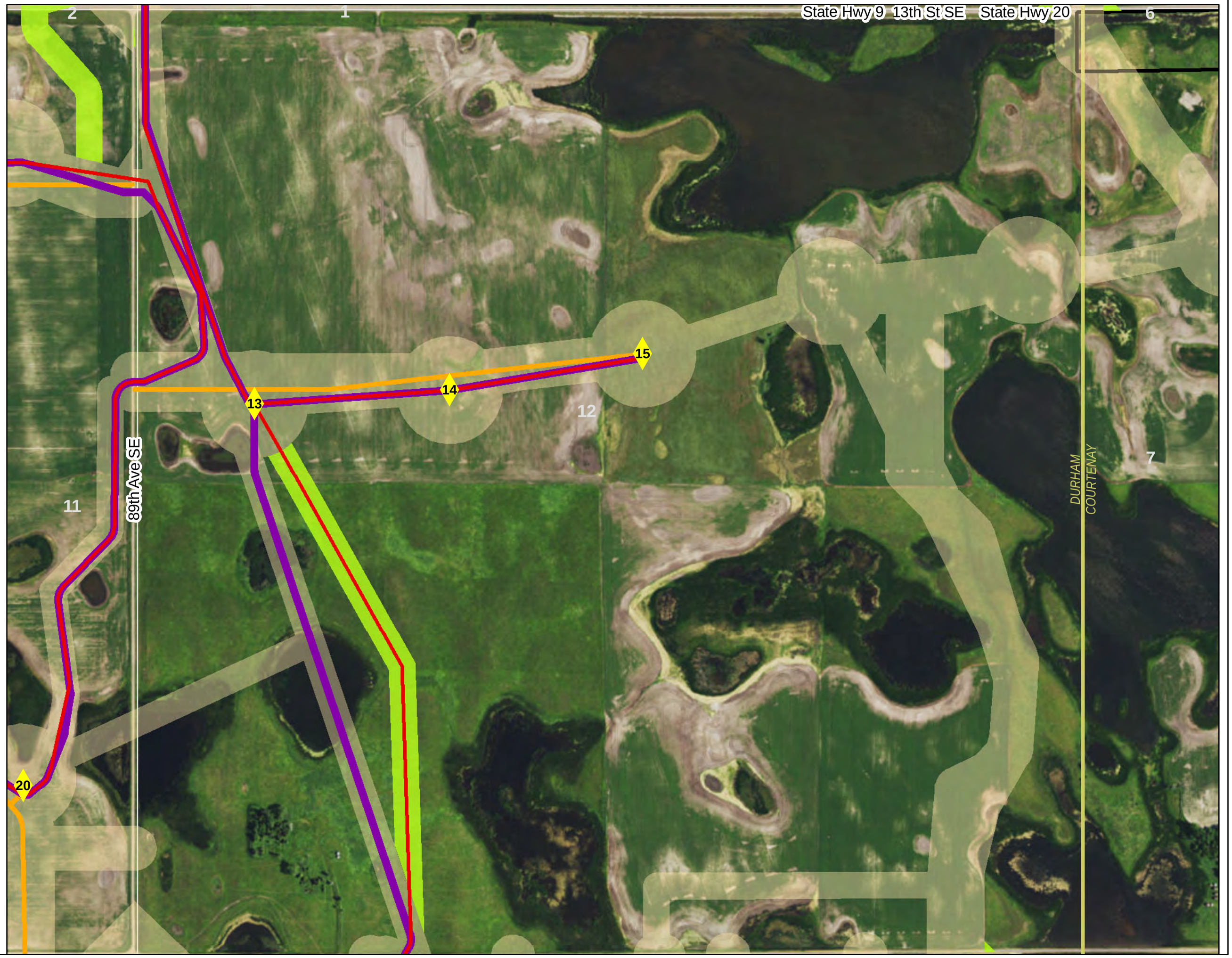

Turbine Location

Transmission Pole

Laydown Yard

O&M Building Parcel

Substation

Proposed Collector Lines

PSC Approved Collector Lines

PSC Approved Access Road

2015 USFWS/SHPO Approved Corridor

PSC Approved Original Corridor

Project Boundary

0 500 1,000 Feet

1 inch = 0.14 miles

N

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Courtenay Wind Farm
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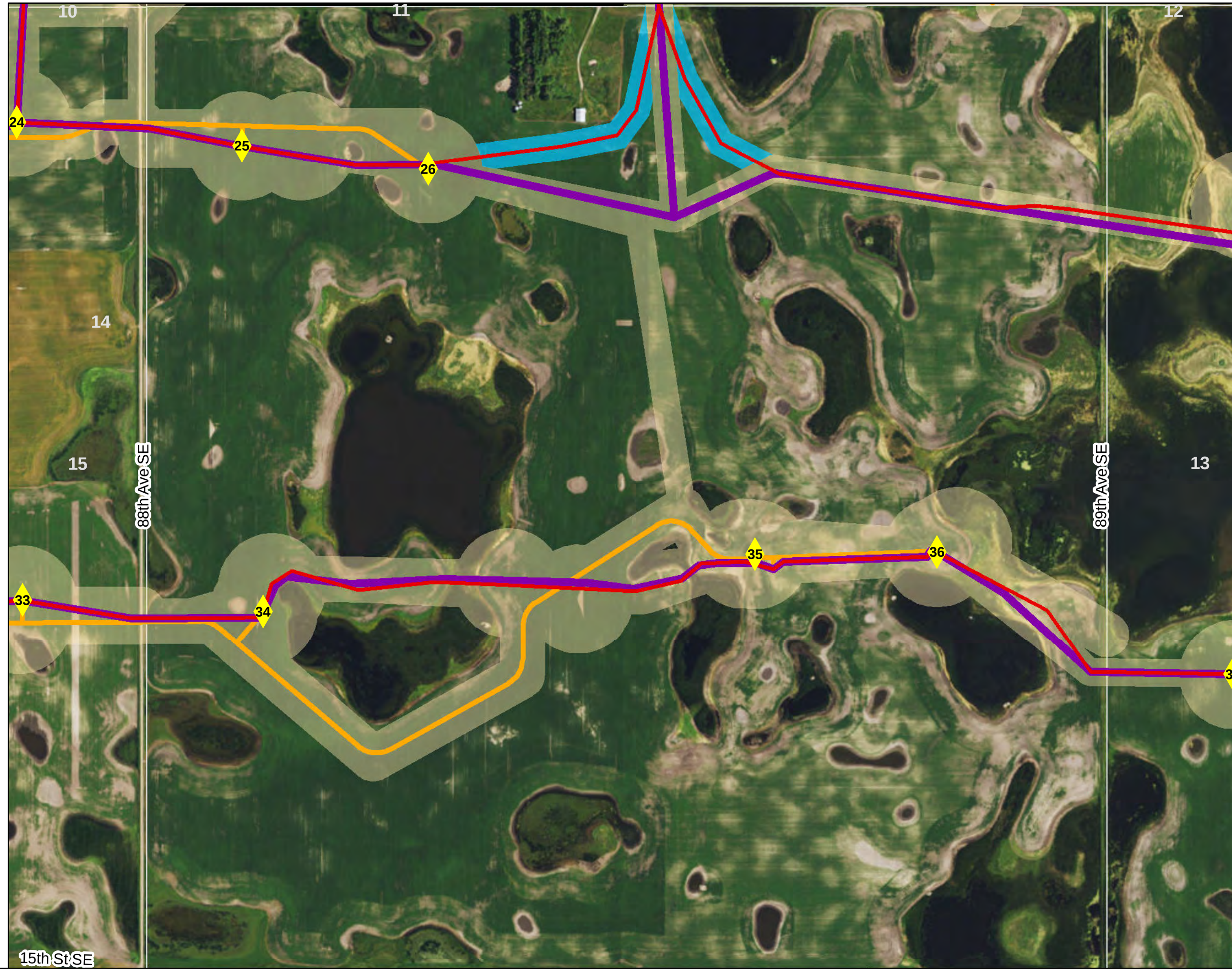

- Turbine Location
- Transmission Pole
- Laydown Yard
- O&M Building Parcel
- Substation
- Proposed Collector Lines
- PSC Approved Collector Lines
- PSC Approved Access Road
- 2016 USFWS/SHPO Pending Approval
- PSC Approved Original Corridor
- Project Boundary

0 500 1,000 Feet

1 inch = 0.14 miles

N

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Courtenay Wind Farm

Exhibit A
Map Index
Page 5

- Turbine Location
- Transmission Pole
- Laydown Yard
- O&M Building Parcel
- Substation
- Proposed Collector Lines
- PSC Approved Collector Lines
- PSC Approved Access Road
- Proposed Access Road Addition
- 2015 USFWS/SHPO Approved Corridor
- PSC Approved Original Corridor
- Project Boundary

0 500 1,000 Feet

1 inch = 0.14 miles

N

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Courtenay Wind Farm

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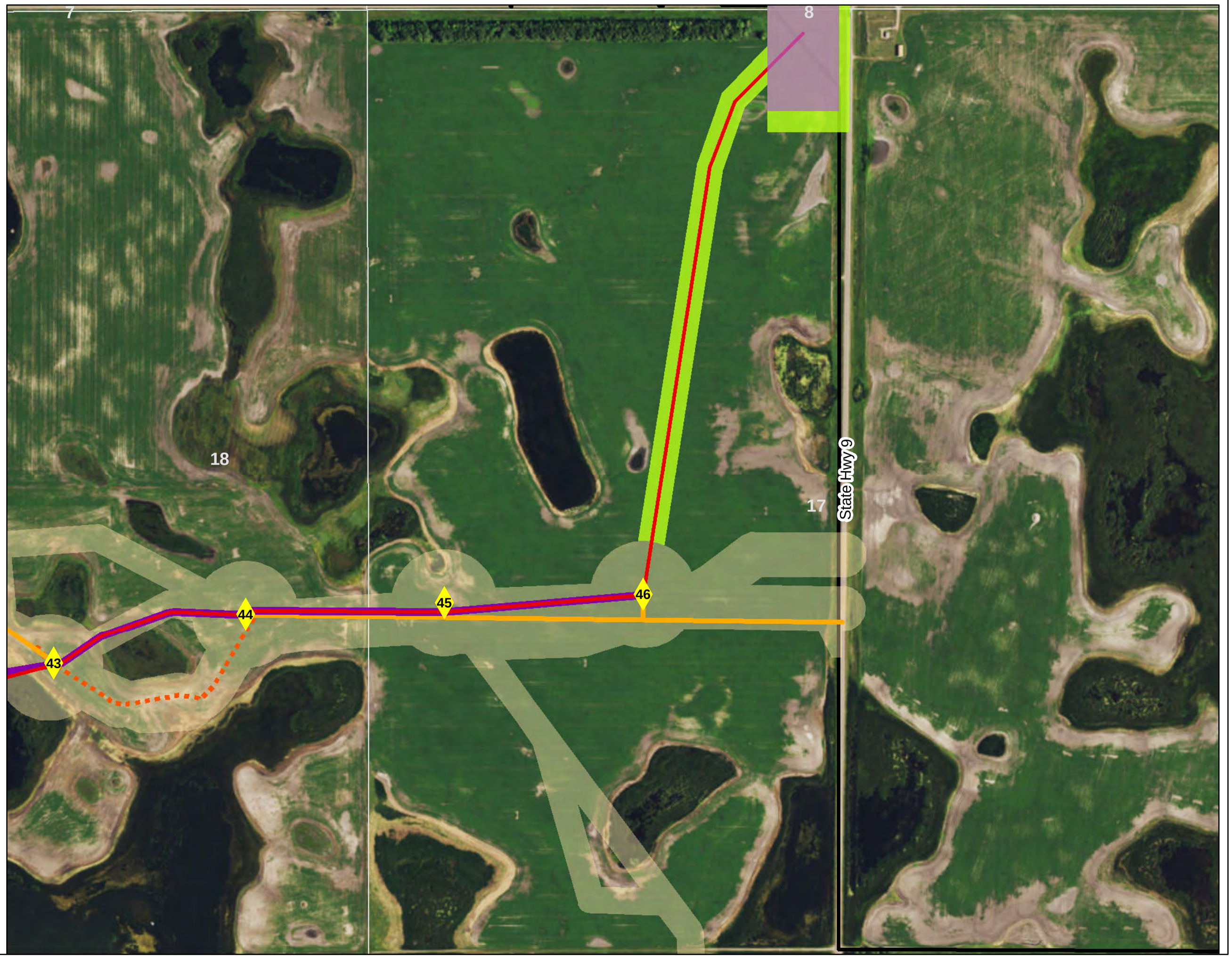

- Turbine Location
- Transmission Pole
- Laydown Yard
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- PSC Approved Access Road
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0 500 1,000 Feet

1 inch = 0.14 miles

N

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Courtenay Wind Farm

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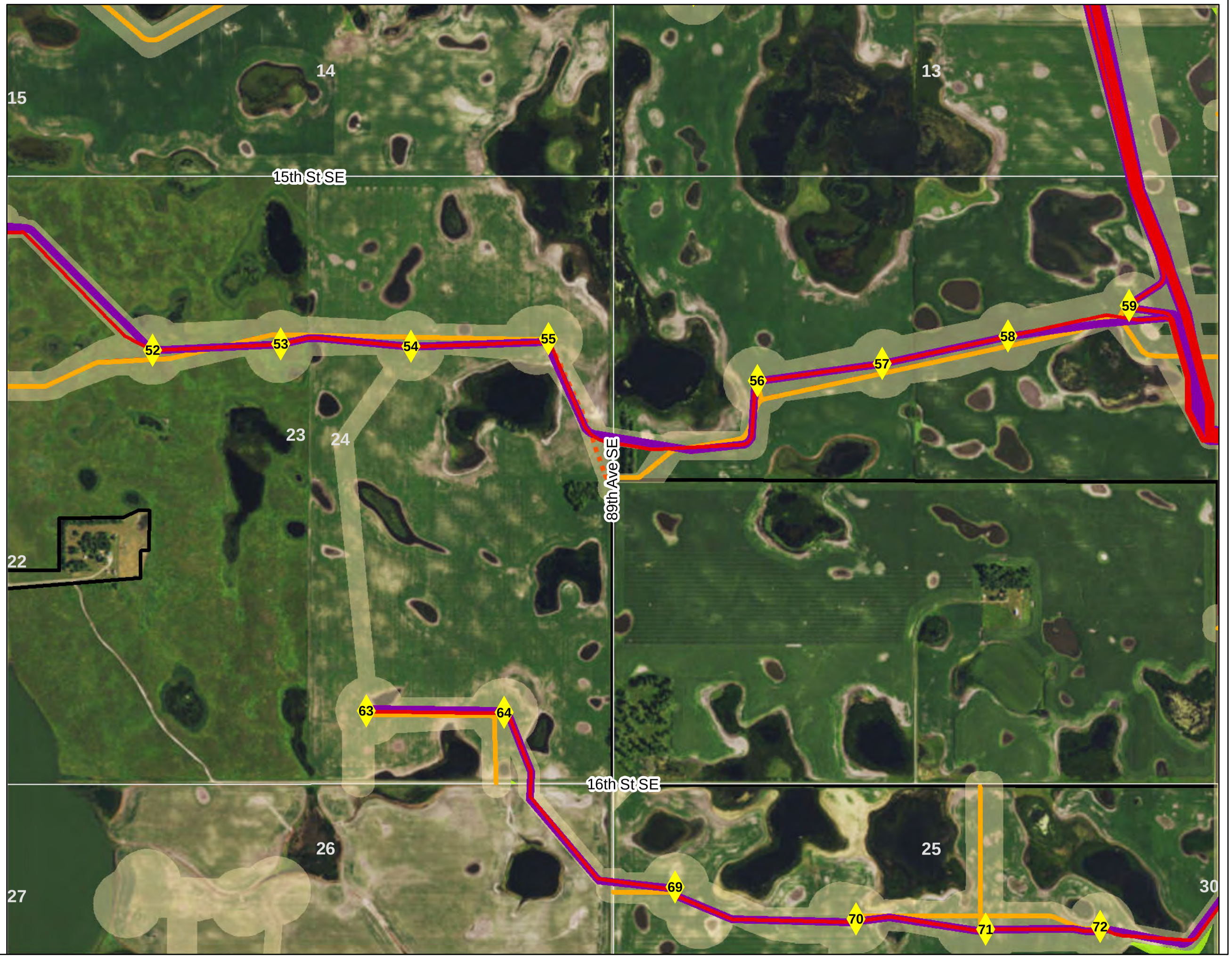

- Turbine Location
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- PSC Approved Collector Lines
- PSC Approved Access Road
- Proposed Access Road Addition
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- PSC Approved Original Corridor
- Project Boundary

0 700 1,400 Feet

1 inch = 0.22 miles

N

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Courtenay Wind Farm
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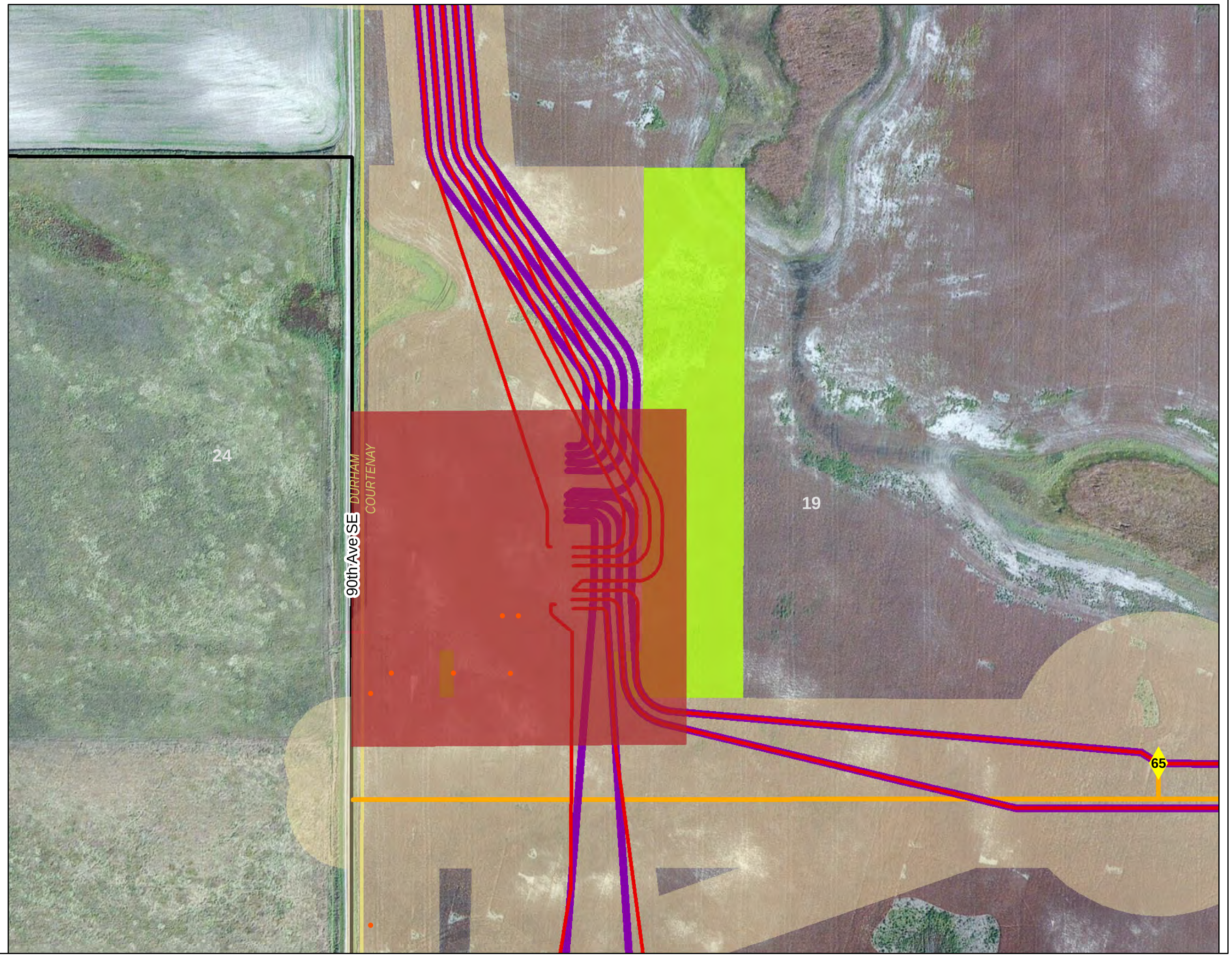

- Turbine Location
- Transmission Pole
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- PSC Approved Original Corridor
- Project Boundary

0 175 350 Feet

1 inch = 0.05 miles

N

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Courtenay Wind Farm
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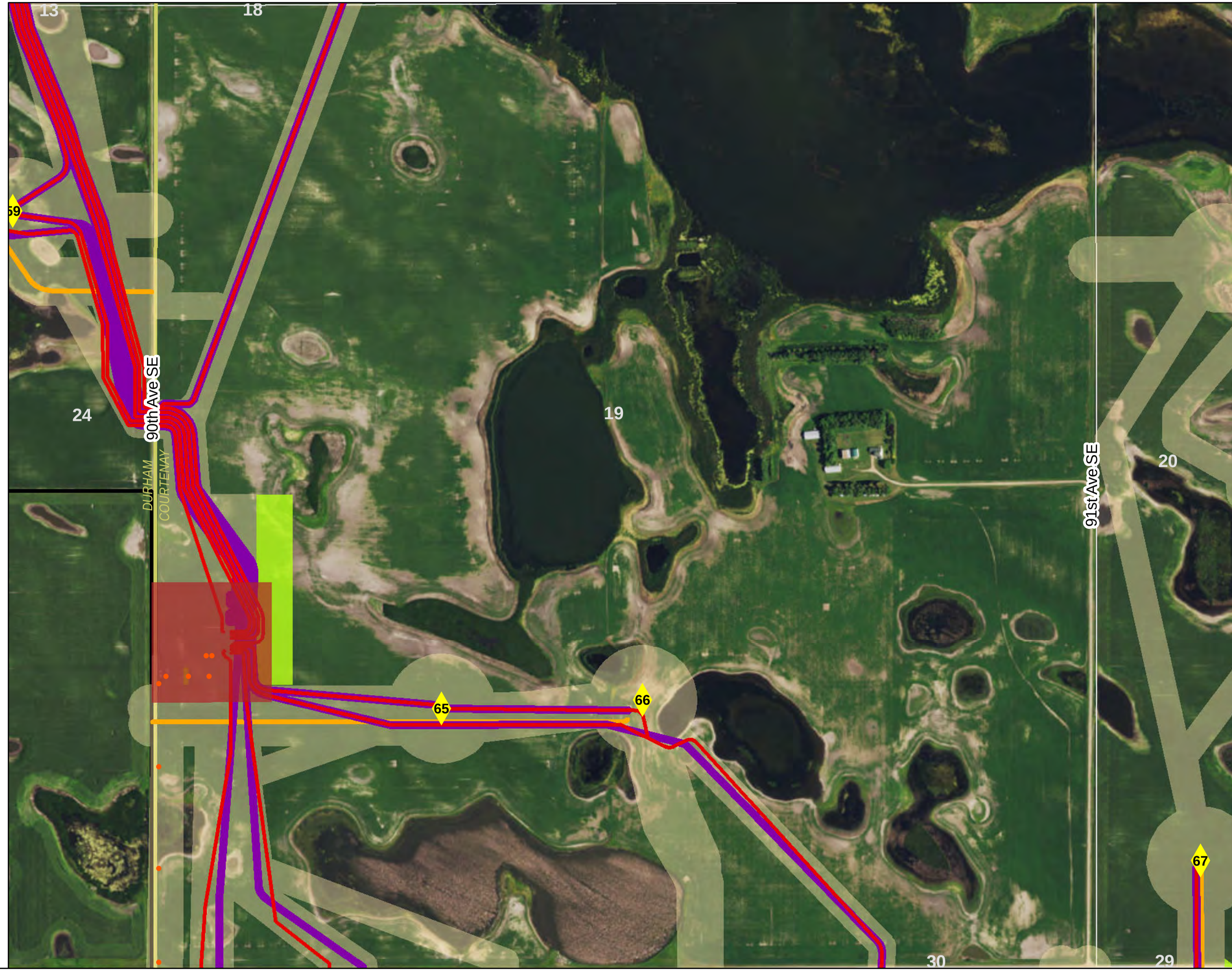

- Turbine Location
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- PSC Approved Collector Lines
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- PSC Approved Original Corridor
- Project Boundary

0 500 1,000 Feet

1 inch = 0.14 miles

N

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Courtenay Wind Farm
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- Turbine Location
- Transmission Pole
- Laydown Yard
- O&M Building Parcel
- Substation
- Proposed Collector Lines
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- PSC Approved Access Road
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0 500 1,000 Feet

1 inch = 0.14 miles

N

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Courtenay Wind Farm

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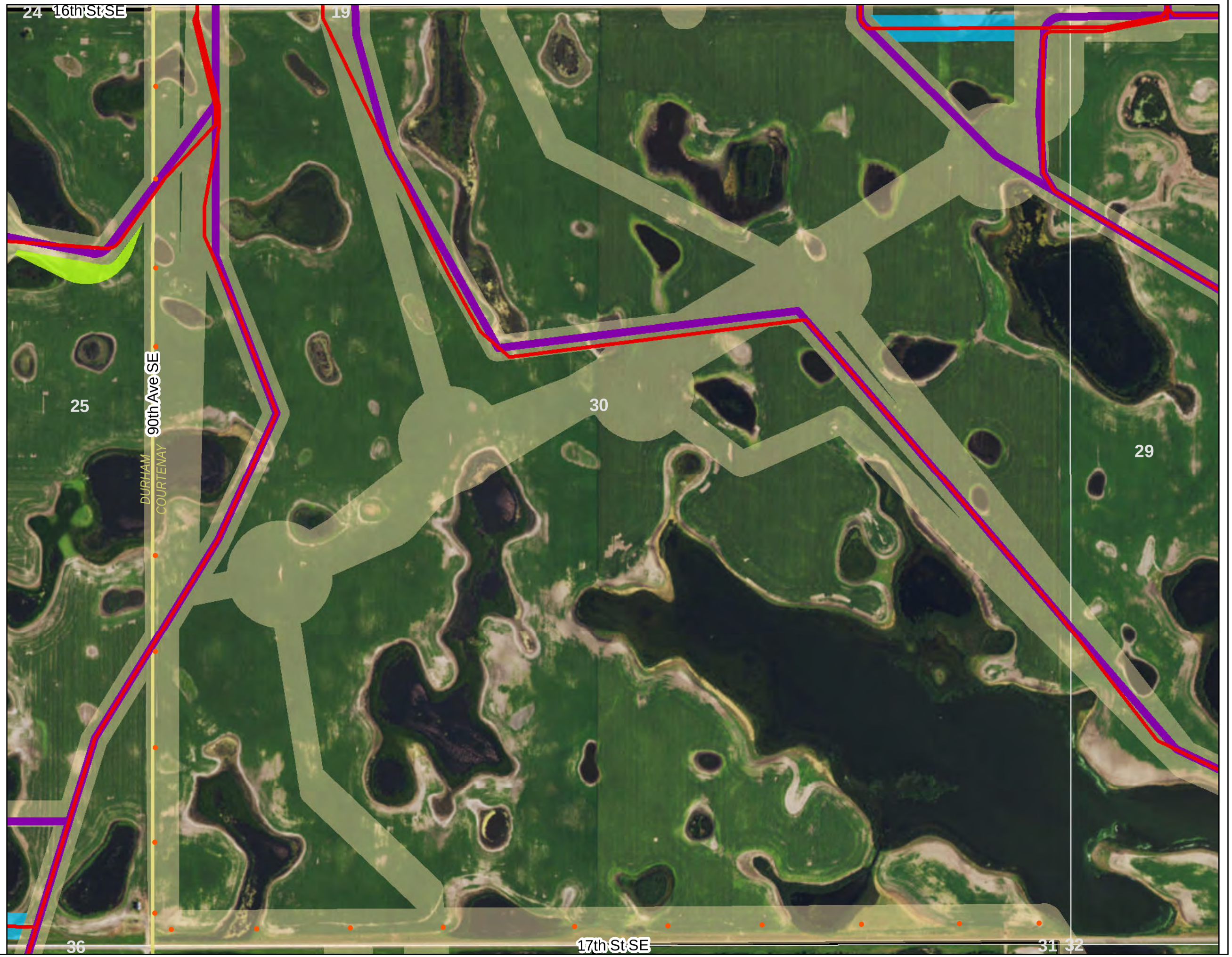

- Transmission Pole
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- Substation
- Proposed Collector Lines
- PSC Approved Collector Lines
- PSC Approved Access Road
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- PSC Approved Original Corridor
- Project Boundary

0 500 1,000 Feet

1 inch = 0.14 miles

N

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Courtenay Wind Farm
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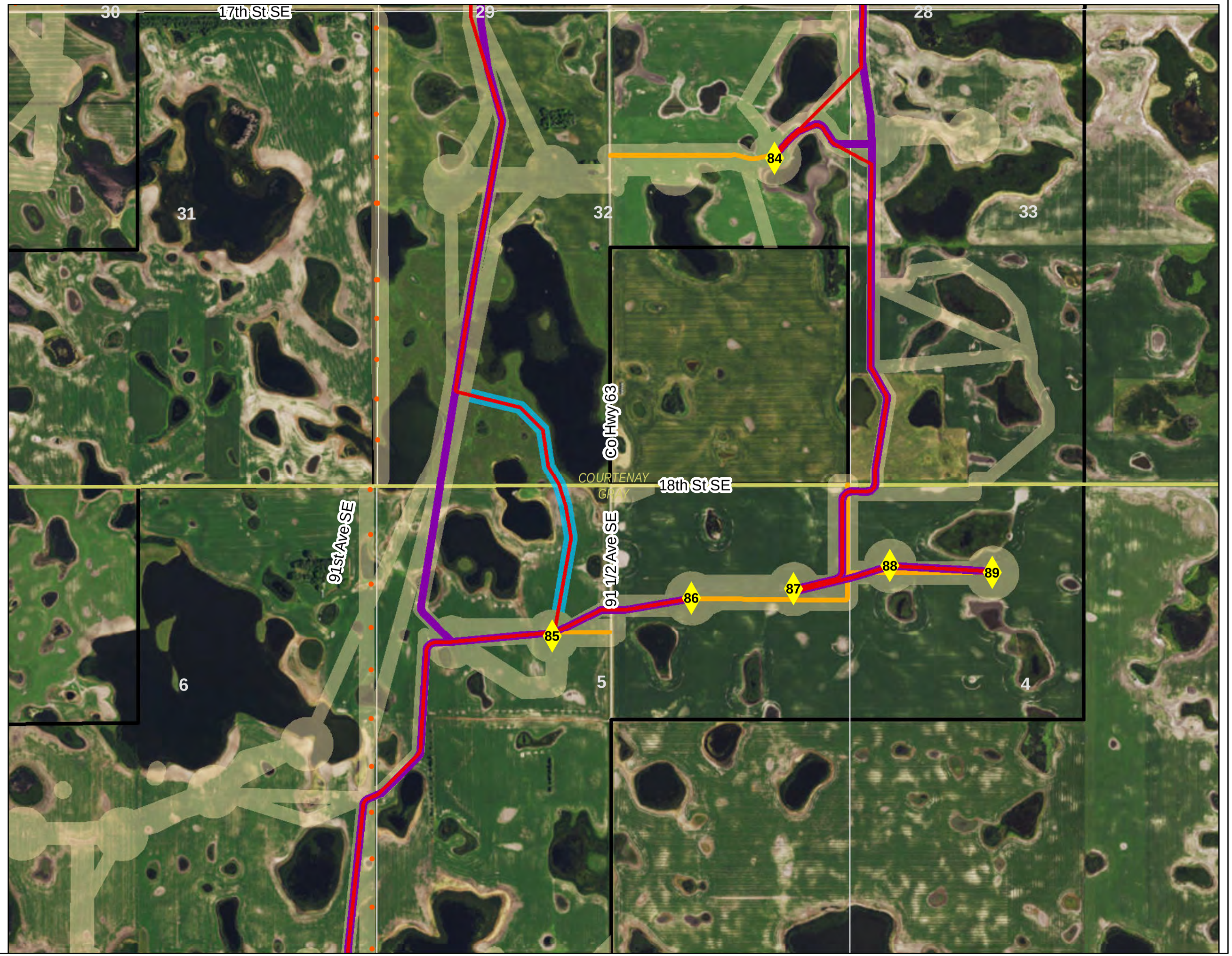

Turbine Location

Transmission Pole

Laydown Yard

O&M Building Parcel

Substation

Proposed Collector Lines

PSC Approved Collector Lines

PSC Approved Access Road

2016 USFWS/SHPO Pending Approval

PSC Approved Original Corridor

Project Boundary

0 900 1,800 Feet

1 inch = 0.28 miles

N

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Exhibit B

T-66 Shift Back to Originally Approved Location				
Location	**Cultural Survey**	**SHPO Approved**	**Landowner Input**	**Reason(s) for Changes**
T66	Previously Completed	Approved	No Concern	T-66 has been moved back to its pre-microsited original location. This location was previously approved by the PSC and the FAA. This has been submitted to the FAA and we are currently waiting for a final determination for the move back to the original location.

Access Road Additions					
Location	**PSC Map Updates Page #**	**Cultural Survey**	**SHPO Approved**	**Discussed w/Landowner**	**Reason(s) for Changes**
T43-T44	5	Previously Completed	Yes	No Concern	Access roads were connected between T43 & T44 to assist with future O&M activities. New road is located within existing survey corridors and was approved by the PSC as part of the original design.
T55-T56	7	Previously Completed	Yes	No Concern	Access roads were connected between T55 & T56 to assist with future O&M activities. New road is located within existing survey corridors.

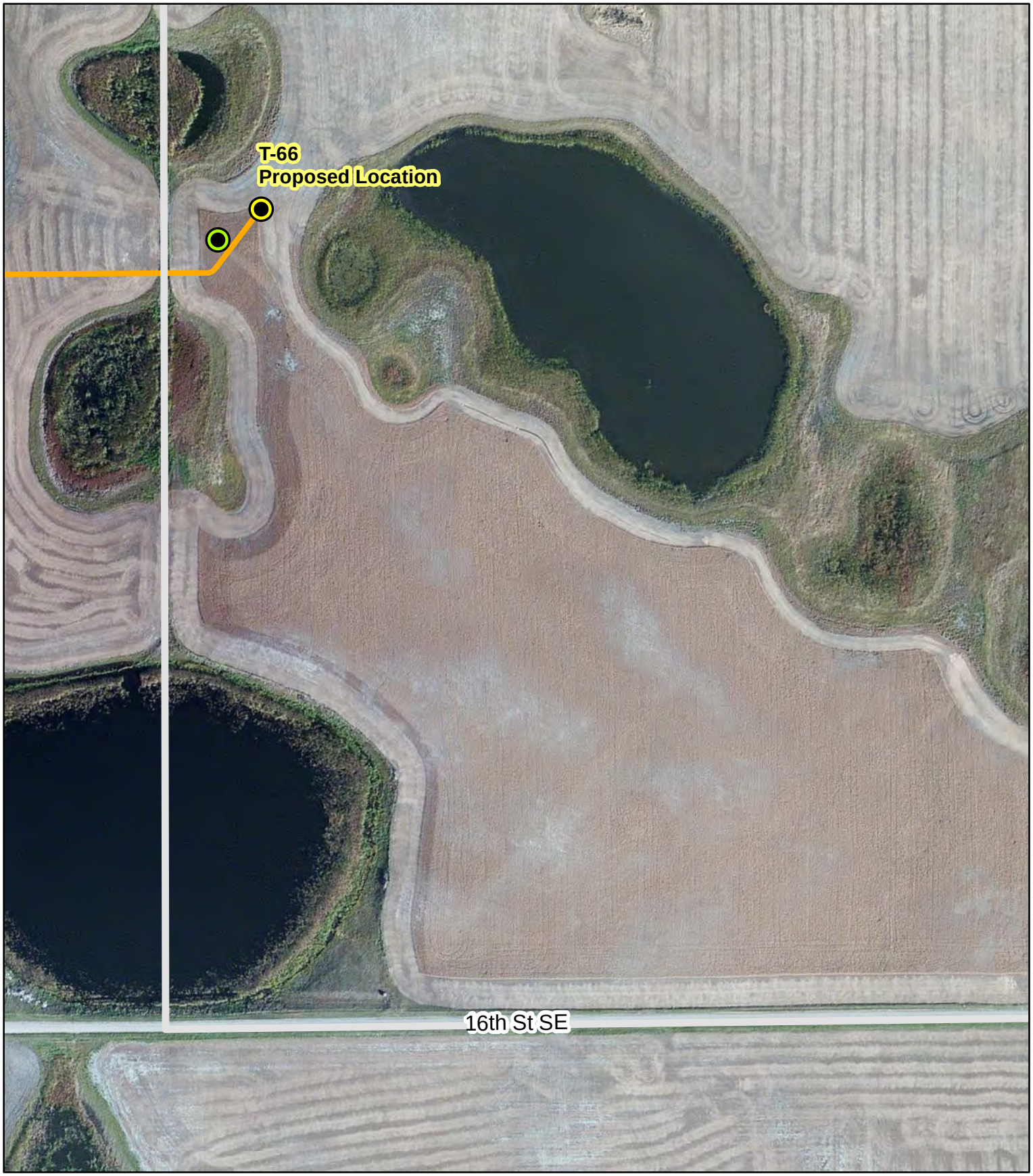
Alternate Crane Routes					
Location	**PSC Map Updates Page #**	**Cultural Survey**	**SHPO Approved**	**Landowner Input**	**Reason(s) for Changes**
South of T1	1	Completed	Approved	No Concern	This alternate Crane route was developed to avoid wetlands and make travel time more efficient.
T7-T12	2	Completed	Approved	No Concern	This alternate Crane route was developed to avoid wetlands and make travel time more efficient.
Substation	8,9	Completed	Approved	No Concern	The PSC approved survey corridor around the collector substation was expanded to the East to allow for safe Crane travel around the substation.

SCADA Fiber From T46 to O&M Building					
Location	**PSC Map Updates Page #**	**Cultural Survey**	**SHPO Approved**	**Landowner Input**	**Reason(s) for Changes**
North of T46	6	Completed	Approved	No Concern	The proposed SCADA fiber route was determined to be the most cost efficient by routing alongside the existing collection lines from the Substation through to T46 and then finally ending at the O&M Building. The fiber route from T46 to the O&M building avoids impacts to the surrounding wetlands just North of T46.

Collection Line Design Changes					
Location	**PSC Map Updates Page #**	**Cultural Survey**	**SHPO Approved**	**Landowner Input**	**Reason(s) for Changes**
South of T7	2	Completed	Awaiting SHPO Concurrence	No Concern	The original junction box location would have impacted farming activities due to being located out in the middle of crops. To reduce the impact on farming activities, the junction box was moved closer to the base of T6. The original collection line design was also changed to reduce costs by removing the excessive amount of 4/0 AWG cable and avoiding boring under a wetland to the west of T6.
South of T13	3	Completed	Awaiting SHPO Concurrence	No Concern	The original collection line design was changed to accommodate a request by USFWS to avoid impacting a delineated wetland.
East of T26	4	Completed	Awaiting SHPO Concurrence	No Concern	The original junction box location would have impacted farming activities due to being located out in the middle of crops. To reduce the impact on farming activities, the junction box was moved closer to the edge of the road. The original collection line design was also changed to avoid impacting the edge of a wetland and to also reduce the costs by removing the excessive amount of 4/0 AWG cable.

SE of T77	10	Completed	Awaiting SHPO Concurrence	No Concern	The original junction box location would have impacted farming activities due to being located out in the middle of crops. To reduce the impact on farming activities, the junction box in the field was moved to closer to the edge of the road. The original collection line design was also changed to reduce costs by removing the excessive amount of 4/0 AWG cable.
SE of T66	11	Completed	Awaiting SHPO Concurrence	No Concern	The original junction box location would have impacted farming activities due to being located out in the middle of crops. To reduce the impact on farming activities, the junction box in the field was eliminated by moving the collection line to an existing junction box located at the edge of the road just south of T67. The original collection line design was also changed to reduce costs by removing the excessive amount of 4/0 AWG cable.
North of T85	12	Completed	Awaiting SHPO Concurrence	No Concern	The original junction box location would have impacted farming activities due to being located out in the middle of crops. To reduce the impact on farming activities, the junction box was moved closer to the base of T85. The original collection line design was also changed to reduce costs by removing the excessive amount of 4/0 AWG cable and avoiding boring under a wetland to the west of T85.

Collector Substation						
Location	**PSC Map Updates Page #**	**Other Documents**	**Cultural Survey**	**SHPO Approved**	**Landowner Input**	**Reason(s) for Changes**
Collector Substation	8,9	1. Substation Parcel Exhibit 2. Substation Landscape Plan	Completed	Approved	Complying with Previous Agreement/Current Commission Order	To comply with the previous agreement made with Mr. Baumgartner and the Commission's order, the Collector Substation's footprint has been reduced, the Substation has been located as far North as commercially reasonable, and a tree screen will be planted between the Substation and Mr. Baumgartner's residence this year. The fenced in area of the Collector Substation has been reduced from a 400 ft x 410 ft footprint to a 260 ft x 345 ft footprint. This is a reduction of 74,300 ft^2 in the Substation footprint. The Substation location was shifted South 165.2 ft due to poor soil conditions to the North. A tree screen will be added to the West of the Substation later this year and can be seen on the landscape plan exhibit. The survey corridor has been expanded to the East to accommodate crane travel around the Substation.



Courtenay Wind Farm
T-66 Final Location
Exhibit C

PSC Approved Original Turbine Location - Proposed Turbine Location

PSC Approved Microsited Turbine Location

Access Road

Parcel Boundary

0 150 300 Feet

N

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Data Courtesy of Xcel Energy, WestWood Wanzek and ESRI.

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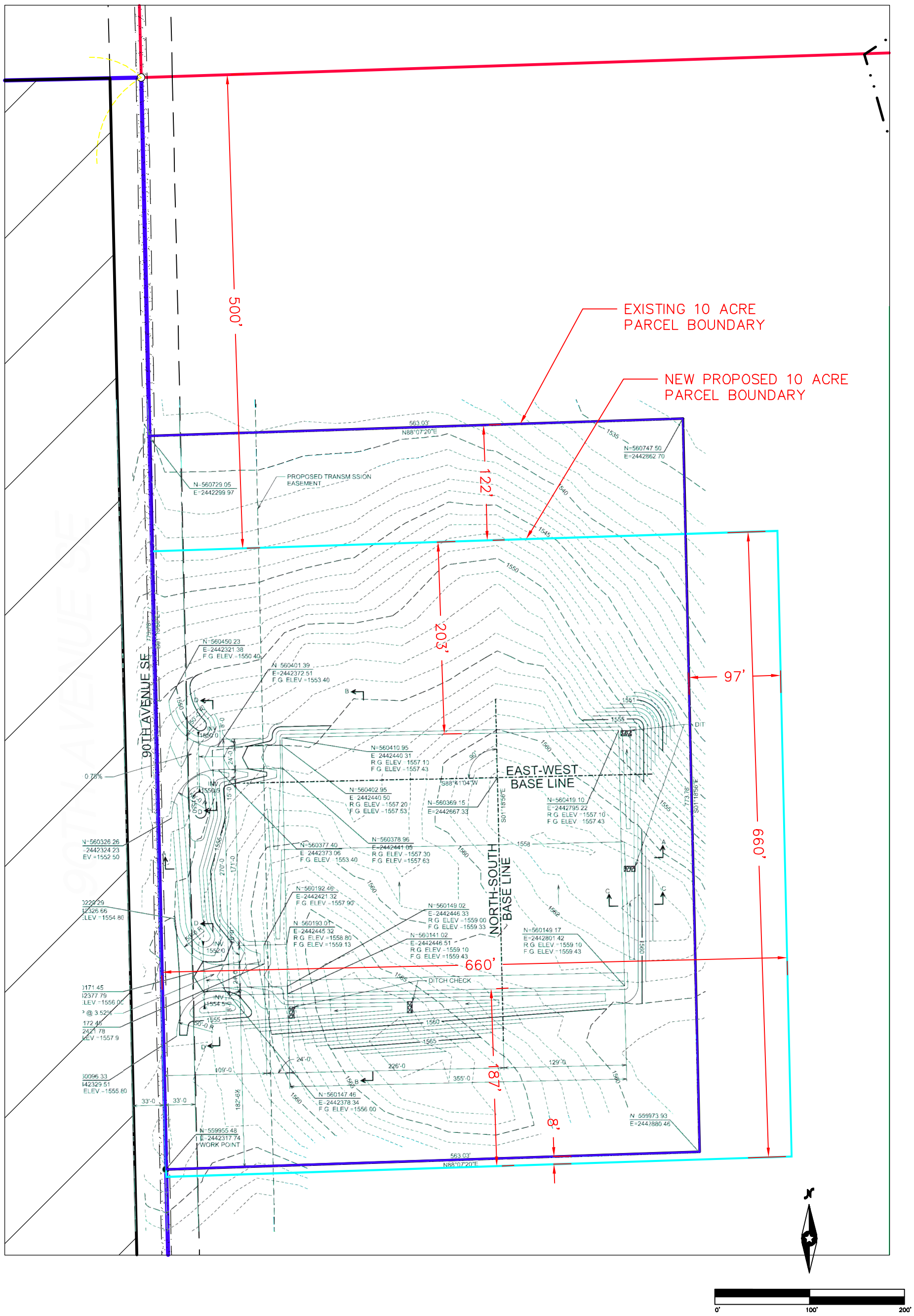


Sheet: 1 OF 1

Date: 10/26/15

Westwood

Phone (952) 937-5150
Fax (952) 937-5822
Toll Free (888) 937-5150

7699 Anagram Drive
Eden Prairie, MN 55344
westwoodps.com

Westwood Professional Services, Inc.

Crew: .
Checked: .
Drawn: .
Record Drawing by/date: .

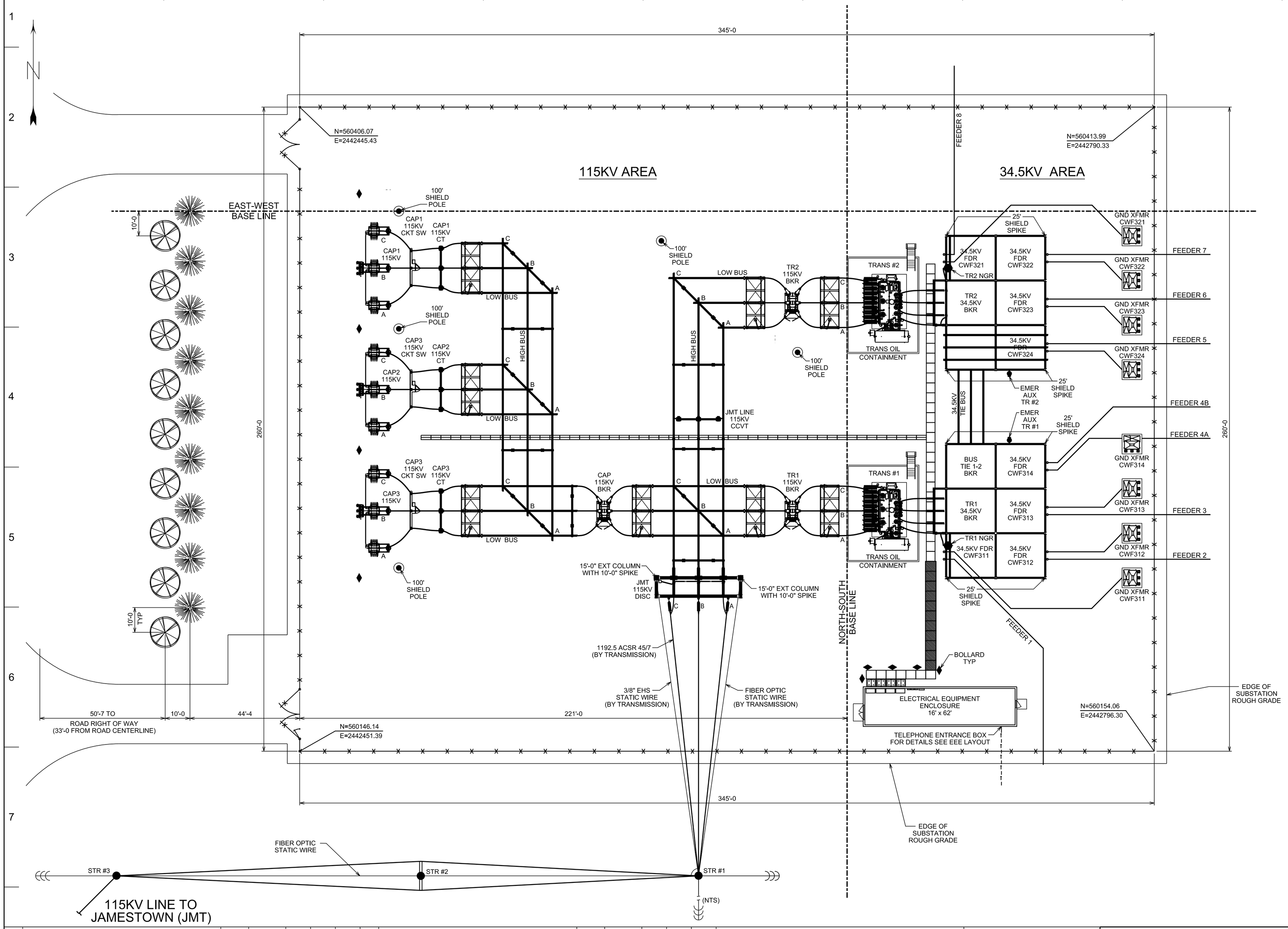
Courtenay Wind Project

Stutsman County, North Dakota

Substation Parcel

Exhibit D

20121151EXP04—SubParcel.dwg



TREE LEGEND		
COMMON NAME	QTY	HEIGHT
TREE, EVERGREEN		
PONDEROSA PINE	9	8'-0
SPRUCE, COLORADO BLUE	9	8'-0

NO	REVISION	ZONE	DATE	BY	CHK	ENG	NO	REVISION	ZONE	DATE	BY	CHK	ENG

REFERENCE DRAWINGS

DWG NO.	MANUFACTURER	DESCRIPTION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NORTH DAKOTA

FIRST NAME:_____

SIGNATURE:_____

DATE:_____ LICENSE#_____

Xcel Energy®

NORTHERN STATES POWER COMPANY

COURTENAY WIND FARM COLLECTOR SUBSTATION

STUTSMAN COUNTY, NORTH DAKOTA

DWN:	DATE:	CHK:	DATE:
ENG:	DATE:	CHK:	DATE:
PM:	DATE:	PROJ. NO:	
APVD:	DATE:	SCALE: 1"=20'-0	

THIS MAP/DOCUMENT IS A TOOL TO ASSIST EMPLOYEES IN THE PERFORMANCE OF THEIR JOBS. YOUR PERSONAL SAFETY IS PROVIDED FOR BY USING SAFETY PRACTICES, PROCEDURES, AND EQUIPMENT AS DESCRIBED IN THE SAFETY TRAINING PROGRAMS AND MANUALS.

ENERGY SUPPLY
ENGINEERING & CONSTRUCTION

UNIT 0

115KV-34.5KV

LANDSCAPE PLAN

Exhibit E

REV TB8