



WETLAND DELINEATION

Merricourt Wind Energy Project Dickey and McIntosh Counties, North Dakota

Prepared for:
EDF Renewable Energy

Prepared by:
Mike Huffington
KLJ

January 2015

174 PU-08-932 Filed 03/19/2015 Pages: 62
Exhibit 20
EDF Renewable Development, Inc.

151 PU-08-932 Filed 01/16/2015 Pages: 62
Wetland delineation report
KLJ Solutions Co.
Jen Turnbow, Project Manager



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I. INTRODUCTION

KLJ was contracted by EDF Renewable Energy (EDF; formerly enXco Development Corporation) to conduct a field wetlands delineation for the proposed Merricourt Wind Energy Project in McIntosh and Dickey Counties, North Dakota. The proposed project would include the construction of approximately 100 turbines and access roads, in addition to collector lines, a substation, and operation and maintenance buildings. The proposed facilities were situated using constraints outlined in the North Dakota Public Service Commission's laws, rules and guidelines for energy conversion facilities. The power generated would be connected to the Midwest System Operator's regional transmission system on Montana Dakota Utility's existing Wishek to Ellendale 230kV transmission line. The connection would require a new substation and related transmission system upgrades, which would be the responsibility of MDU and are not included as part of this proposed project. The proposed project would contribute to the goals of providing clean and reliable energy to meet the Nation's electricity needs.

This wetland delineation report is supplementary to three previous wetland delineation reports that have been completed for this project. This report was made necessary by changes in project design, and will be included as an additional attachment to the Merricourt Wind Energy Project Application for a Certificate of Site Compatibility.

The total wetland study area that has been surveyed for wetlands to this point encompasses approximately 2,920 acres; the field wetland delineation addressed in this report encompassed approximately 36 acres of the 2,920 acre total. ***Please refer to Exhibit 1, Project Location Map.*** This field wetland delineation and Global Positioning System (GPS) data collection were conducted on October 7th, 15th and 16th, 2014 by Mikayla Boche and Mike Huffington of KLJ.



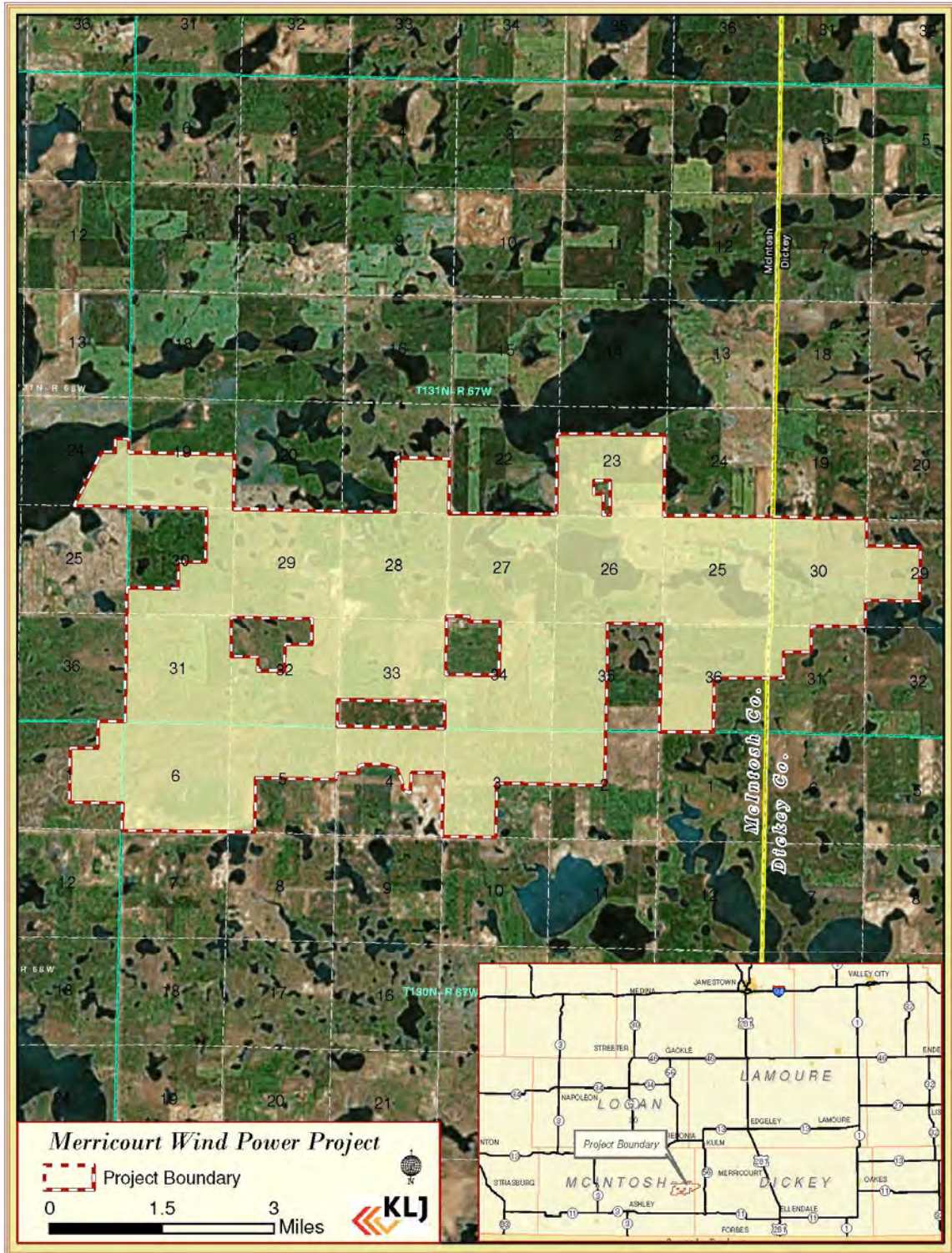


Figure 1, Project Location Map

II. DEFINITIONS AND METHODS

The wetlands delineation conducted by KLJ was in accordance with the 1987 United States Army Corps of Engineers (USACE) Wetland Delineation Manual and the USACE March 2010 Regional Supplement: Great Plains Region (Version 2.0). The routine approach with onsite inspection was utilized, including the standard multi-parameter approach (vegetation, hydrology, and soils) for wetland identification. An area is considered to be a wetland if hydrophytic vegetation, wetland hydrology, and hydric soils are all present. Sample locations were determined using United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps along with sites which visually supported a hydrophytic plant community, as well as characteristics of wetland hydrology and hydric soils. The wetland boundary was surveyed using GPS data collection. Wetland boundaries that extended beyond the study area limits were not delineated to their full extents. Definitions and methodologies for determining each of these three parameters are summarized below:

A. Hydrophytic Vegetation

Definition: The prevalence (greater than 50 percent) of dominant plant species that are adapted to life in saturated soil conditions.

Method: To determine if vegetation was hydrophytic, the scientific name and indicator status of dominant plant species at each wetland were recorded on USACE data forms. Dominance refers to the spatial extent of a species that is directly observed in the field. Dominance is calculated by identifying the most abundant species that individually or collectively account for more than 50 percent of the total coverage of vegetation in the stratum as well as any other species that, by itself, accounts for at least 20 percent of the total. Where 50 percent or more of all dominant species were hydrophytic, the hydrophytic vegetation parameter was met. Absolute percent cover¹ of dominant species within each stratum is listed on data forms.

B. Wetland Hydrology

Definition: Fourteen or more consecutive days of flooding, ponding, or water table within 12 inches of the surface during the growing season at a minimum frequency of five out of 10 years (50 percent).

Method: Wetland hydrology was determined by observing the presence of primary and/or secondary indicators listed on the USACE data form. If one primary indicator or two secondary indicators were present, the wetland hydrology parameter was met.

¹ Absolute percent cover within each stratum is not required to add up to 100 percent on the data forms.



C. Hydric Soils

Definition: Soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper 12-inches.

Method: According to delineation techniques outline in the 1987 USACE Manual, sufficient information was present to make a wetland delineation without evaluating soils at all of the locations.

Base field maps were developed using aerial photography in combination with information from the USFWS NWI maps, Natural Resources Conservation Service (NRCS) soil survey data from Dickey and McIntosh Counties and United States Geological Service (USGS) topographic quadrangle maps.

Some of the wetlands located within the project boundary are protected via perpetual USFWS wetland easements. Wetland easements provide protection to certain wetland basins within the easement boundary. Coordination with the USFWS Kulm Wetland Management District (WMD) revealed numerous wetland easements within the project boundary.

III. RESULTS AND DISCUSSION

The study area is located in the Northwestern Glaciated Plains' Missouri Coteau ecoregion, and is within the Prairie Pothole Region of the Great Plains. The study area occurs in a rural setting and is characterized by mixed grass prairie, cultivated fields, and abundant prairie pothole wetlands. As glaciers from the last ice age began to recede, millions of small depressional wetlands (potholes) were created. Agricultural development has resulted in the drainage of more than half of the wetlands within the Prairie Pothole Region.

A total of six additional wetlands totaling approximately 1.65 acres were delineated within the study area. The temporarily/seasonally flooded, palustrine, emergent wetlands observed were consistent with wetland types typically found within the Prairie Pothole Region. In addition, some drainages or sloped wetlands were delineated within the study area, which drained into larger wetlands. Several wetlands extended beyond the study area and were only delineated to the boundary of the current study area. *Please refer to Table 1, Summary of Delineated Wetlands; Appendix A, Delineated Wetland Maps; Appendix B, Site Photos and Appendix C, Data Sheets.*

Permanent impacts to any delineated wetlands would be avoided by the proposed project; however, temporary impacts may occur. Additionally, some of the wetlands located within the study area may be protected by perpetual USFWS wetland easements. USFWS Kulm WMD staff determined that one of the delineated wetlands may overlap with existing or submitted basins protected by wetland easements (identified in Table 1). Basin boundaries identified by USFWS would also be considered avoidance areas for the proposed project.



Table 1, Delineated Wetlands

WETLAND NUMBER	LOCATION	LATTITUDE (DECIMAL DEGREES)	LONGITUDE (DECIMAL DEGREES)	COWARDIN CLASSIFICATION	AREA (ACRES)	POTENTIAL USFWS EASEMENT
401	Sec 34, T131N R67W	46.113773 N	-99.053831 W	PEMA	0.04	No
402	Sec 32, T131N R67W	46.113947 N	-99.094362 W	PEMC	1.28	No
403	Sec 32, T131N R67W	46.115271 N	-99.095263 W	PEMA	0.04	No
404	Sec 32, T131N R67W	46.118438 N	-99.098742 W	PEMA	0.02	No
405	Sec 30, T131N R67W	46.128757 N	-99.115392 W	PEMA	0.06	No
406	Sec 33, T131N R67W	46.126002 N	-99.077026 W	PEMA	0.21	Yes
Total					1.65	

IV. CONCLUSION

Six wetlands totaling approximately 1.65 acres were identified within the study area. Permanent wetland impacts would be avoided during construction.



V. REFERENCES

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University of Minnesota Wetland Delineator Certification Program. Wetland Delineation Lecture Notes based on the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual and Technical Report.



VI. DELINEATORS' CREDENTIALS

MIKAYLA BOCHE	
Education:	<ul style="list-style-type: none"> › North Dakota State University – MS Natural Resources Management (in progress) › Minnesota State University Moorhead – BA Anthropology (Cultural Emphasis), Minors in Biology and Astronomy
Certifications:	<ul style="list-style-type: none"> › Minnesota Wetland Delineator Certification Program: Delineator In-Training
Training:	<ul style="list-style-type: none"> › Wetland Delineator Certification Program – 5-Day Basic Wetland Delineation Course – University of Minnesota
Professional Memberships:	<ul style="list-style-type: none"> › National Association of Environmental Professionals › MN Wetland Professionals Association
MIKE HUFFINGTON	
Education:	<ul style="list-style-type: none"> › North Dakota State University – MS Natural Resources Management › Minnesota State University Moorhead – St. John’s University – BA Biology, Minor in Environmental Studies
Certifications:	<ul style="list-style-type: none"> › Minnesota Wetland Delineator Certification Program: Certified Wetland Delineator
Training:	<ul style="list-style-type: none"> › Wetland Delineator Certification Program – 5-Day Basic Wetland Delineation Course – University of Minnesota
Professional Memberships:	<ul style="list-style-type: none"> › National Association of Environmental Professionals › MN Wetland Professionals Association › Wildlife Society – North Dakota Chapter



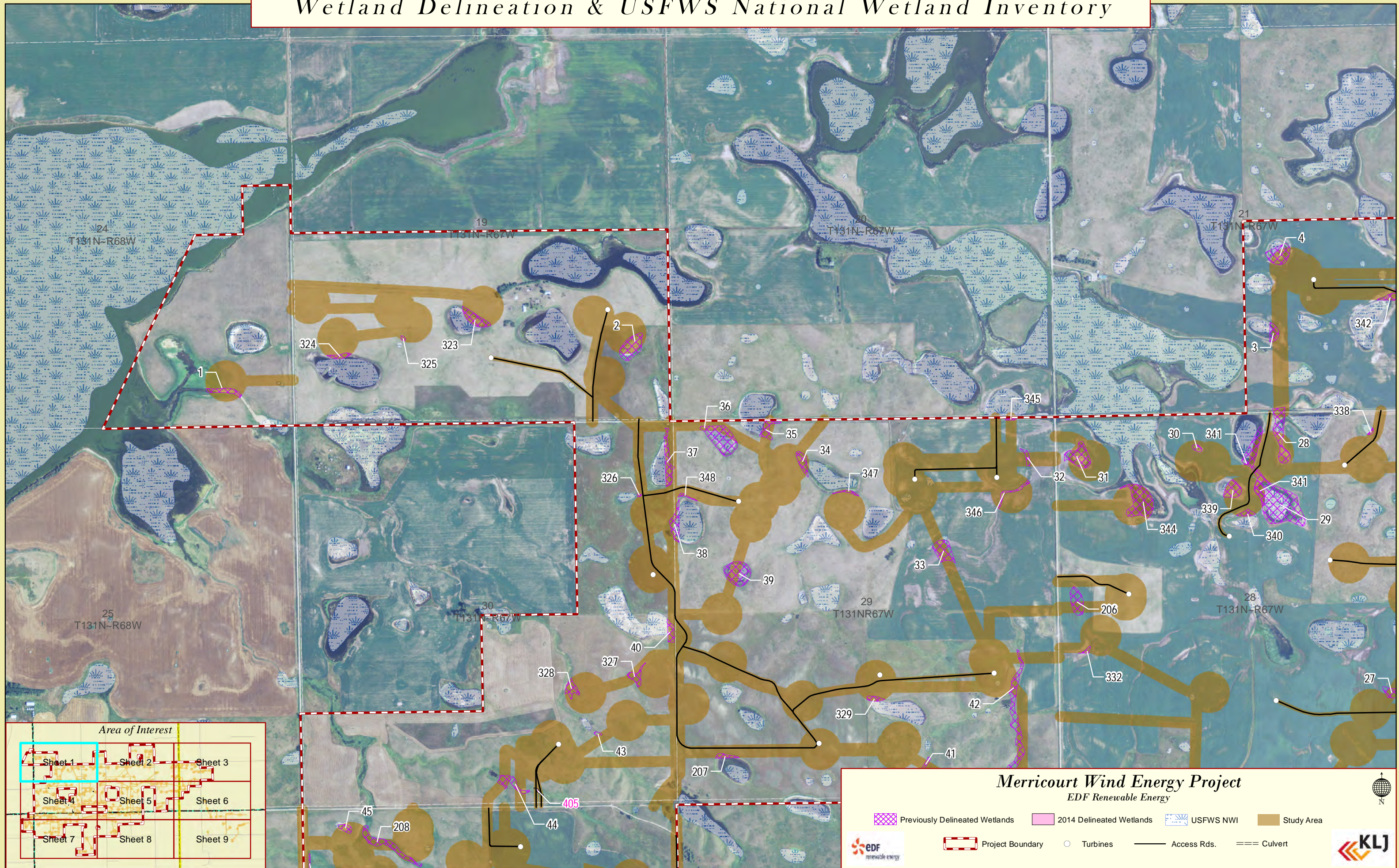


Appendix A









Delineated Wetland Maps

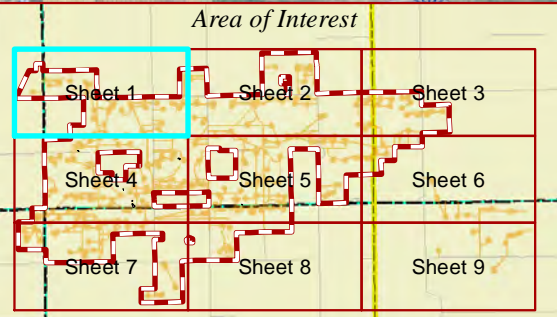


Wetland Delineation & USFWS National Wetland Inventory

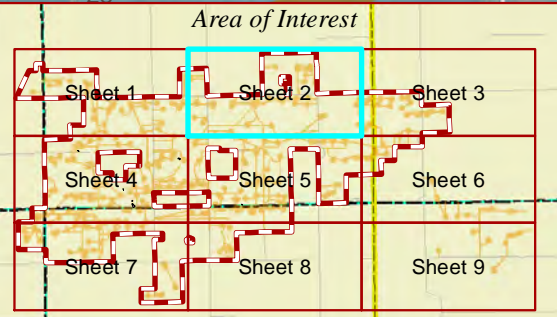
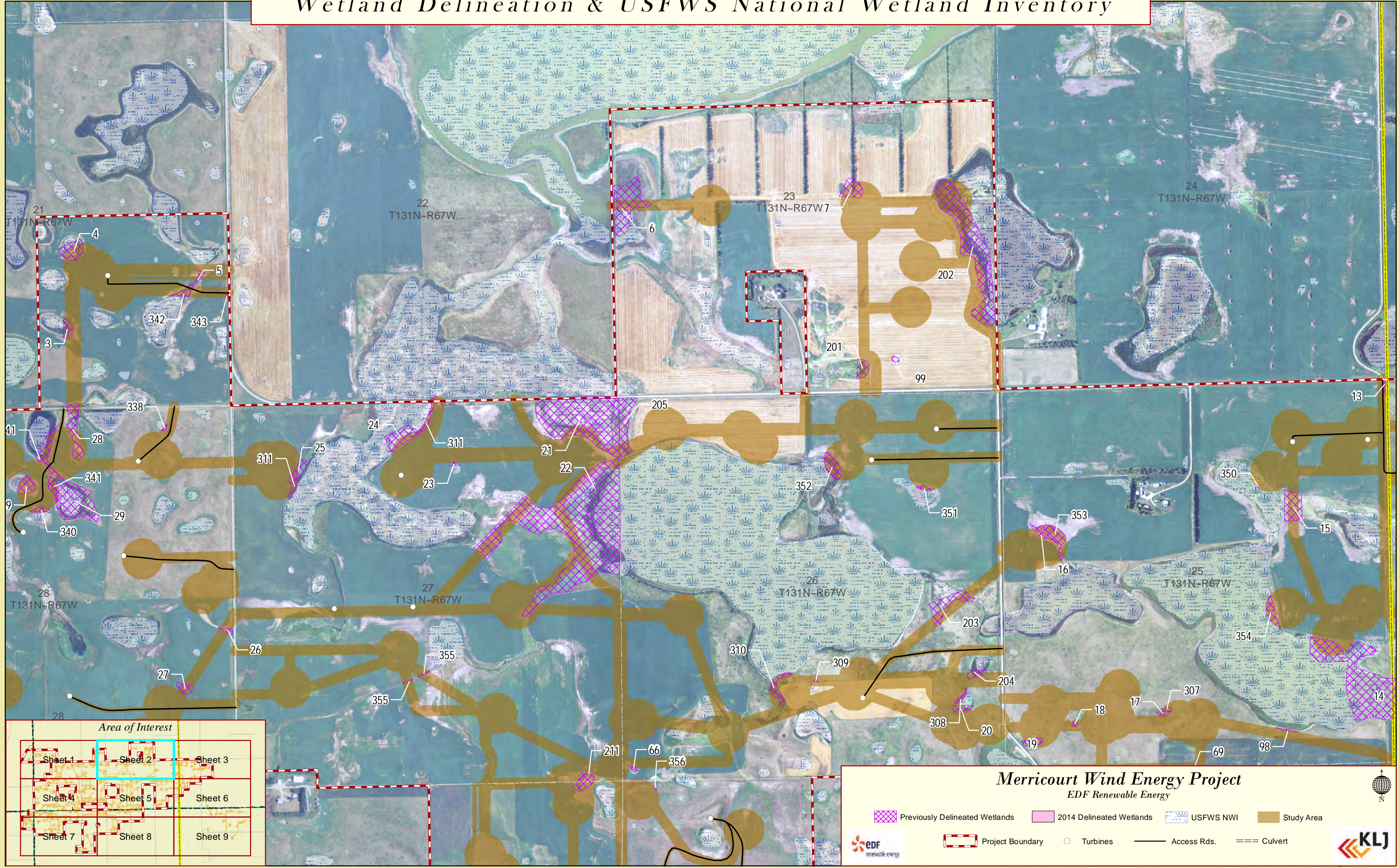


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-  Previously Delineated Wetlands
-  2014 Delineated Wetlands
-  USFWS NWI
-  Study Area
-  Project Boundary
-  Turbines
-  Access Rds.
-  Culvert



Wetland Delineation & USFWS National Wetland Inventory



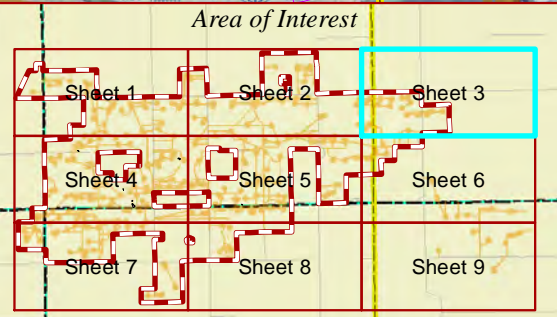
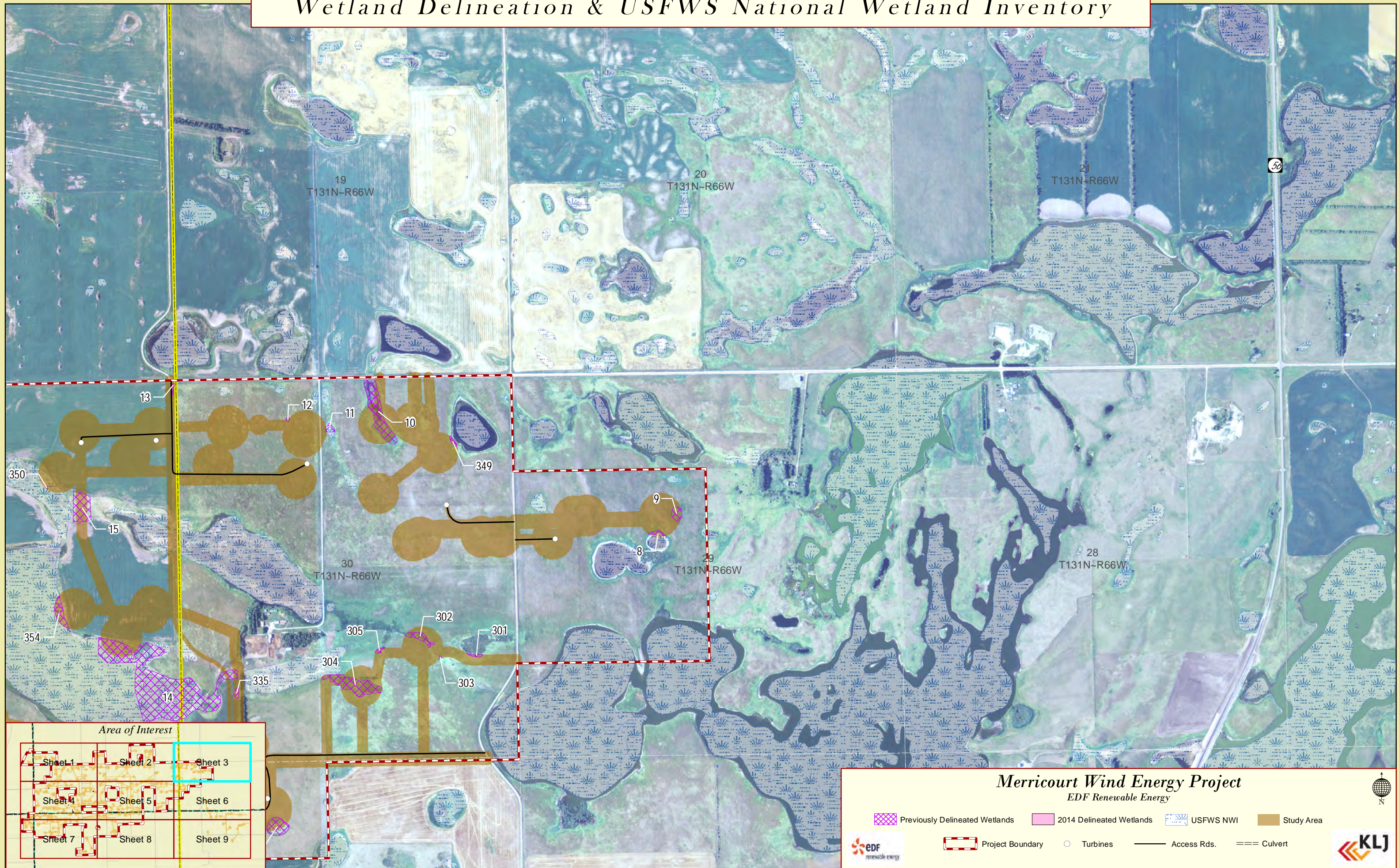
Merricourt Wind Energy Project
EDF Renewable Energy

Previously Delineated Wetlands
 2014 Delineated Wetlands
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 Study Area

Project Boundary
 Turbines
 Access Rds.
 Culvert

EDF renewable energy
 KLJ

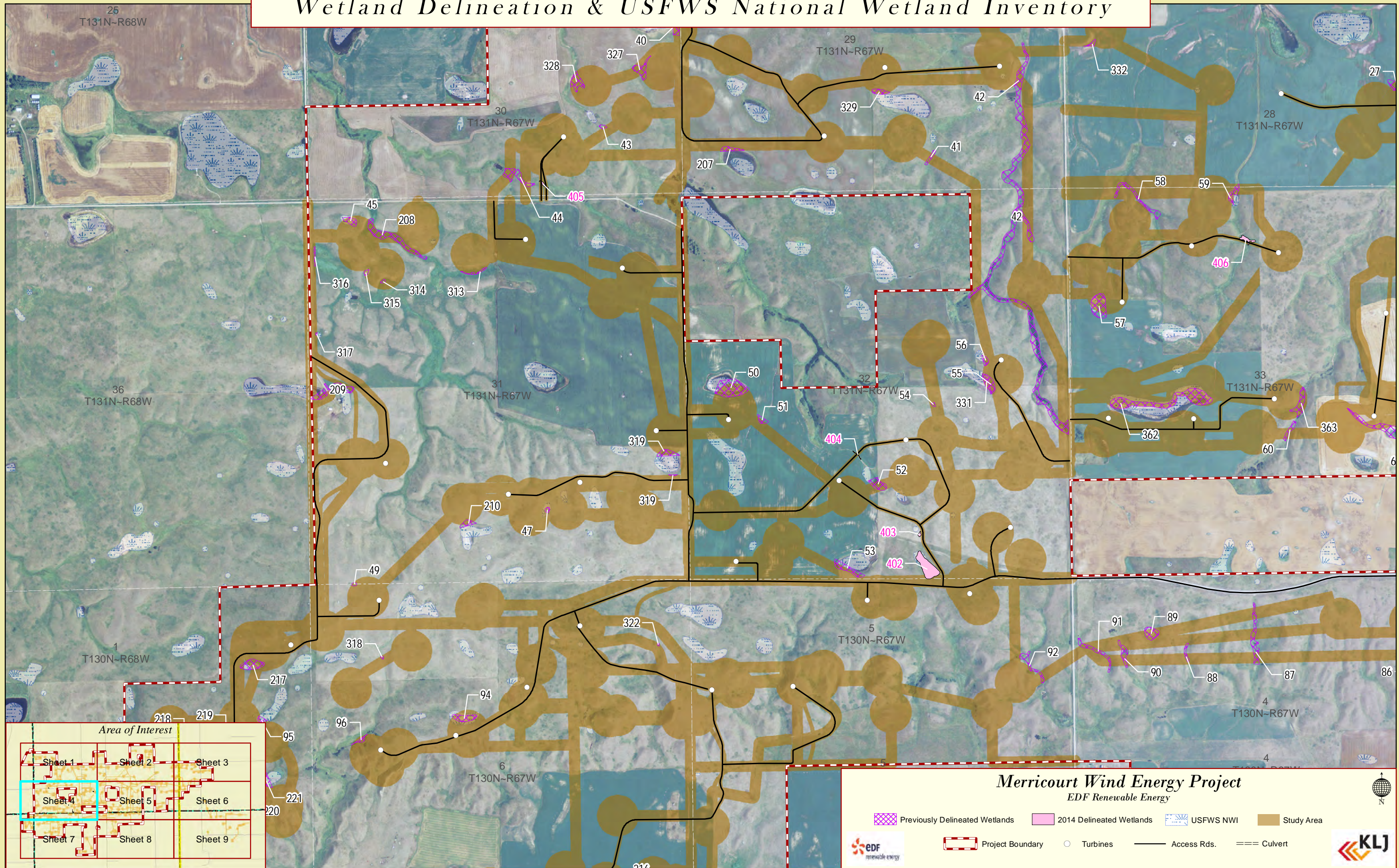
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







Merricourt Wind Energy Project
 EDF Renewable Energy

Previously Delineated Wetlands 2014 Delineated Wetlands USFWS NWI Study Area
 Project Boundary Turbines Access Rds. Culvert

Wetland Delineation & USFWS National Wetland Inventory

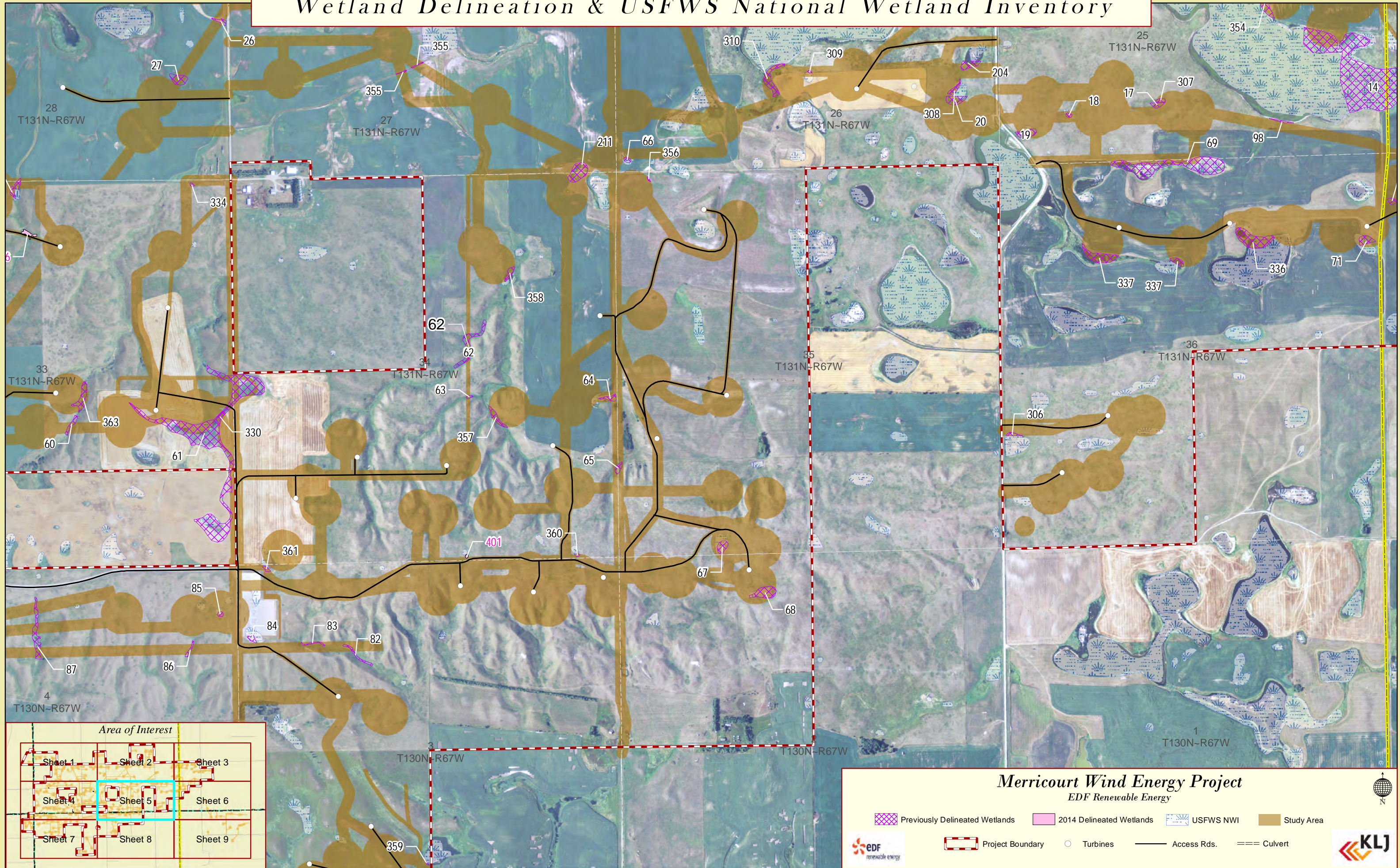


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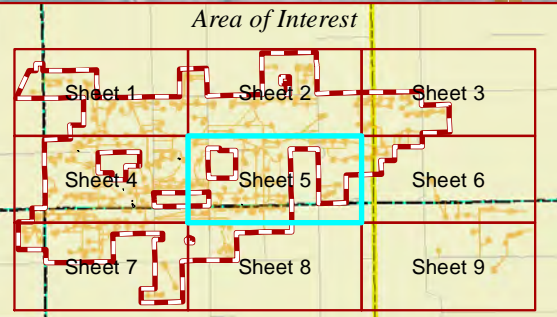


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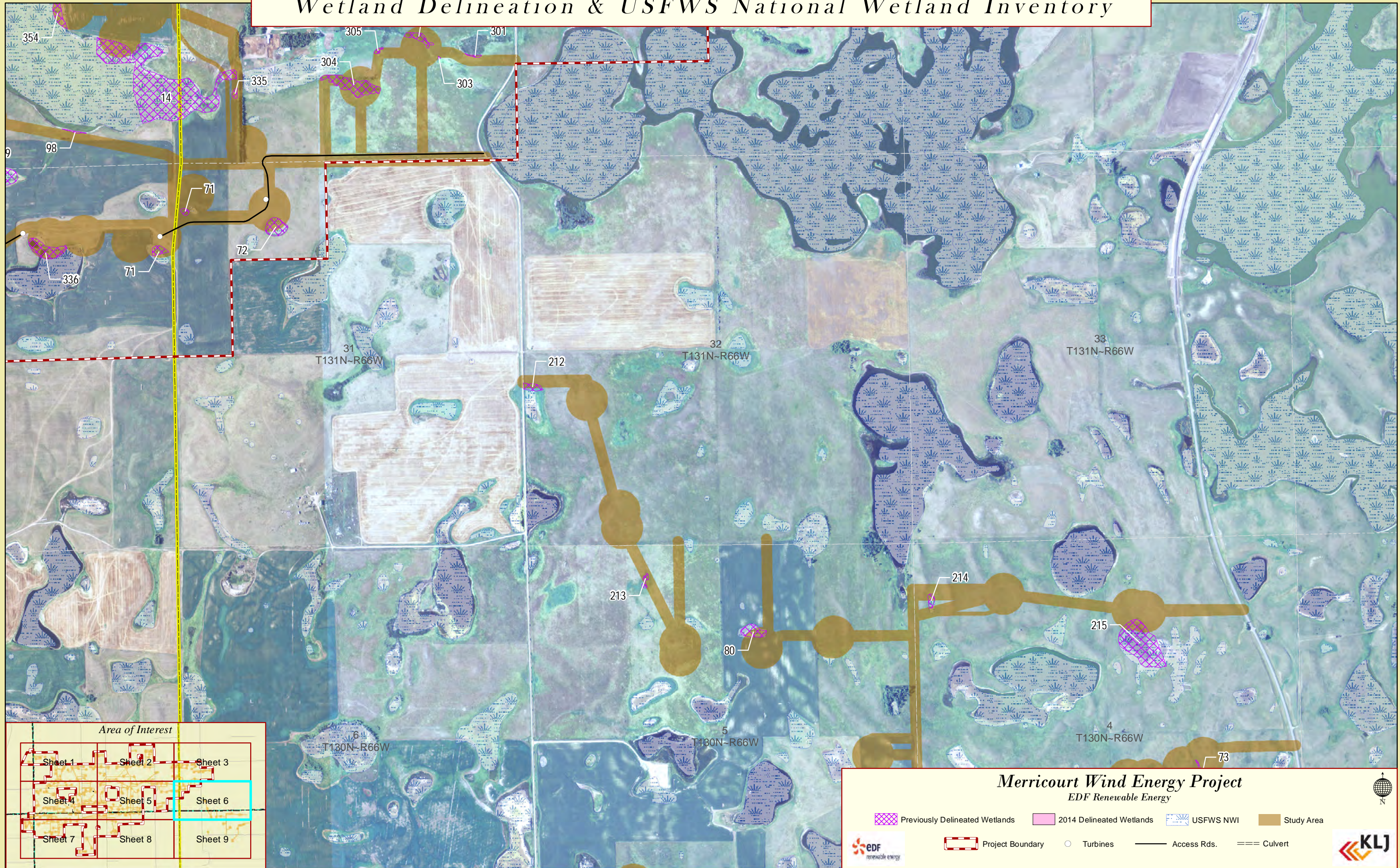


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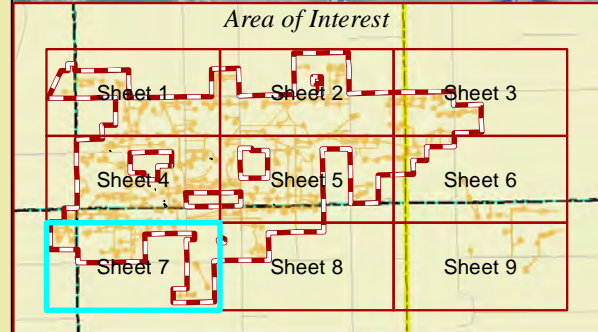
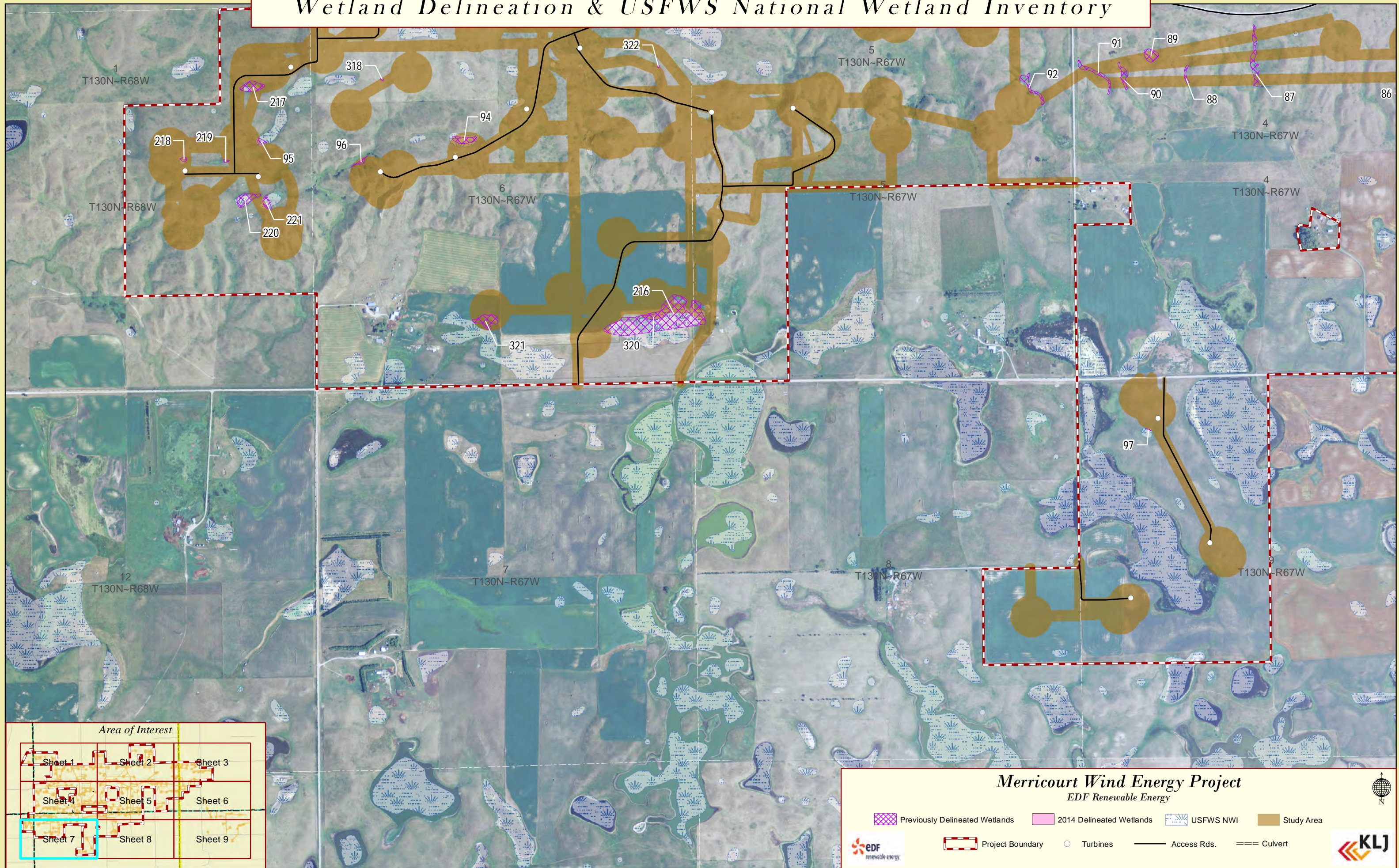


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Wetland Delineation & USFWS National Wetland Inventory



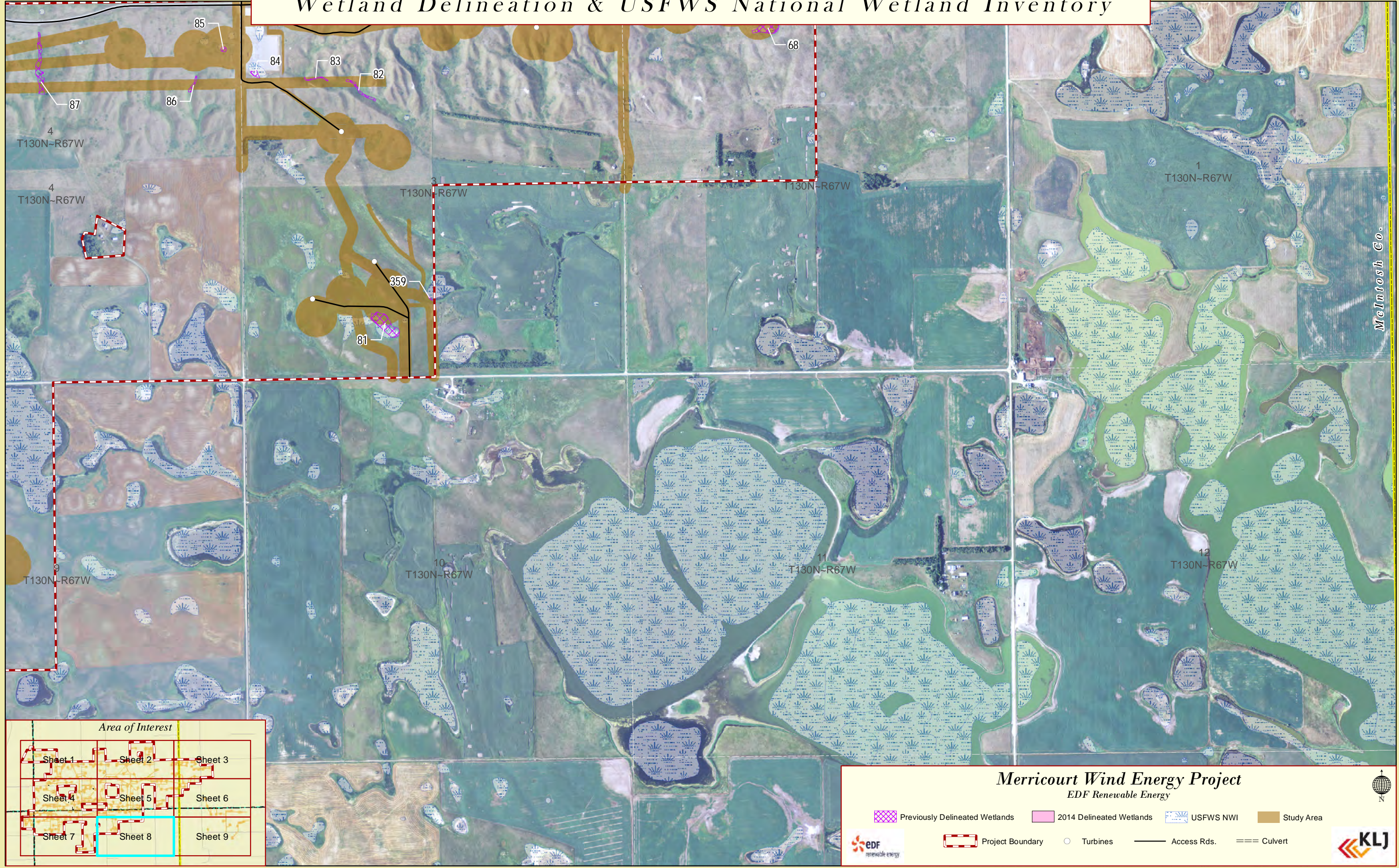
Merricourt Wind Energy Project

EDF Renewable Energy

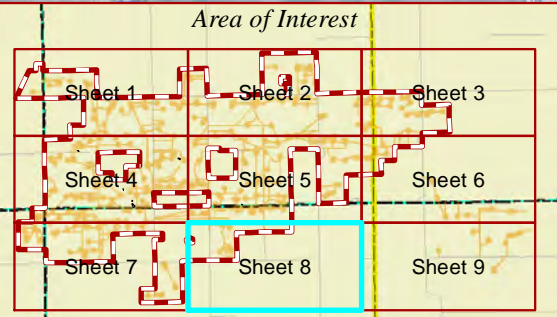
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Wetland Delineation & USFWS National Wetland Inventory



McIntosh Co.

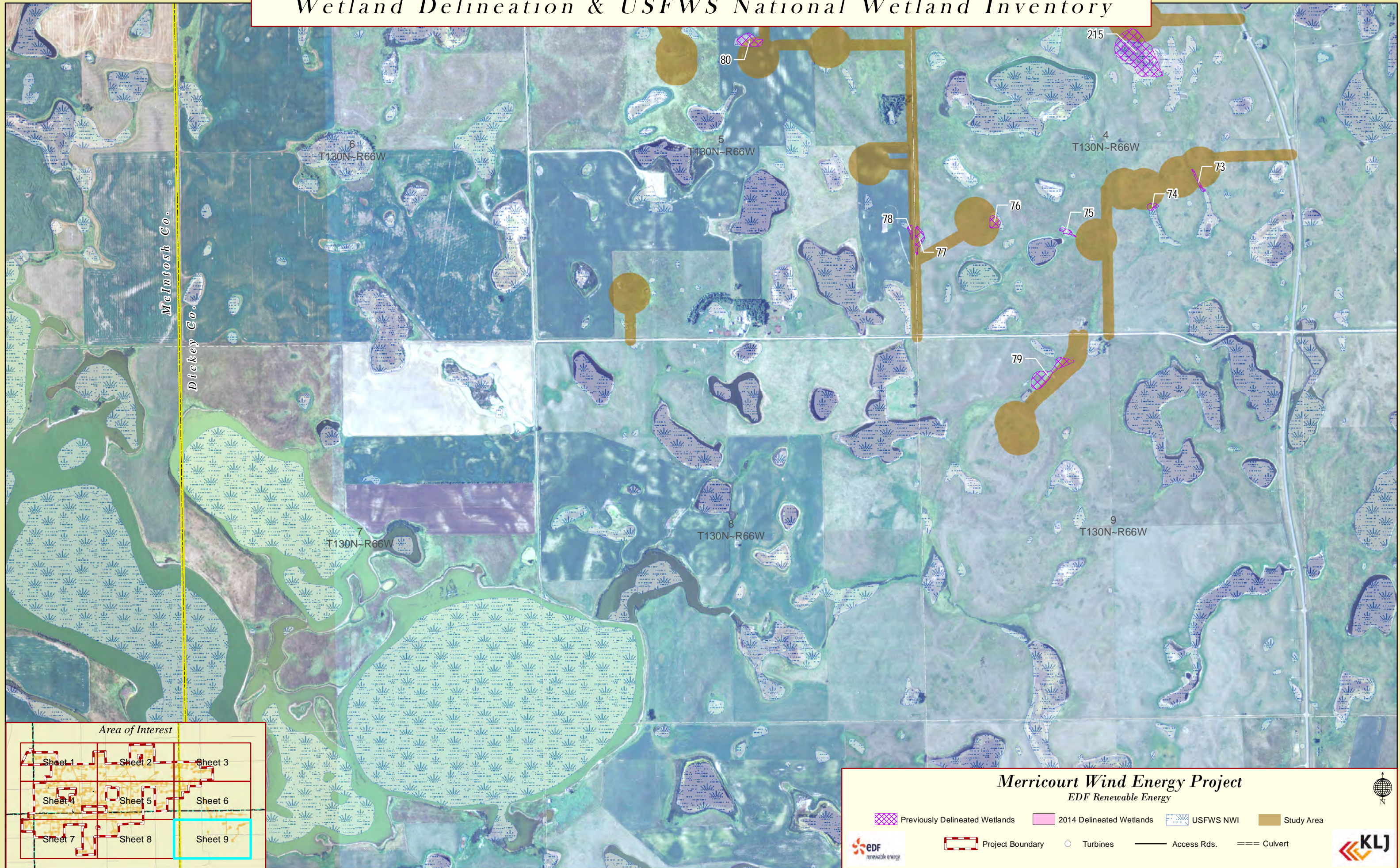


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Wetland Delineation & USFWS National Wetland Inventory



McIntosh Co.

Dickey Co.

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T130N-R66W

5
T130N-R66W

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T130N-R66W

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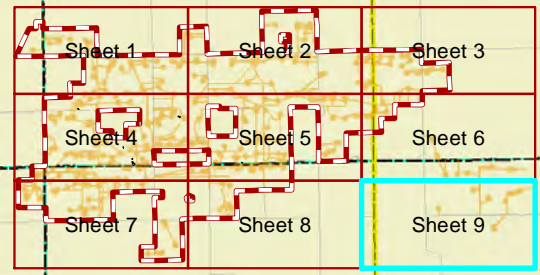
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

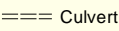
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Area of Interest

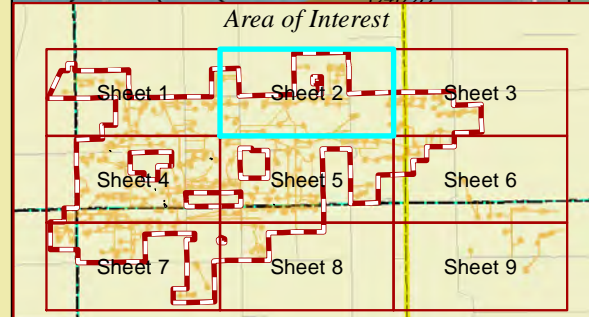
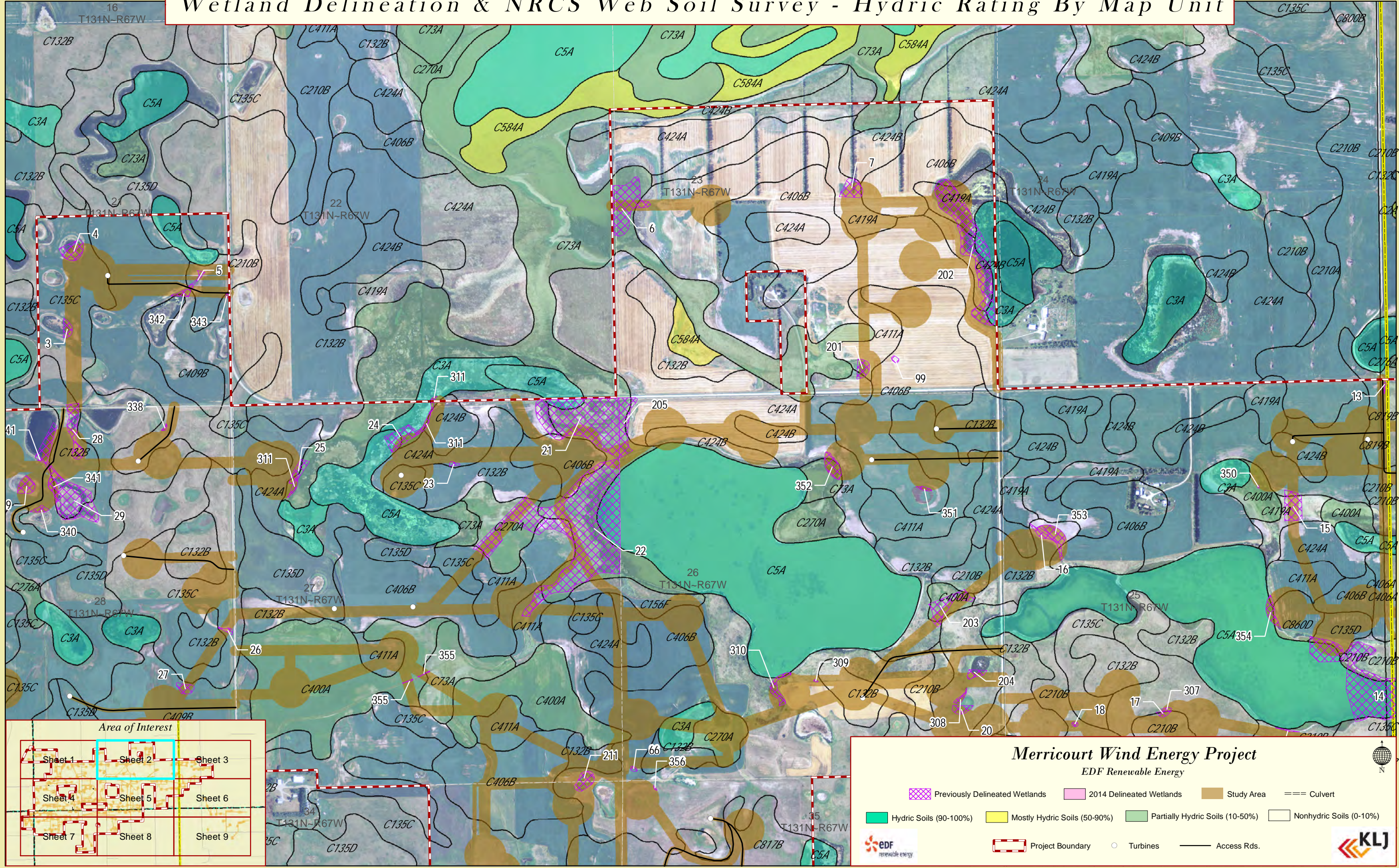


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Wetland Delineation & NRCS Web Soil Survey - Hydric Rating By Map Unit

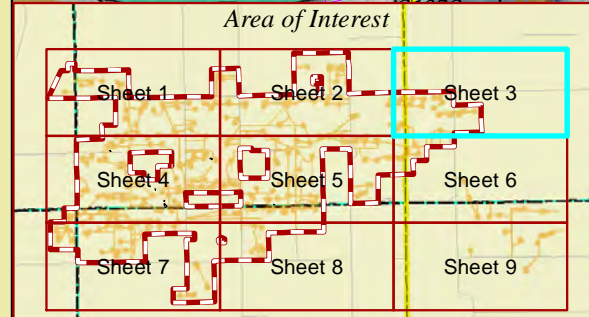
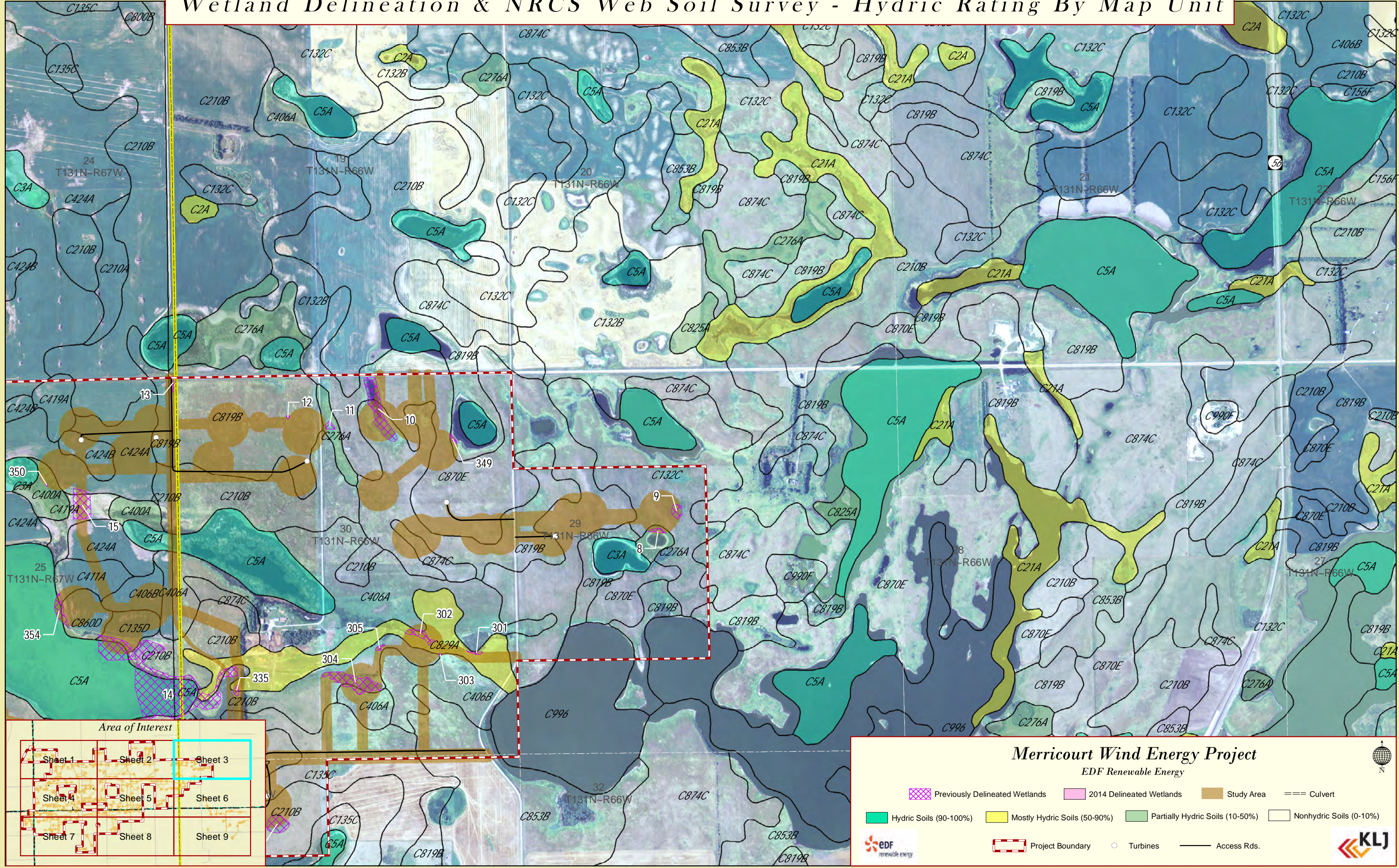


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Previously Delineated Wetlands	2014 Delineated Wetlands	Study Area	Culvert
Hydric Soils (90-100%)	Mostly Hydric Soils (50-90%)	Partially Hydric Soils (10-50%)	Nonhydric Soils (0-10%)
Project Boundary		Turbines	Access Rds.

Wetland Delineation & NRCS Web Soil Survey - Hydric Rating By Map Unit

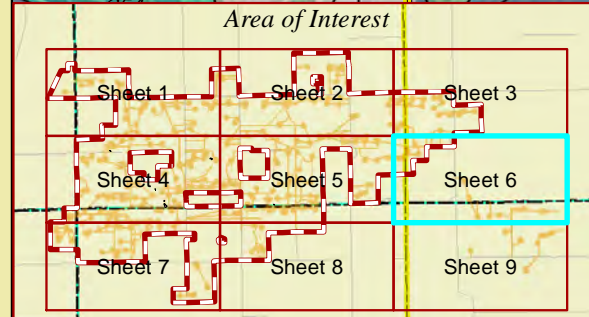
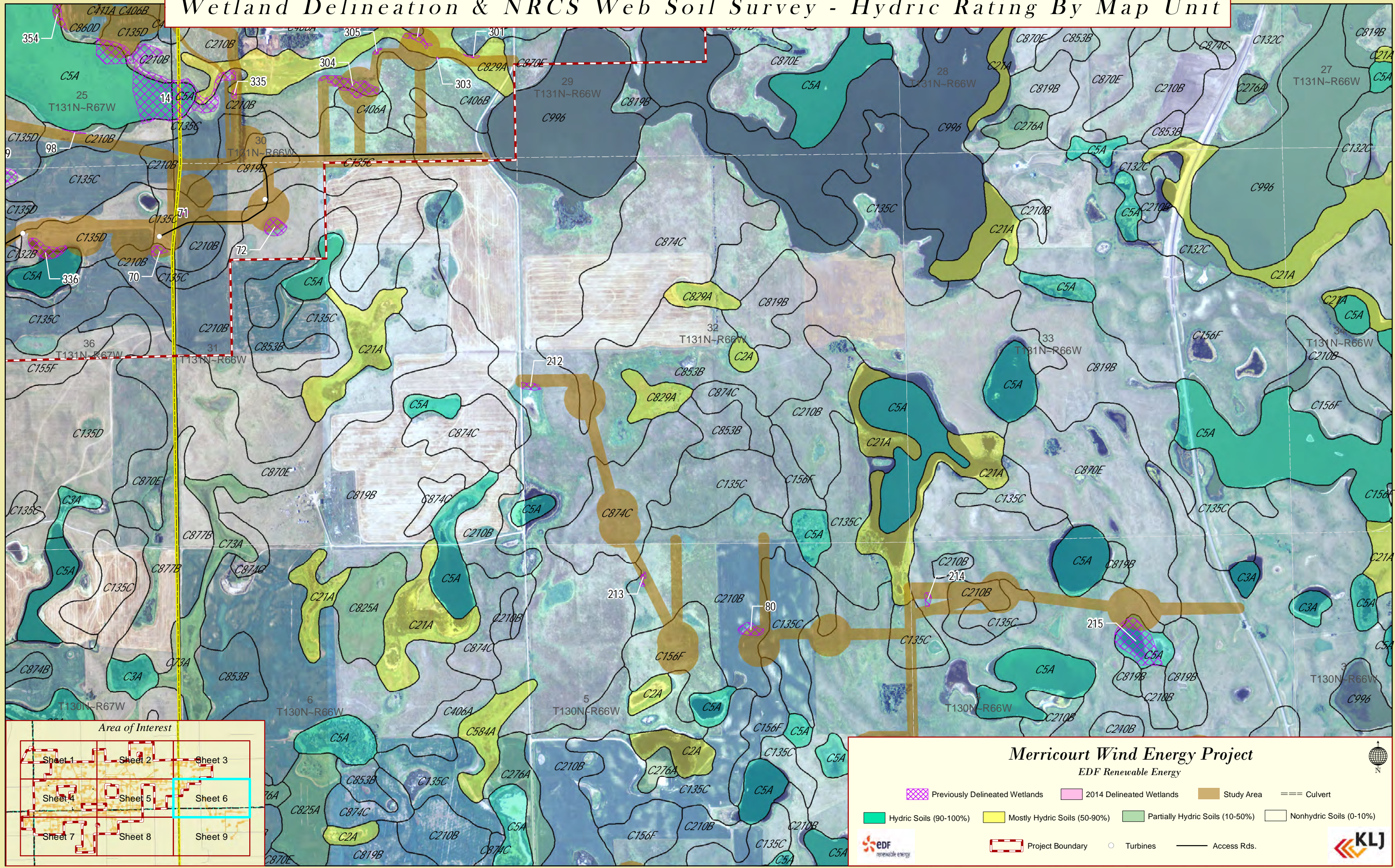


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EDF renewable energy	Project Boundary	Turbines	Access Rds.

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Wetland Delineation & NRCS Web Soil Survey - Hydric Rating By Map Unit

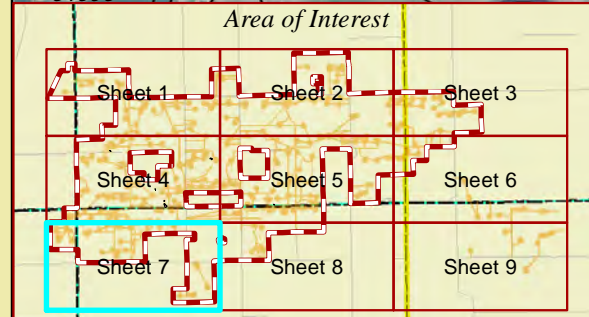
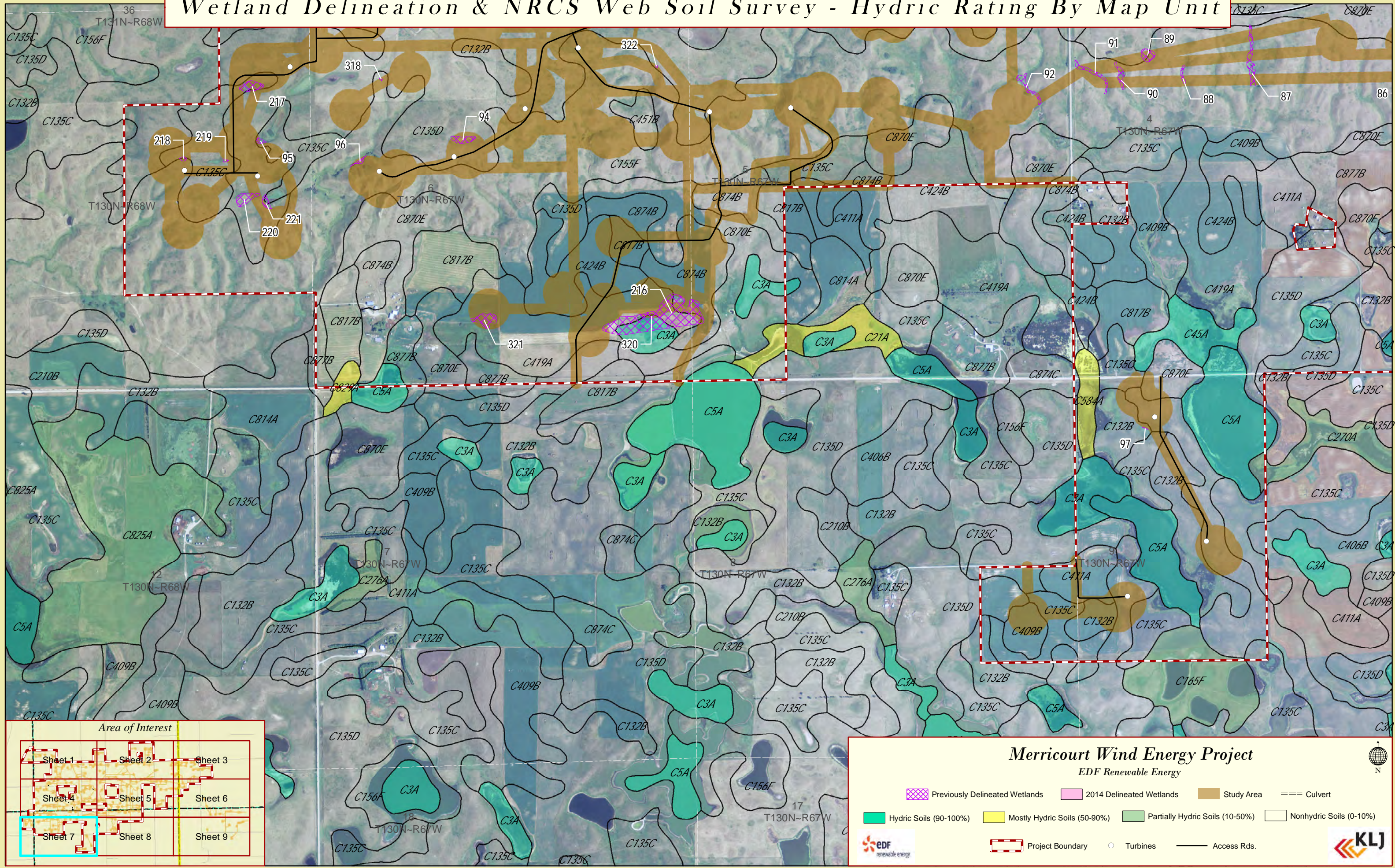


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EDF renewable energy	Project Boundary	Turbines	Access Rds.

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Wetland Delineation & NRCS Web Soil Survey - Hydric Rating By Map Unit

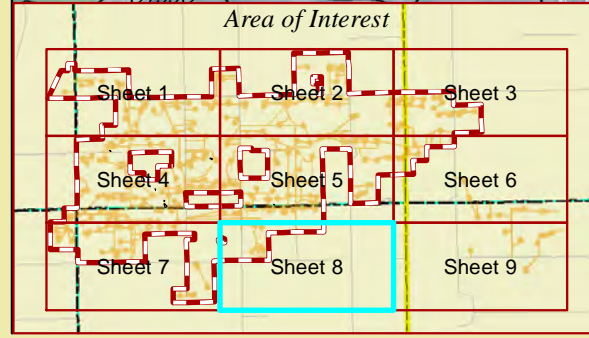
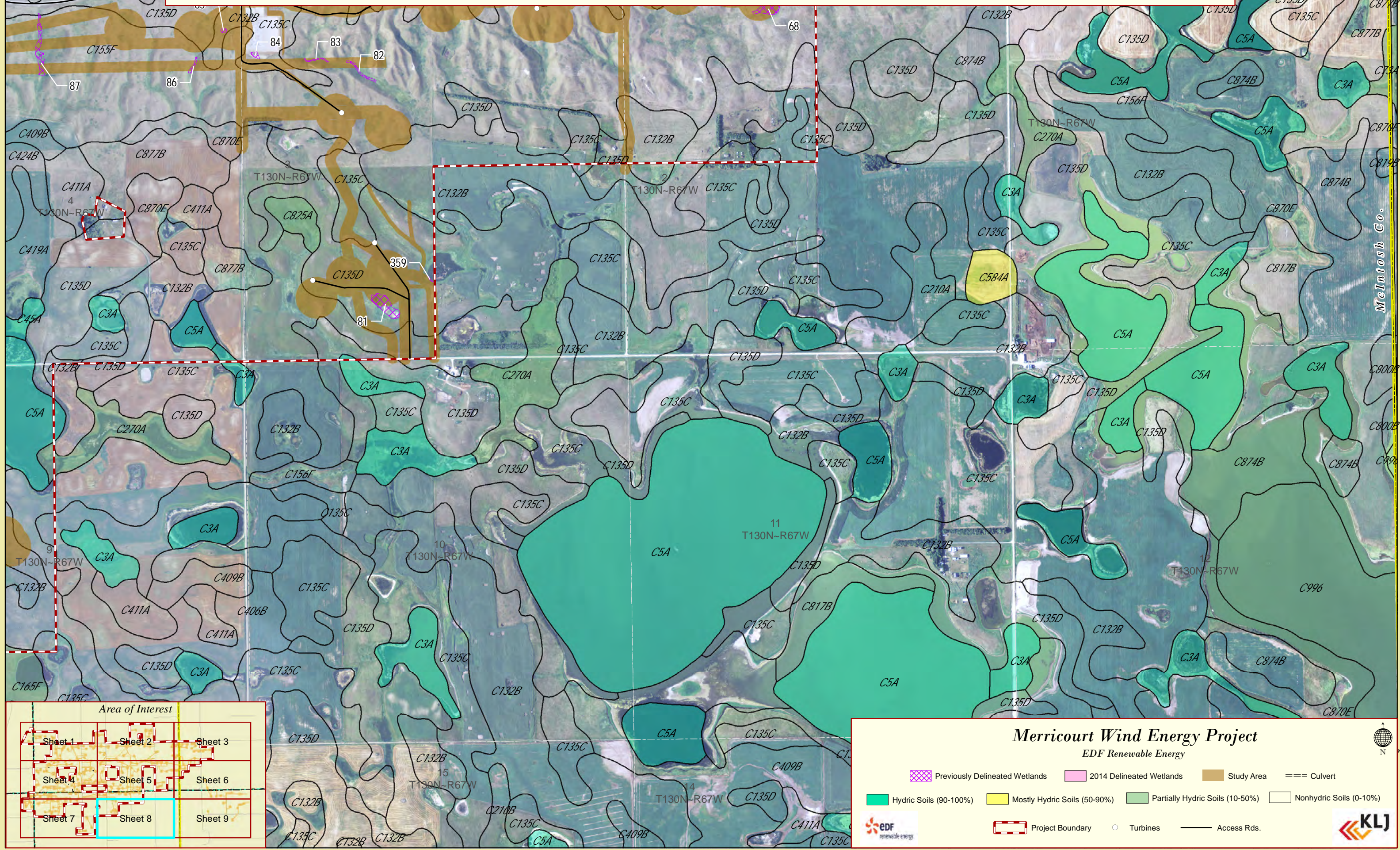


Merricourt Wind Energy Project
EDF Renewable Energy

Previously Delineated Wetlands	2014 Delineated Wetlands	Study Area	Culvert
Hydric Soils (90-100%)	Mostly Hydric Soils (50-90%)	Partially Hydric Soils (10-50%)	Nonhydric Soils (0-10%)
EDF renewable energy	Project Boundary	Turbines	Access Rds.

N

Wetland Delineation & NRCS Web Soil Survey - Hydric Rating By Map Unit

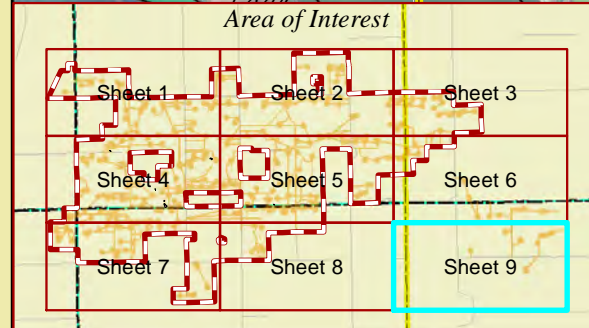
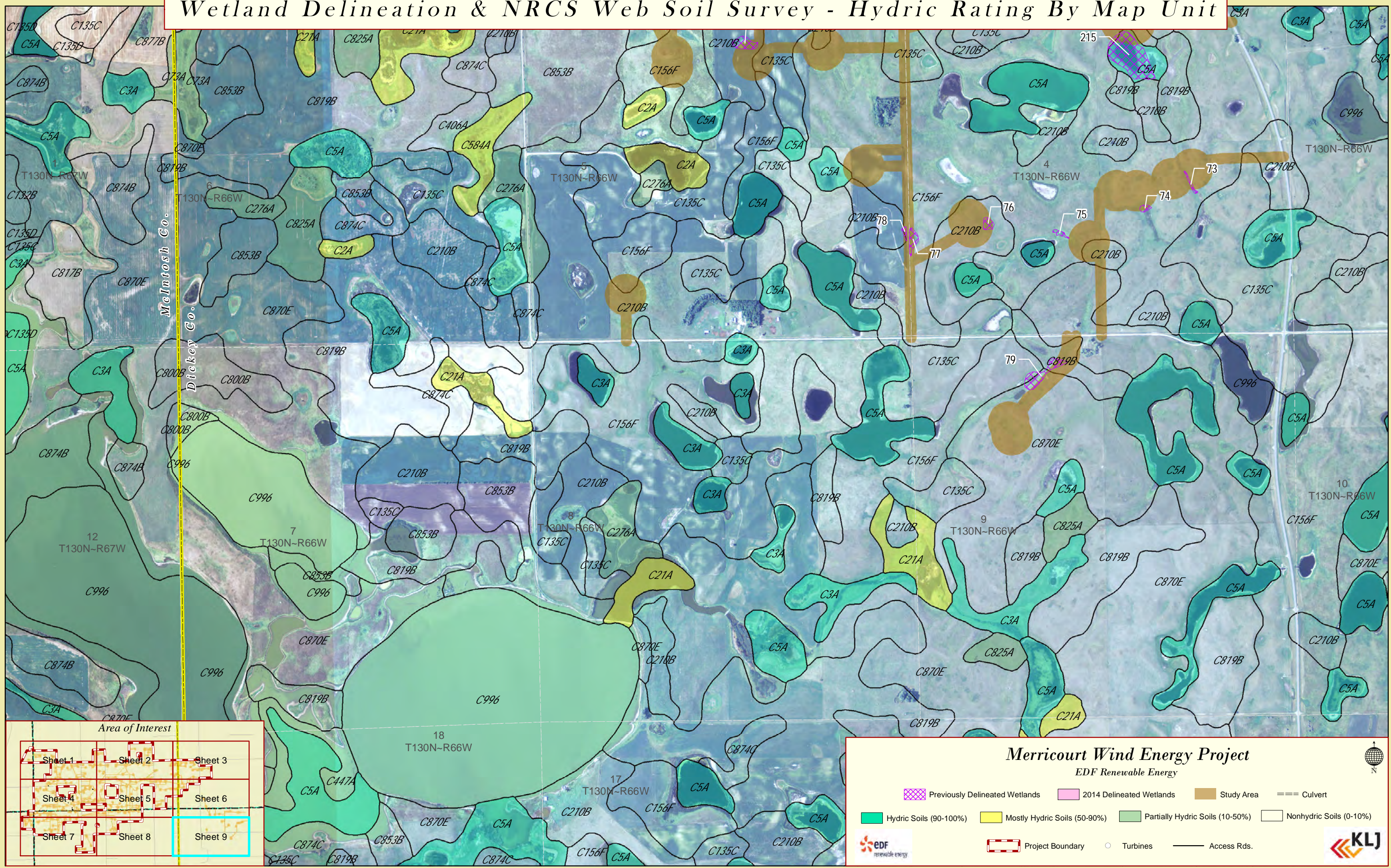


Merricourt Wind Energy Project
EDF Renewable Energy

Previously Delineated Wetlands	2014 Delineated Wetlands	Study Area	Culvert
Hydric Soils (90-100%)	Mostly Hydric Soils (50-90%)	Partially Hydric Soils (10-50%)	Nonhydric Soils (0-10%)
EDF Renewable Energy	Project Boundary	Turbines	Access Rds.

4'

Wetland Delineation & NRCS Web Soil Survey - Hydric Rating By Map Unit



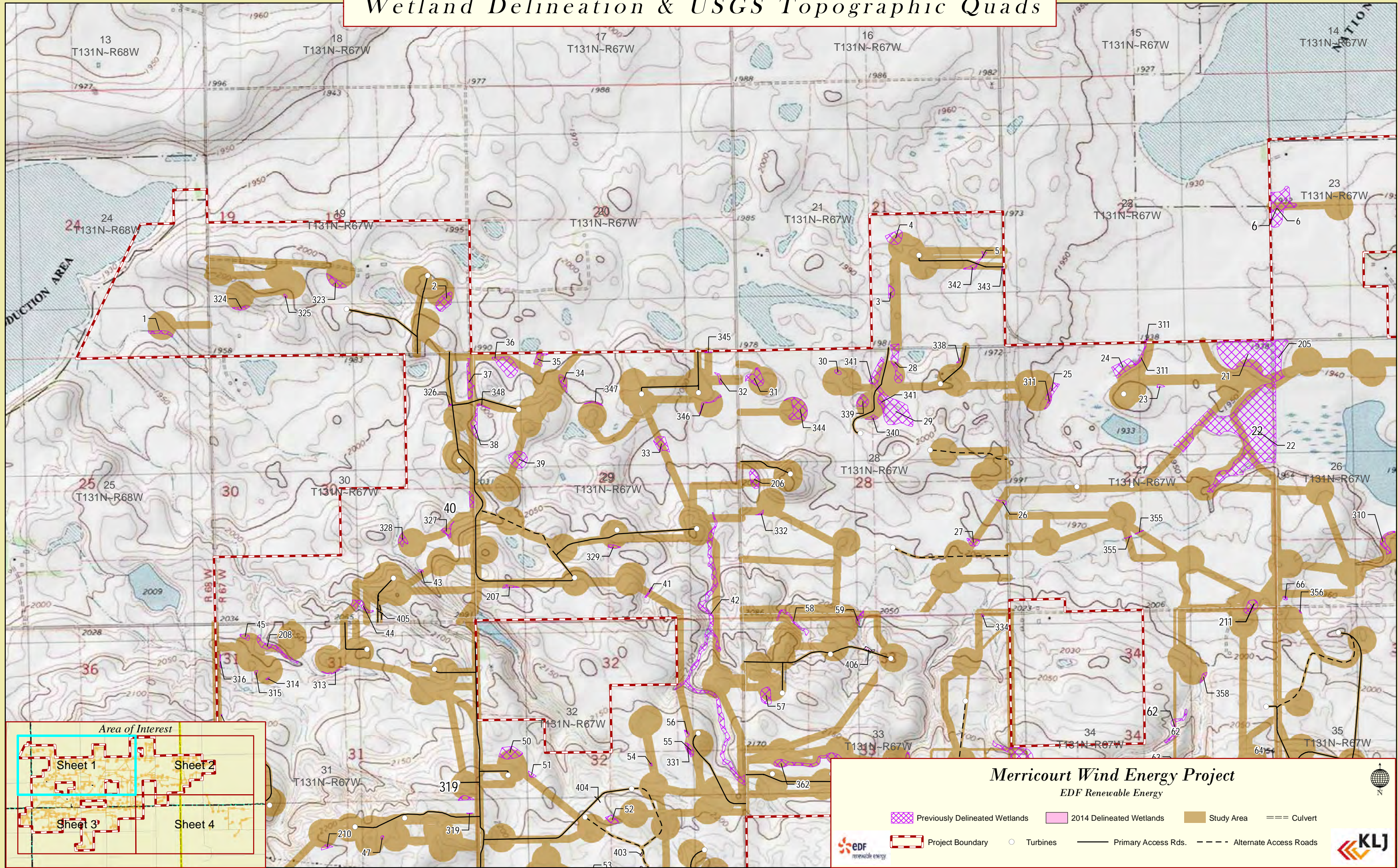
Merricourt Wind Energy Project
EDF Renewable Energy

Previously Delineated Wetlands
 2014 Delineated Wetlands
 Study Area
 Culvert

Hydric Soils (90-100%)
 Mostly Hydric Soils (50-90%)
 Partially Hydric Soils (10-50%)
 Nonhydric Soils (0-10%)

Project Boundary
 Turbines
 Access Rds.

Wetland Delineation & USGS Topographic Quads



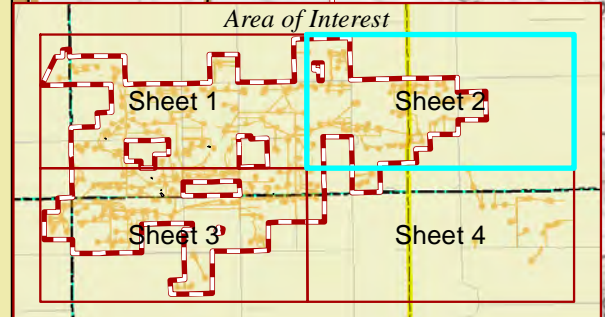
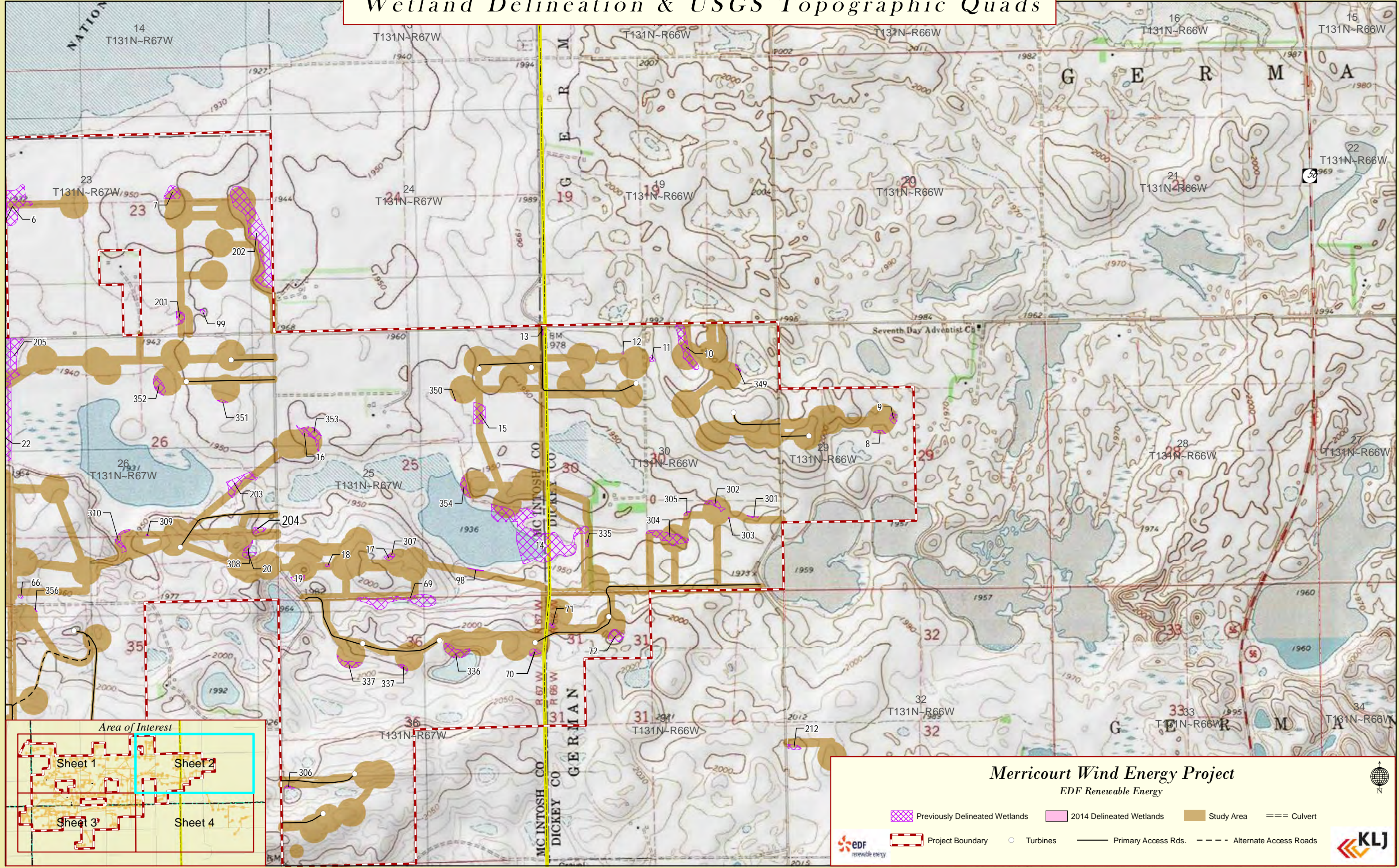
Merricourt Wind Energy Project

EDF Renewable Energy

- | | | | |
|--------------------------------|--------------------------|---------------------|------------------------|
| Previously Delineated Wetlands | 2014 Delineated Wetlands | Study Area | Culvert |
| Project Boundary | Turbines | Primary Access Rds. | Alternate Access Roads |



Wetland Delineation & USGS Topographic Quads

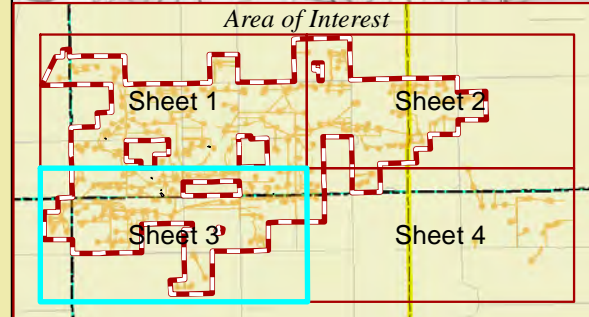
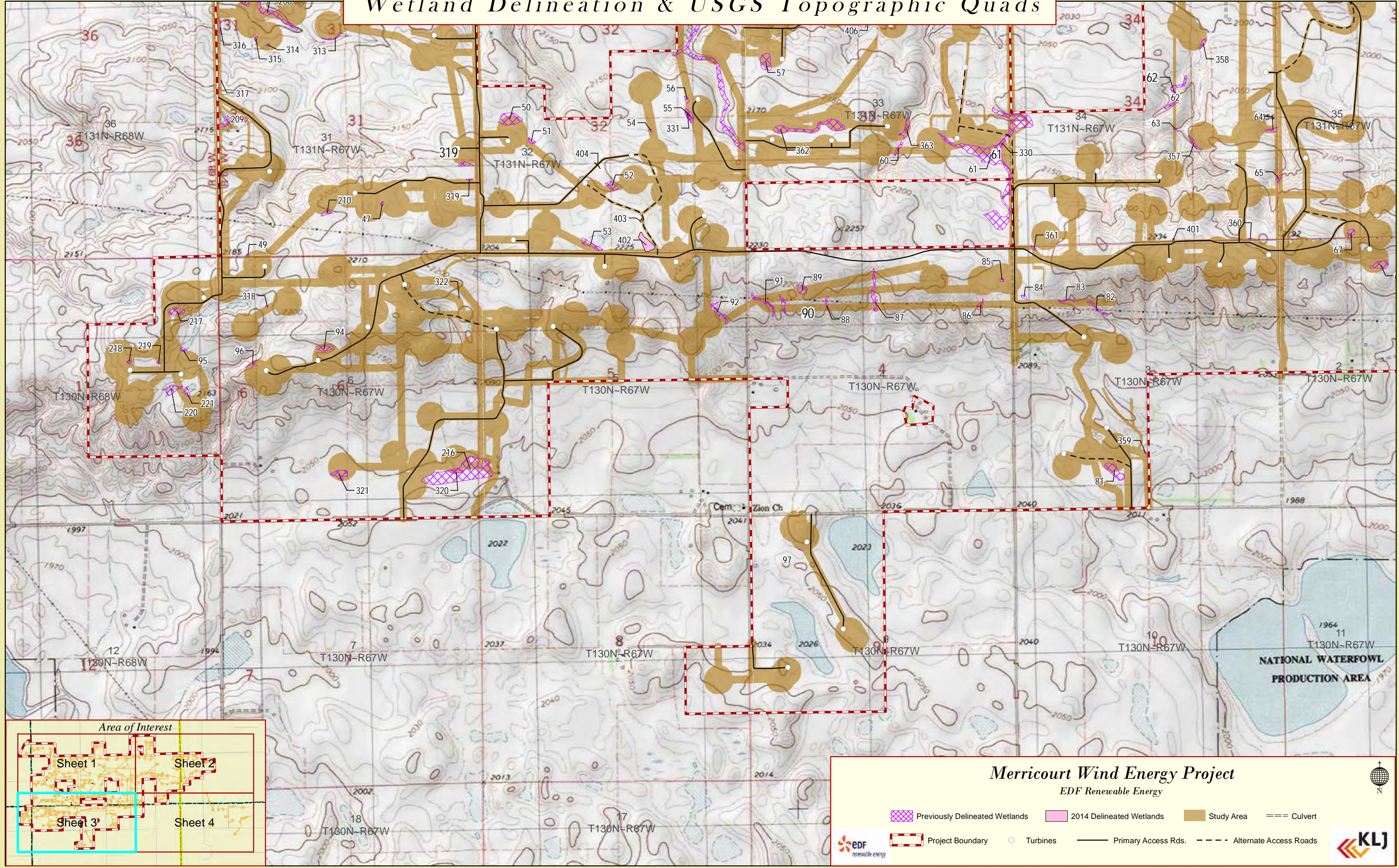


Merricourt Wind Energy Project

EDF Renewable Energy

Previously Delineated Wetlands	2014 Delineated Wetlands	Study Area	Culvert
Project Boundary	Turbines	Primary Access Rds.	Alternate Access Roads

Wetland Delineation & USGS Topographic Quads

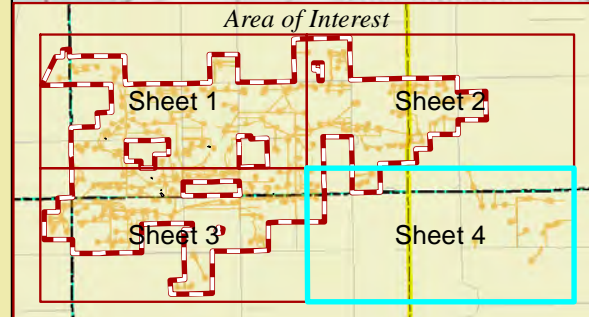
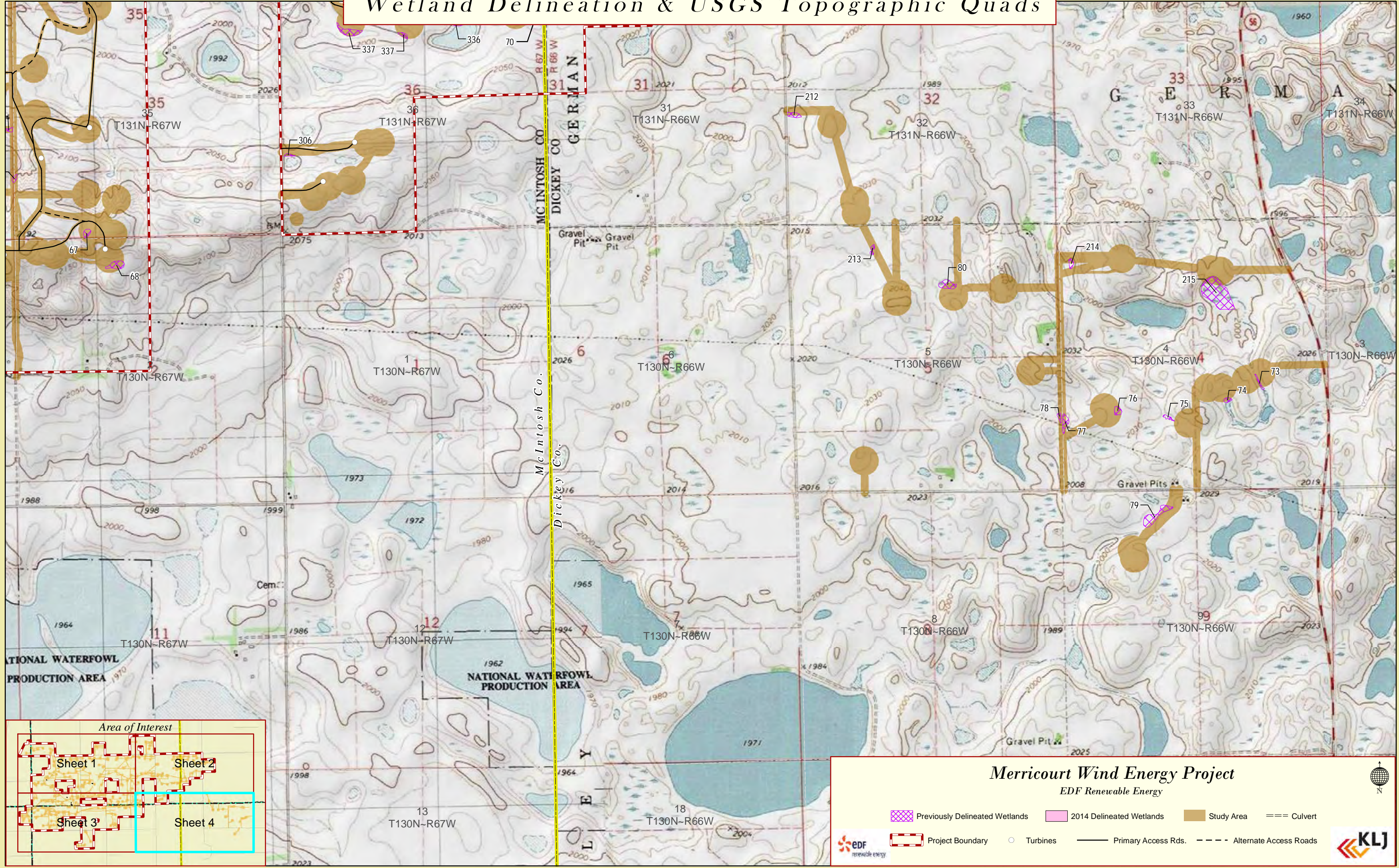


Merricourt Wind Energy Project
EDF Renewable Energy

Previously Delineated Wetlands	2014 Delineated Wetlands	Study Area	Culvert
Project Boundary	Turbines	Primary Access Rds.	Alternate Access Roads

EDF renewable energy

Wetland Delineation & USGS Topographic Quads



Merricourt Wind Energy Project

EDF Renewable Energy

Previously Delineated Wetlands	2014 Delineated Wetlands	Study Area	Culvert
Project Boundary	Turbines	Primary Access Rds.	Alternate Access Roads



Appendix B

Site Photos





Wetland 1, View North



Wetland 2, View Southeast



Wetland 3, View Northwest



Wetland 4, View Northwest



Wetland 5, View West



Wetland 6, View Southwest



Appendix C

Data Forms



WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Merricourt Wind Farm City/County: McIntosh Sampling Date: 10/7/2014
 Applicant/Owner: EDF State: ND Sampling Point: 401a
 Investigator(s): Mr. Hurlington Section, Township, Range: Sec 34, T131N, R67W
 Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): F Lat: 46.13773 Long: -99.053831 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A)
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Total Number of Dominant Species Across All Strata: <u>2</u> (B)
Sapling/Shrub Stratum (Plot size: _____)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Eleocharis palustris</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Echinochloa crus-galli</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Hodeum jubatum</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
<u>80</u> = Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
% Bare Ground in Herb Stratum <u>20</u>				

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Merricourt Wind Farm City/County: McIntosh County Sampling Date: 10/7/2014
 Applicant/Owner: FDF State: ND Sampling Point: 401b
 Investigator(s): M. Hurlington Section, Township, Range: Sec 34, T13N, R67W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 4
 Subregion (LRR): F Lat: 46.113805 Long: -99.053908 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5'</u>) 1. <u>Poa pratensis</u> <u>70</u> <u>Y</u> <u>FACU</u> 2. <u>Bromus inermis</u> <u>25</u> <u>Y</u> <u>UPL</u> 3. <u>Cirsium arvense</u> <u>5</u> <u>N</u> <u>FACU</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> _____ = Total Cover				

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Merricourt Wind Farm City/County: McIntosh County Sampling Date: 10/7/2014
 Applicant/Owner: EDF State: ND Sampling Point: 402a
 Investigator(s): M. Huffington Section, Township, Range: Sec 32, T131N, R67W
 Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): F Lat: 46.113947 Long: -99.094362 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PSMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Spartina pectinata</u>	<u>100</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>100</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
_____ = Total Cover				Remarks: _____
% Bare Ground in Herb Stratum <u>0</u>				

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Merricourt Wind Farm City/County: McIntosh County Sampling Date: 10/7/2014
 Applicant/Owner: EDF State: ND Sampling Point: 4026
 Investigator(s): M. Hufington Section, Township, Range: Sec 32, T13N, R67W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 5
 Subregion (LRR): F Lat: 46.114001 Long: -99.094250 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
_____ = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Bromus inermis</u>	<u>60</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Poa pratensis</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Solidago canadensis</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>115</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
_____ = Total Cover				
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>				

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Merricourt Wind Farm City/County: McIntosh County Sampling Date: 10/7/2014
 Applicant/Owner: EDF State: ND Sampling Point: 403a
 Investigator(s): M. Huffington Section, Township, Range: Sec 32, T131N, R67W
 Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR): F Lat: 46.115271 Long: -99.095263 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: _____ (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Hordeum jubatum</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Panicum amphibium</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>20</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>40</u>				

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Merricourt Wind Farm City/County: Madison County Sampling Date: 10/7/2014
 Applicant/Owner: EDF State: ND Sampling Point: 4036
 Investigator(s): M. Huffington Section, Township, Range: Sec 32, T131N, R67W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 5
 Subregion (LRR): F Lat: 46.115207 Long: -99.095294 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5'</u>) 1. <u>Poa pratensis</u> <u>90</u> <u>Y</u> <u>FACU</u> 2. <u>Thlaspi medium</u> <u>10</u> <u>Y</u> <u>UPL</u> 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> _____ = Total Cover				

Remarks: _____

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Merricourt Wind Farm City/County: McIntosh County Sampling Date: 10/7/2014
 Applicant/Owner: EDF State: ND Sampling Point: 404a
 Investigator(s): M. Hurlington Section, Township, Range: Sec 32, T13N, R67W
 Landform (hillslope, terrace, etc.): Drainage Local relief (concave, convex, none): concave Slope (%): 5
 Subregion (LRR): F Lat: 46.118438 Long: -99.098742 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B) Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5'</u>) 1. <u>Xanthium strumarium</u> <u>8</u> <u>Y</u> <u>FAC</u> 2. <u>Hordeum jubatum</u> <u>5</u> <u>Y</u> <u>FACW</u> 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>87</u> _____ = Total Cover				

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Merricourt Wind Farm City/County: McIntosh County Sampling Date: 10/7/2014
 Applicant/Owner: EDF State: ND Sampling Point: 404B
 Investigator(s): M. Hurlington Section, Township, Range: Sec 32, T13N, R67W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 6
 Subregion (LRR): F Lat: 46.118465 Long: -99.094699 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Total Number of Dominant Species Across All Strata: _____ (B)														
Sapling/Shrub Stratum (Plot size: _____)				Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)														
1. _____	_____	_____	_____	Prevalence Index worksheet: <table style="width:100%; border: none;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____	(A) _____ (B) _____
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = _____																	
FACW species _____	x 2 = _____																	
FAC species _____	x 3 = _____																	
FACU species _____	x 4 = _____																	
UPL species _____	x 5 = _____																	
Column Totals: _____	(A) _____ (B) _____																	
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index = B/A = _____														
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Glycine max</u>	<u>40</u>	<u>4</u>	<u>UPL</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
<u>40</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
Woody Vine Stratum (Plot size: _____)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														
2. _____	_____	_____	_____															
% Bare Ground in Herb Stratum <u>60</u> _____ = Total Cover																		

Remarks: _____

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Merricourt Wind Farm City/County: McIntosh County Sampling Date: 10/15/14
 Applicant/Owner: EDF Renewable Energy State: ND Sampling Point: 405a
 Investigator(s): M. Boche Section, Township, Range: Sec 30, T13N, R 67W
 Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 51
 Subregion (LRR): F Lat: 46.128757 Long: -99.115392 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil P, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks:
Area has been grazed by cattle

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Total Number of Dominant Species Across All Strata: _____ (B)
Sapling/Shrub Stratum (Plot size: _____)				Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	Prevalence Index worksheet:
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Total % Cover of: _____ Multiply by: _____
Herb Stratum (Plot size: <u>5'</u>)				OBL species _____ x 1 = _____
1. <u>Spartina perfoliata</u>	<u>80%</u>	<u>Y</u>	<u>FACW</u>	FACW species _____ x 2 = _____
2. <u>Carex stipata</u>	<u>5%</u>	<u>N</u>	<u>OBL</u>	FAC species _____ x 3 = _____
3. <u>Hordeum jubatum</u>	<u>5%</u>	<u>N</u>	<u>FACW</u>	FACU species _____ x 4 = _____
4. _____	_____	_____	_____	UPL species _____ x 5 = _____
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)
6. _____	_____	_____	_____	Prevalence Index = B/A = _____
7. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>90%</u> = Total Cover				<input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
Woody Vine Stratum (Plot size: _____)				____ 2 - Dominance Test is >50%
1. _____	_____	_____	_____	____ 3 - Prevalence Index is ≤3.0 ¹
2. _____	_____	_____	_____	____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
				____ Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum <u>10%</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Merricourt Wind Farm City/County: McIntosh County Sampling Date: 10/15/14
 Applicant/Owner: EDF Renewable Energy State: ND Sampling Point: 4056
 Investigator(s): M. Boche Section, Township, Range: Sec 30, T131N, R67W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 10%
 Subregion (LRR): F Lat: 46.128729 Long: -99.15427 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ = Total Cover				Prevalence Index worksheet: <table style="width:100%; border: none;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____	(A) _____ (B) _____	Prevalence Index = B/A = _____	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = _____																			
FACW species _____	x 2 = _____																			
FAC species _____	x 3 = _____																			
FACU species _____	x 4 = _____																			
UPL species _____	x 5 = _____																			
Column Totals: _____	(A) _____ (B) _____																			
Prevalence Index = B/A = _____																				
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																				
Herb Stratum (Plot size: <u>5'</u>) 1. <u>Poa pratensis</u> <u>80%</u> <u>Y</u> <u>FACU</u> 2. <u>Solidago canadensis</u> <u>10%</u> <u>N</u> <u>FACU</u> 3. <u>Symphoricarpos occidentalis</u> <u>10%</u> <u>N</u> <u>UPL</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover																				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover																				
% Bare Ground in Herb Stratum <u>0%</u> _____ = Total Cover																				

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No

Remarks: _____

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Merricourt Wind Farm City/County: McIntosh County Sampling Date: 10/16/14
 Applicant/Owner: EDF Renewable Energy State: ND Sampling Point: 406a
 Investigator(s): M. Boche Section, Township, Range: Sec. 33, T131N, R67W
 Landform (hillslope, terrace, etc.): Drainage Local relief (concave, convex, none): concave Slope (%): 5%
 Subregion (LRR): F Lat: 46.126002 Long: -99.077026 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: <p align="center"><i>Area has been grazed by cattle</i></p>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>5'</u>) 1. <u>Alopecurus arundinaceus</u> <u>90%</u> <u>Y</u> <u>FACW</u> 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____				
<u>90%</u> = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>10%</u>				

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Merricourt Wind Farm City/County: McIntosh County Sampling Date: 10/16/14
 Applicant/Owner: EDF Renewable Energy State: ND Sampling Point: 4066
 Investigator(s): M. Boche Section, Township, Range: Sec 33, T131N, R167W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): linear Slope (%): 15%
 Subregion (LRR): F Lat: 46.126024 Long: -99.077166 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B) Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>5'</u>) 1. <u>Andropogon gerardii</u> <u>50%</u> <u>Y</u> <u>FACU</u> 2. <u>Schizachyrium scoparium</u> <u>30%</u> <u>Y</u> <u>FACU</u> 3. <u>Poa pratensis</u> <u>20%</u> <u>Y</u> <u>FACU</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____				
<u>100%</u> = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0%</u> _____ = Total Cover				

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No

Remarks:

