



Memo

To: Geoffrey West, FPL Energy
From: Greg Dawdy, Tracey Martorano, Tetra Tech
Date: May 20, 2008
Re: Summary of a Wetlands Delineation Survey of the Ashtabula Wind Resource Area, Barnes County, North Dakota (PSC Case #s PU-08-73 and PU-08-32)

PURPOSE

In April and May 2008, Ashtabula Wind, LLC (Ashtabula Wind) contracted Tetra Tech to conduct a wetland delineation of the Ashtabula wind farm in Barnes County, North Dakota. Prior to conducting the field survey, Tetra Tech conducted a preliminary review of available standard information to establish whether it is likely that the Project Area contains jurisdictional wetlands. The desktop analysis of wetlands included an assessment of U.S Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Maps, Waterfowl Production Areas (WPA), Natural Resource Conservation Service (NRCS) Wetland Reserve Program (WRP) easements, state fish and wildlife areas, state parks, nature preserves (public and private), and county or municipal parklands that may be present in the proposed project area.

Once the preliminary information was collected and the weather permitted, field delineations were conducted to determine the presence of on-site jurisdictional wetlands using the methods described in the Corps of Engineers Wetland Delineation Manual (1987). Delineation focused on and utilized the supplemental delineation guidance by the USACE contained in the field memoranda dated February 20, 1992 and March 6, 1992, as well as the Questions and Answer memoranda dated October 7, 1991. This method included the following:

- Determination of site conditions;
- Identification of plant communities;
- Selection of observation points (quadrants);
 - 1) Observation points and test pits should coincide with the approximate centerline of roads, collection lines, T-lines, etc.
 - 2) Whenever an upland or wetland interface is crossed, a data form for waterward of the interface and landward of the interface shall be prepared.
- Characterization of plant communities and determination of hydrophytic vegetation status;



- Determination by a North Dakota certified soil scientist regarding the presence of hydric soils;
 - 1) For each observation point, one 2x6x12 inch pedon will be extracted from the observation pit wall, then split in half, measured, compared to Munsell soil color charts, and photographed with scale. All data and photo numbers will be recorded on the data form.
- Determination regarding the presence of wetland hydrology;
 - 1) For soil of low permeability or very low permeability, the pit, if necessary, will be marked and checked the following day. All data and photo numbers will be recorded on the data form.
 - 2) Judgment of the scientific professional will be used to determine if a test pit is required to confirm wetland hydrology.
- Delineation and determination of the wetland boundary.

REASON FOR SUMMARY

Tetra Tech is currently preparing a report that will include wetland jurisdictional rationale, a discussion of applicable data used, and recommendations to the client. During the May 2, 2008 North Dakota Public Service Commission hearing, a summary of the results was provided to the Commission in the form of public testimony by Tracey Martorano, Tetra Tech Project Manager. At this hearing, the Commission requested a copy of the wetland delineation results. Due to the timing of the field work and the PSC hearing, the report will not be complete. The Commission stated that a summary of the results would be sufficient.

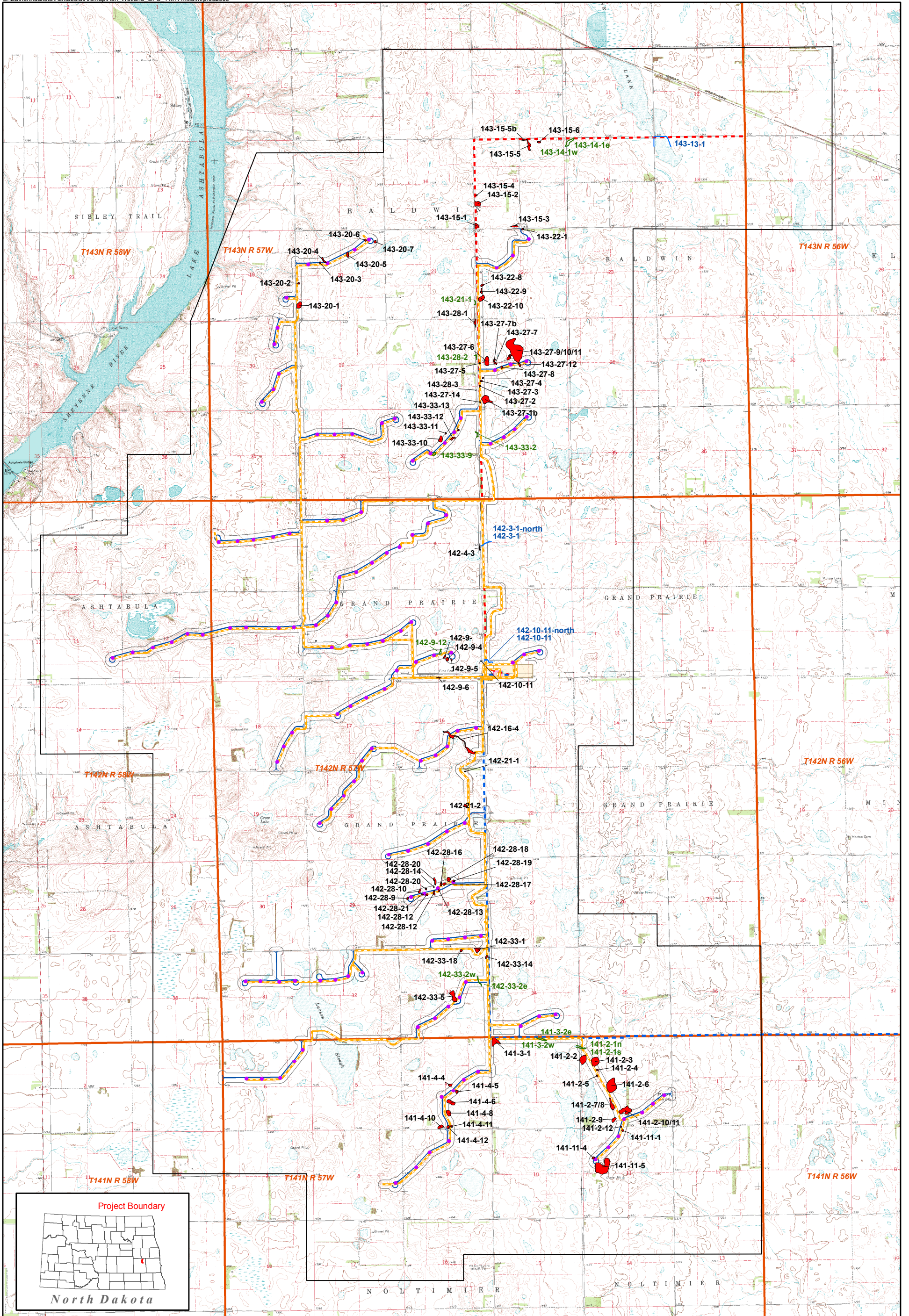
PRELIMINARY FINDINGS

Approximately 300 potential wetland areas were investigated during the delineation. Based on the information gathered during the wetlands delineations Ashtabula Wind will avoid impacts to most wetlands by micrositing and boring. Wetlands basins held under easement by the USFWS will be completely avoided by project facilities and will be protected from impacts from construction by the implementation of appropriate erosion control practices to prevent siltation or impacts from construction activities. The locations of USFWS easement basins were reviewed onsite with Ed Meendering, Wetland District Biologist in order to ensure that no impacts occur to these protected basins from wind farm construction activities. Based on the limited impacts to USACE jurisdictional wetlands, the project activities will likely qualify for authorization by a Nationwide General Permit #12. Please refer to the attached table for a listing of the wetlands that will be avoided or bored. A figure identifying the wetlands that were delineated is also attached.

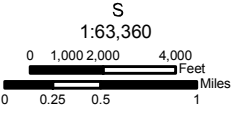
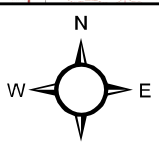
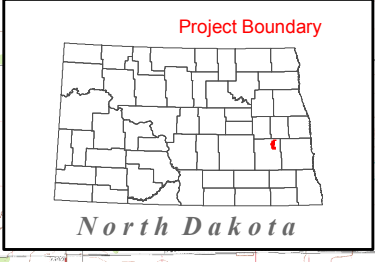
Once completed and accepted by Ashtabula Wind, a copy of the wetlands delineation report will be submitted to the ND PSC.

**Table 1 - Delineated Wetlands within the 250' buffer at the
Ashtabula Wind Energy Center**

| Wetlands completely within buffer | | | | | | | | | |
|-----------------------------------|---------|-----------|--------------------------|----------------|--------------------------|-----------|------------|----------|------------------------------|
| Crossing ID | Area | Perimeter | Wetland Type | USACE | | | EASTING | NORTHING | USFWS Wetland Easement |
| | | | | Jurisdictional | Crossing Type | | | | |
| 141-2-2 | 15006.2 | 467.3 | Herbaceous | NO | Buried Collector | 585460.40 | 5212716.37 | Yes | |
| 141-2-3 | 17815.7 | 489.6 | Herbaceous | NO | Buried Collector | 585676.91 | 5212683.30 | Yes | |
| 141-2-4 | 991.7 | 135.1 | Herbaceous | NO | Buried Collector | 585717.10 | 5212530.38 | Yes | |
| 141-2-5 | 650.4 | 99.1 | Farmed | NO | Buried Collector | 585712.67 | 5212423.76 | Yes | |
| 141-2-6 | 33437.1 | 705.0 | Herbaceous | NO | Buried Collector | 585970.54 | 5212248.69 | Yes | |
| 141-2-7/8 | 8308.7 | 503.4 | Herbaceous | NO | Buried Collector | 585975.54 | 5211901.90 | Yes | |
| 141-2-9 | 4204.7 | 269.9 | Herbaceous | NO | Buried Collector | 586009.78 | 5211636.75 | Yes | |
| 141-2-10/11 | 19324.6 | 687.7 | Herbaceous | NO | Road/collector | 586221.44 | 5211802.94 | Yes | |
| 141-2-12 | 765.2 | 108.5 | Farmed | NO | Road/collector | 586137.36 | 5211516.50 | Yes | |
| 141-3-1 | 12518.3 | 531.9 | Farmed | NO | Road/collector | 583882.19 | 5213037.28 | Yes | |
| 141-4-4 | 2657.8 | 208.4 | Farmed | NO | Road/collector | 583077.72 | 5212259.44 | Yes | |
| 141-4-5 | 2130.1 | 180.6 | Herbaceous | NO | Road/collector | 583197.76 | 5212139.87 | Yes | |
| 141-4-6 | 8433.1 | 389.5 | Herbaceous | NO | Road/collector | 583090.92 | 5211949.98 | Yes | |
| 141-4-8 | 6533.5 | 306.9 | Herbaceous | NO | Road/collector | 583050.07 | 5211759.47 | Yes | |
| 141-4-10 | 4339.6 | 273.6 | Herbaceous | NO | Road/collector | 582901.75 | 5211510.61 | Yes | |
| 141-4-11 | 1238.5 | 139.0 | Farmed | NO | Road/collector | 583101.39 | 5211521.25 | Yes | |
| 141-4-12 | 2257.1 | 181.4 | Farmed | NO | Road/collector | 583041.41 | 5211506.76 | Yes | |
| 141-11-1 | 1137.6 | 129.1 | Farmed | NO | Road/collector | 586173.70 | 5211443.97 | Yes | |
| 141-11-4 | 1423.9 | 142.5 | Herbaceous | NO | Road/collector | 585643.68 | 5210954.83 | Yes | |
| 141-11-5 | 48917.5 | 1027.0 | Herbaceous | NO | Road/collector | 585813.37 | 5210790.14 | Yes | |
| 142-4-3 | 1323.5 | 283.2 | Herbaceous | NO | Buried Collector | 583609.94 | 5221893.30 | Yes | |
| 142-9-4 | 2707.0 | 191.4 | Farmed | NO | Turbine | 583026.80 | 5219895.79 | Yes | |
| 142-9-5 | 692.6 | 100.4 | Farmed | NO | Turbine | 583100.23 | 5219886.30 | Yes | |
| 142-9-6 | 868.1 | 195.6 | Herbaceous | NO | Buried Collector | 582870.90 | 5219565.01 | Yes | |
| 142-9- | 1439.8 | 151.5 | Farmed | NO | Turbine | 582978.59 | 5219939.01 | Yes | |
| 142-10-11 | 290.2 | 96.2 | Farmed | Yes | Buried Collector | 583631.13 | 5219864.70 | NO | |
| 142-16-4 | 18384 | 1630.0 | Farmed and Herbaceous | Yes | Road/multiple collectors | 583266.49 | 5218395.77 | NO | |
| 142-21-1 | 348.1 | 69.1 | Farmed | NO | Road/collector | 583344.04 | 5217882.47 | Yes | |
| 142-21-2 | 1933.6 | 166.7 | Farmed | NO | Road/collector | 583351.92 | 5217270.33 | Yes | |
| 142-28-9 | 1260.6 | 134.4 | Farmed | NO | Road/collector | 582312.73 | 5215606.12 | Yes | |
| 142-28-10 | 2165.7 | 204.1 | Farmed | NO | Road/collector | 582530.37 | 5215736.44 | Yes | |
| 142-28-12 | 1285.3 | 131.5 | Farmed | NO | Road/collector | 582660.38 | 5215670.49 | Yes | |
| 142-28-12 | 1964.8 | 210.1 | Farmed | NO | Road/collector | 582788.59 | 5215704.63 | Yes | |
| 142-28-13 | 1036.9 | 122.5 | Herbaceous | NO | Road/collector | 582875.55 | 5215746.66 | Yes | |
| 142-28-14 | 306.3 | 68.6 | Farmed | NO | Road/collector | 582785.76 | 5215808.03 | Yes | |
| 142-28-16 | 1557.4 | 171.7 | Herbaceous | NO | Road/collector | 582912.63 | 5215864.70 | Yes | |
| 142-28-17 | 2127.8 | 173.9 | Herbaceous | NO | Road/collector | 582971.56 | 5215866.38 | Yes | |
| 142-28-18 | 3916.1 | 228.5 | Herbaceous | NO | Road/collector | 583051.00 | 5215947.30 | Yes | |
| 142-28-19 | 825.7 | 103.3 | Herbaceous | NO | Road/collector | 583143.07 | 5215923.32 | Yes | |
| 142-28-20 | 3680.0 | 307.7 | Farmed | NO | Road/collector | 582804.40 | 5215919.05 | Yes | |
| 142-28-20 | 697.9 | 96.8 | Farmed | NO | Road/collector | 582644.60 | 5215772.65 | Yes | |
| 142-28-21 | 538.7 | 92.9 | Farmed | NO | Road/collector | 582579.14 | 5215677.00 | Yes | |
| 142-33-1 | 5417.4 | 303.1 | Herbaceous | NO | Road/collector | 583565.43 | 5214683.77 | Yes | |
| 142-33-5 | 13256.7 | 558.9 | Herbaceous | NO | Road/collector | 583136.82 | 5213852.82 | Yes | |
| 142-33-14 | 1521.3 | 167.0 | Farmed | NO | Buried Collector | 583728.61 | 5214557.84 | Yes | |
| 142-33-18 | 1545.1 | 143.2 | Herbaceous | NO | Buried Collector | 583274.19 | 5214670.72 | Yes | |
| 143-15-1 | 4684.1 | 274.8 | Herbaceous | NO | Road/collector | 583552.66 | 5227665.24 | Yes | |
| 143-15-2 | 7924.7 | 393.7 | Herbaceous | NO | Road/collector | 583570.02 | 5228060.26 | Yes | |
| 143-15-3 | 2744.4 | 309.4 | Herbaceous | NO | Road/collector | 584234.99 | 5227656.38 | Yes | |
| 143-15-4 | 505.5 | 81.6 | Herbaceous | NO | Road/collector | 583550.58 | 5228211.85 | Yes | |
| 143-15-5 | 7101.5 | 491.6 | Farmed | NO | Road/collector | 584488.39 | 5229106.65 | Yes | |
| 143-15-5b | 1525.3 | 175.4 | Farmed | NO | Road/collector | 584404.33 | 5229210.22 | Yes | |
| 143-15-6 | 1807.1 | 160.7 | Farmed | NO | Road/collector | 584670.81 | 5229167.03 | Yes | |



May 2008



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|---|-----------------------------------|------------------|------------------|
| Project Boundary | Relatively Permanent Water | Laydown Area | Permanent T-Line |
| Township Boundary | Wetlands not completely in buffer | O&M Building | Temporary T-Line |
| Wetlands completely in buffer (or small enough to delineate entire wetland) | Substation | Collector | Access Road |
| 250 foot buffer | | Turbine Location | |

Delineated Wetlands
Ashtabula Wind Energy Center
Barnes County, North Dakota

Figure 1