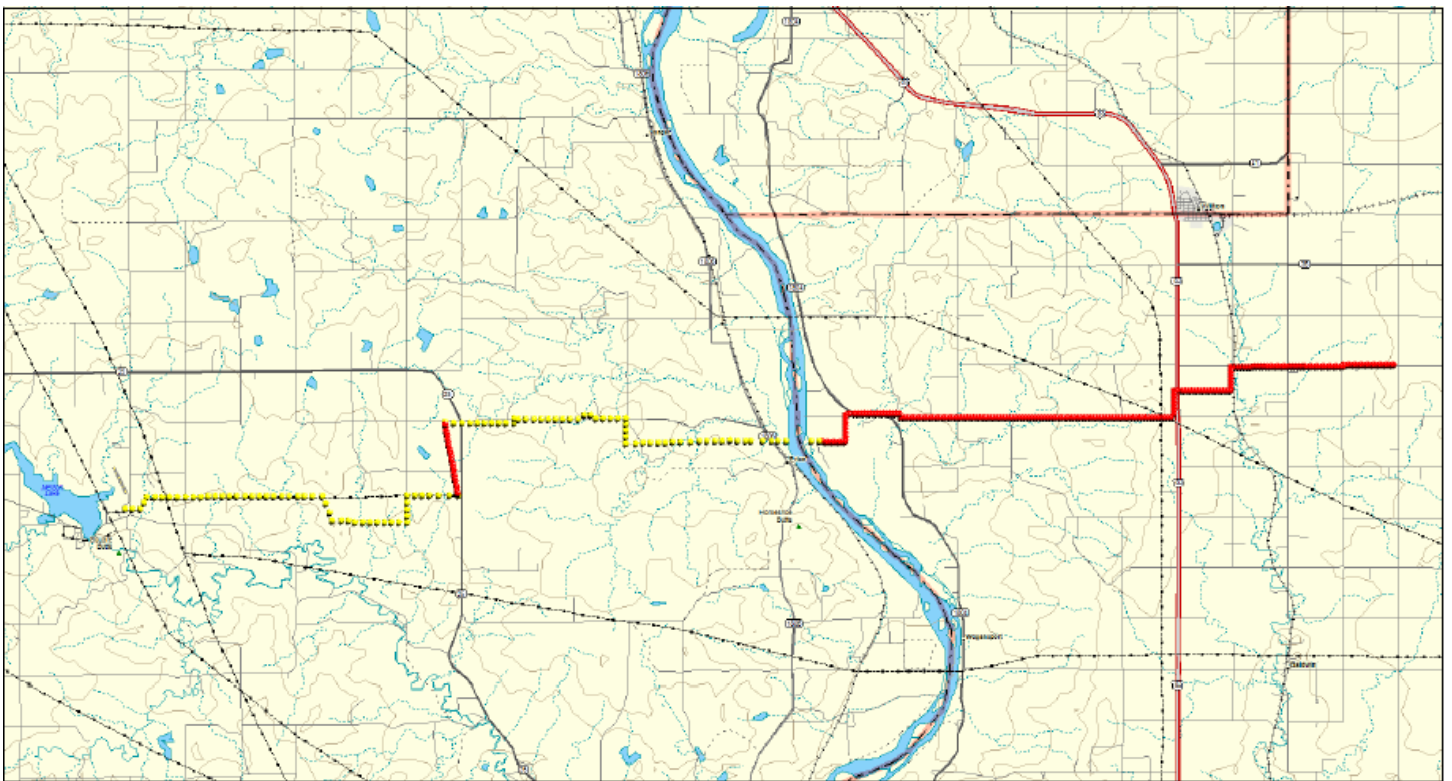


**APPLICATION  
for  
A WAIVER OF PROCEDURES AND TIME SCHEDULES  
and  
CONSOLIDATED APPLICATIONS  
for  
A CERTIFICATE OF CORRIDOR COMPATIBILITY AND ROUTE PERMIT  
for  
SITING OF A 230Kv TRANSMISSION FACILITY  
from  
OLIVER COUNTY TO BURLEIGH COUNTY**



Submitted APRIL 2005

LAW OFFICES OF  
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Ilona A. Jeffcoat-Sacco  
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North Dakota Public Service Commission  
600 E. Boulevard, Dept.408  
Bismarck, ND 58505-0480

**Re: In the matter of FPL Energy Application for a Waiver of Procedures and Time Schedules and Consolidated Applications for a Certificate of Corridor Compatibility and Route Permit for a 230 kV Transmission Facility from Oliver County to Burleigh County.  
Case number not yet provided**

Pursuant to § 49-22-08 of the North Dakota Century Code, the Energy Conversion and Transmission Facility Siting Act, and rules promulgated thereunder, enclosed for filing please find:

1. An original and ten (10) copies of an Application for a Waiver of Procedures and Time Schedules and Consolidated Applications for a Certificate of Corridor Compatibility and Route Permit for a 230 kV Transmission Facility from Oliver County to Burleigh County, with exhibits.

Should you have any questions with respect to this filing, please contact me at (701) 223-6585

Very truly yours,



Brian R. Bjella  
Attorney for Applicants

Enc.

Cc: Burleigh County Auditor  
Oliver County Auditor

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# **Application and Waiver Request**

**STATE OF NORTH DAKOTA  
FOR THE PUBLIC SERVICE COMMISSION**

Case No. PU \_\_\_\_\_

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**In the matter of FPLE’s Application for  
a Waiver of Procedures and Time  
Schedule, and a Combined Certificate of  
Corridor Compatibility and a  
Transmission Facility Route Permit for a  
230 kV Transmission Facility.**

---

**APPLICATION OF FPLE  
FOR A WAIVER OF PROCEDURES AND  
TIME SCHEDULES AND CONSOLIDATED  
APPLICATIONS FOR A CERTIFICATE OF  
CORRIDOR COMPATIBILITY AND ROUTE PERMIT**

FPL Energy Burleigh County Wind, LLC, a Delaware limited liability company, (herein 'FPLE'), an independent power company wholly owned by FPL Energy, pursuant to the Energy Conversion and Transmission Facility Siting Act, N.D.C.C. Chapter 49-22 (“Act”), hereby submits this Application for a Waiver of Procedures and Time Schedules (“Waiver Request”) and Consolidated Applications for a Certificate of Corridor Compatibility and Route Permit (“Application”) for purposes of siting and constructing a 28-mile, 230kV transmission facility. By this Waiver Request and Application, FPLE requests that the North Dakota Public Service Commission (“Commission”) pursuant to N.D.C.C. Section 49-22-07.2 waive the following requirements:

1. That the Commission hold a single consolidated hearing on this waiver request and the Consolidated Application for a Certificate of Corridor Compatibility and Route Permit, rather than separate hearings as may be required by N.D.C.C. Sections 49-22-08 & -08.1, 49-22-13 and N.D. Admin. Code Section 69-06-01-02. Applicants also request that the Commission waive or shorten the three-month period specified in N.D.C.C. Section 49-22-08(5) and the six-month period specified in N.D.C.C. Section 49-22-08.1(5).
2. That the Commission waive the requirements of N.D.C.C. Section 49-22-08 and N.D.C.C. Section 49-22-08.1 insofar as these sections may require the separate filing of applications for a Certificate of Corridor Compatibility and a Route Permit, and insofar as they require the publication of notices of filing applications.
3. That the Commission waive requirements for mylar maps and aerial photographs as set forth in the Commission’s Application Guidelines for a Route Permit. Geographic Information System maps are provided as Exhibit 4, and this Application will be supplemented with Plan and Profile Sheets showing the proposed design and structure locations of the facility.

The Commission’s Application Guidelines for Waiver of Procedures and Time Schedules require a facility description, need for, cost of, and justification for the request for waiver, together with evidence that the project will produce minimal adverse effects. As demonstrated in the Application, and as summarized below, FPLE’s Waiver Request and the issuance of a Corridor Certificate and Route Permit

is justified, as the proposed facility is of such design, location and purpose that it will produce minimal adverse effects.

### **DESCRIPTION**

FPLE proposes to construct, own and operate a 28-mile long 230kV radial electric transmission line in the State of North Dakota. The proposed radial electric transmission line will allow the proposed Burleigh County Wind Energy Center to contribute up to 49.5MW of renewable energy to the power grid.

### **NEED**

North Dakota offers tremendous renewable energy potential to the state and regional power system. Renewable energy has numerous benefits to the citizens of the region including minimizing emissions from fossil fuel burning power plants. Wind energy also benefits local economies during construction and operation of both the transmission line and the wind energy center. The energy generated at the wind energy facility and transmitted to the regional electric system will be supplied to a regional power customer. The proposed radial electric transmission line will allow the Burleigh County Wind Energy Center to contribute at least 49.5MW of renewable energy to the power grid.

### **COST**

The estimated cost of constructing the proposed transmission line is approximately \$5M.

### **JUSTIFICATION FOR WAIVER**

Waivers of timelines and procedures are needed in order to meet the construction schedule which is scheduled to start June 13, 2005. The reason for this request is that the transmission line must be in-service by December 31, 2005 in order for the Burleigh County Wind Energy Facility to qualify for the federal Production Tax Credit (PTC).

Notwithstanding this need, this project has been subject to significant time constraints that are not within the control of FPLE.

Section 49-22-07.2 of the Act provides that the Commission may waive procedures and time schedules upon a finding that “the proposed facility is of such length, design, location, or purpose that it will produce minimal adverse effects.” Based upon the investigations and analysis set forth in the Application, waivers are appropriate because the proposed facility will produce minimal adverse effects.

In determining whether the proposed facility will result in adverse impacts on the environment, FPLE evaluated the project using the criteria set forth in the Act, the Rules, and the Commission’s Guidelines for Energy Conversion and Transmission Facility Siting (“Guidelines”), and considered, among other things, the following:

1. Whether resources that may be impacted were rare, unique, endangered or have historical significance;
2. Whether the impacted resource is easily replaceable – for example by replanting or re-vegetation – and any likely recovery period;
3. Whether the proposed facility will have any significant consequential effect on other natural resources – for example whether wildlife will be negatively impacted if its habitat is impacted; and .
4. Whether the direct or consequential impact on animals or vegetation will affect a critical number, considering its nature and location.

Based upon these factors and those set forth in the Act and Guidelines, FPLE believes that the proposed facility will result in minimal adverse effects.

FPLE's proposed route and corridor took into consideration federal and state agency concerns (identified in preliminary consultation) and thereby further mitigates any adverse effects associated with the project.

As set forth more fully in the Application, the proposed corridor contains a small number of sensitive species and habitats which have been avoided to the maximum extent possible by this proposed corridor and route. Environmental protection measures will also be employed as agreed to in consultation with the US Fish and Wildlife Service Ecological Services office and the North Dakota Game and Fish Department located in Bismarck, North Dakota.

The corridor and route cross the Missouri River just north of an existing Minnkota Power Cooperative Inc. (Minnkota) transmission line. Sandbars located at the crossing site provide habitat for endangered species including interior least terns and piping plovers. In order to avoid any impacts to these bird populations, no construction activity will be undertaken from April 15 to June 1 which is the breeding season for these species. In addition, Bald Eagles are known to use the project area. The existing Minnkota transmission line is marked with staggered orange balls in compliance with Federal Avian Administration (FAA) recommendations. The proposed line will be similarly marked in accordance with FAA and USFWS recommendations. These markings, in addition to the fact that the proposed line will match the height of the existing line will minimize the potential for contact with Bald Eagles and other birds that use the Missouri River corridor.

With respect to archaeological/ cultural resource, FPLE's consultant has initiated a Class I review of historic and archeological records through the North Dakota State Historic Preservation Office (SHPO). In addition, FPLE has (in consultation with the Indian Affairs Commission) invited the following Tribes to help identify and avoid Traditional Cultural Properties potential located along the project route.

- Three Affiliated Tribes
- Standing Rock Sioux Tribe
- Spirit Lake Sioux Tribe
- Turtle Mountain Tribe
- Sisseton Wahpeton Sioux Tribe
- Northern Cheyenne Tribe
- Crow Tribe

Consistent with the Act and the Guidelines, archaeological, cultural, and historic resources will be avoided by the FPLE construction team to the maximum extent practical.

Impacts to wetlands and woodlands resulting from the proposed transmission route will also be minimal. The presence of wetlands along the route will require surveys prior to initiation of construction activities. Where unavoidable wetlands are identified within the transmission route or other areas proposed for disturbance, the appropriate agencies (i.e., United States Army Corps of Engineers and State Water Commission) will be consulted and necessary permitting will be completed. Construction will not begin until all necessary permits are secured. Mitigation measures will be implemented as required by these agencies. Presence of wetlands is common within the lowlands throughout the transmission corridor, but most notable in the lowlands adjacent to the Missouri River. FPLE has contacted the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, North Dakota State Water Commission and the North Dakota Game and Fish Department. Each of these agencies is aware of the proposed facility and FPLE will follow all conditions that may be applied by these agencies.

Any impacts stemming from the project will be insignificant and temporary. For instance, construction activities will cause some damage to native grasslands, but damage will be temporary and FPLE is committed to reclaiming and/or re-seeding any areas, as well as taking any other appropriate mitigative measures. Impacts to irrigated land, surface drainage and/or groundwater flow, aesthetics, and noise will be minimal. Impacts to agriculture, family farms, land suitable for irrigation, and livestock will also be minimal.

In short, FPLE submits, and believes it has demonstrated that it has taken all feasible and prudent actions to minimize and mitigate to the greatest extent possible all known or potential adverse impacts. As a result, the proposed facility will produce minimal adverse effects. Accordingly, FPLE respectfully request that the Commission grant the requested waivers and to render an expeditious decision.

Respectfully submitted,

FPLE

By: 

Brian R. Bjella

ND Attorney #03549

Fleck, Mather & Strutz, Ltd.

P.O. Box 2798

Bismarck, North Dakota 58502

ATTORNEYS FOR APPLICANTS

# **Application for Corridor Certificate**

# APPLICATION FOR CERTIFICATE OF CORRIDOR COMPATIBILITY

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## I. INTRODUCTION

This is an Application for a Certificate of Corridor Compatibility by FPLE. Although separate and apart from, it is to be reviewed in conjunction with FPLE's Route Permit Application. FPLE is seeking siting approval for a 230,000 Volt (230 kV) transmission line corridor across the Missouri River to the Center Substation. (See Exhibit 1)

The proposed facility is a 230 kV transmission line that will extend approximately 28 miles from the Square Butte Cooperative's Center Substation (an AC/DC conversion substation) located in Oliver County approximately 28-miles to its terminus at the proposed Burleigh County Wind Energy Center located approximately 15 miles east of the Missouri River in Burleigh County. The proposed radial electric transmission line will allow the Burleigh County Wind Energy Center to contribute at least 49.5MW of renewable energy to the power grid.

## II. ANALYSIS ACCORDING TO PSC GUIDELINES

This Application follows the format set forth in the North Dakota Public Service Commission Application Guidelines For A Certificate of Corridor Compatibility ("PSC Guidelines"), promulgated pursuant to the North Dakota Energy Conversion and Transmission Facility Siting Act, N.D.C.C. Chapter 49-22.

### SECTION A. DESCRIPTION OF FACILITY

#### 1. Type

**Describe the type of transmission facility addressed in this application. The description shall include the purpose of the facility and the technology to be employed.**

The Proposed Oliver County to Burleigh County transmission facility is a 230,000 volt (230 kV), alternating current, electric transmission line, approximately 28-miles long (referred to as "the proposed facility" from here on).

The proposed radial electric transmission line would extend from the Square Butte Cooperative's Center Substation (an AC/DC conversion substation) located in Oliver County approximately 28-miles to its terminus at the proposed Burleigh County Wind Energy Center located approximately 15 miles east of the Missouri River in Burleigh County. The proposed radial electric transmission line will allow the Burleigh County Wind Energy Center to contribute at least 49.5MW of renewable energy to the power grid. By tying into the Center substation facility, the proposed facility will improve reliability of service to FPLE and other utilities' customers in the region. The conductors and shield wires will be supported above ground by wood poles, as further described throughout this Application.

#### 2. Product

**Describe the type, source, and final destination of the product to be transmitted by the proposed facility.**

The proposed facility is intended to carry 230 kV, three-phase, alternating current, electrical energy. It will have an expected operating level of 200,000 Kilovolt-amperes (kVA).

The proposed radial electric transmission line would extend from the Square Butte Cooperative's Center Substation (an AC/DC conversion substation) located in Oliver County approximately 28-miles to its terminus at the proposed Burleigh County Wind Energy Center located approximately 15 miles east of the Missouri River in Burleigh County. The proposed

radial electric transmission line will allow the Burleigh County Wind Energy Center to contribute at least 49.5MW of renewable energy to the power grid.

### **3. Size and Design**

**a. Provide a description of the size and design of the ELECTRICAL facility including, but not limited to, the following:**

- (1) Width of right-of-way**
- (2) Estimated span lengths**
- (3) Anticipated type of structure**
- (4) Approximate length of facility**
- (5) Voltage**
- (6) The requirement for and general location of any new associated facilities**

The final design for the proposed facility will not be completed until May 13, 2005 (see Section II.A-4, Time Schedule, below).

#### ***(1) Width of right-of-way***

It is anticipated that a right-of-way of up to 120 feet wide (50 to 60 feet wide on either side of the center line) will be acquired throughout the length of the proposed facility. Additional temporary work space, staging and lay down areas may be necessary during construction.

#### ***(2) Estimated span lengths***

The span between structures will range from approximately 300 - 700 feet depending on which structure is used. The landowners have been given the option for using either single or double shaft structures along the transmission line. If single structures are used, the spacing would be approximately 300 feet and if the double structure is used, spacing could be increased to approximately 700 feet. The pole spacing on the basic tangent structure will be approximately 15 feet on the double shaft structures.

The conductor ground clearance will vary depending on terrain. A minimum ground clearance of 26.2 feet, at a conductor temperature of 212 degrees Fahrenheit, will be maintained over cultivated or range land. At lower conductor temperatures, the ground clearance will be greater.

#### ***(3) Anticipated type of structures***

##### River Crossing

The overhead line will be supported on each side of the navigable waterway by steel tubular towers located adequate distance from the river bank to ensure no disturbance of the riverbank itself as illustrated in Exhibit 2. The river crossing structures will be steel H-framed structures. The leg spacing will be no more than 35' to eliminate galloping between the shield wire and phase conductors. The base diameters will be a minimum of 4 feet but could potentially be much larger. The mid span sag for 2300' span is approximately 150', structure height could vary quite a bit depending on terrain, the taller the structure the larger the base diameter.

##### Transmission Line

The landowners have been given the option for using either single or double shaft structures. Single shaft structures will be a wood-pole. The basic tangent structure (for double shaft) will be a wood-pole, H-frame structure as illustrated in Exhibit 2.

The wood poles will range in height from 65 to 100 feet, and will likely be Douglas fir. They will be pressure-treated with chromated-copper arsenate of pentachlorophenol in accordance with American Wood Preservers Association (AWPA) requirements. A typical pole will have a diameter of approximately 48 inches.

#### Other Details

Each structure will be braced by one or two X-braces, and cross-arms will support the insulators and conductors. The X-braces and cross-arms will be made from Douglas fir. The cross-arms that support the insulators and conductors will have a cross section of approximately 5 x 7.5 inches, and a length of 40 feet. In those few cases where it will be necessary to locate tangent structures in soft, unstable ground, side guys and anchors will support them.

Angle structures will consist of three or six poles and the necessary guys and anchors. The pole spacing for these angle structures will vary from 20 to 30 feet. Guy wires will be made of high-strength steel strands, and the overall diameter of the guy wires will be 3/8 or 7/16 inches. Guy leads will vary from 50 to 90 feet and will be held by screw anchors that are screwed into the ground by machine.

The line is proposed to terminate at a deadend structure at its terminus. This structure will ensure that the proposed facility maintains structural integrity.

The conductors that transport the electrical energy will be constructed of aluminum strands with a core of steel strands for greater tensile strength. The trade designation for the conductors is 954 MCM ACRS 54/7. This designation indicates that the conductors are aluminum conductors, steel reinforced with 54 aluminum strands and a core of seven steel strands. The actual size of the conductor will be determined when all of the final detail design studies are completed. The shield wires or lightning protection wires will be constructed of extra-high strength steel strands, and the overall diameter of the shield wires will be 3/8 inch. The insulators will be either porcelain, polymer or both.

#### ***(4) Approximate length of the facility***

The proposed facility is a 230 kV transmission line that will extend approximately 28 miles from the Square Butte Cooperative's Center Substation (an AC/DC conversion substation) located in Oliver County approximately 28-miles to its terminus at the proposed Burleigh County Wind Energy Center located approximately 15 miles east of the Missouri River in Burleigh County.

#### ***(5) Voltage***

The proposed facility is intended to carry 230 kV, three-phase, alternating current, electrical energy.

#### ***(6) The requirement for and general location of any new associated facilities***

The proposed facility is a 230 kV transmission line that will extend approximately 28 miles from the Square Butte Cooperative's Center Substation (an AC/DC conversion substation) located in Oliver County approximately 28-miles to its terminus at the proposed Burleigh County Wind Energy Center located approximately 15 miles east of the Missouri River in Burleigh County. This proposed corridor lays to the south of 226 Avenue west to approximately within approximately 1/2 mile of the Missouri River where it runs to the south to the existing Minnkota Electric DC line (DC line). The transmission line crosses the Missouri River upstream and adjacent to the existing DC line. After the crossing the Missouri River, the proposed corridor continues to the west, north of the 226 Ave line until it reaches

Highway 25. At this point, it turns south to meet the existing DC line, and then proceeds to the Minnkota Power substation along a corridor parallel to the existing DC line.

#### 4. Time Schedule

The proposed time schedule for the proposed facility is shown below:

##### Major Events Schedule

|   |                   |
|---|-------------------|
| Certificate of Corridor Compatibility Application Filed   | April 2005        |
| Route Permit Application Filed                            | April 2005        |
| Corridor Certificate and Route Permit (obtained from PSC) | June 2005         |
| Start easement acquisition                                | February 2005     |
| Begin staking structures                                  | May 2005          |
| Complete line design                                      | May 13, 2005      |
| Begin vegetation clearing                                 | June 13, 2005     |
| Construction start date                                   | June 13, 2005     |
| Complete easement acquisition                             | April 2005        |
| Complete clearing*  | July 13, 2005     |
| Construction Complete                                     | November 29, 2005 |
| In service date   | December 1, 2005  |
| Retirement of facility                                    | Unknown           |

\*This activity may be completed as necessary in conjunction with construction activities.

#### SECTION B. SPECIAL STUDIES

**Provide a copy of any evaluative studies or assessments of the environmental impact of the proposed facility submitted to any federal, regional, state, or local agency.**

FPLE conducted several studies before selecting the proposed corridor. Overall, review of environmental and cultural/archeological resource issues with respect to selection of the proposed corridor was conducted. FPLE performed additional studies and analysis before selecting a proposed route. The general study process included, but was not limited to: (1) selection and general evaluation of the study area, (2) a Class I Archeological/Cultural records search, (3) open house with North Dakota tribal interests, (4) agency consultations, and (5) collection and evaluation of criteria data. The methods used to conduct these studies are described below. The results of the studies are included in appropriate sections of this Application.

##### 1. Selection and Evaluation of Study Area

FPLE selected a study area which follows the proposed route, approximately 28 miles long.

In their evaluation of the study area, FPLE considered among other things: topography, location of existing transmission facilities (lines and substations), location of communities and airfields, location of lakes too large to span, land ownership, and economics. Further evaluation of the factors addressed in N.D.C.C. §49-22-09 are set forth in Section D.1 below.

##### 2. Historic and Archeological Site Evaluation

With respect to archaeological/ cultural resource, FPLE's consultant has initiated a Class I review of historic and archeological records through the North Dakota State Historic Preservation Office (SHPO) which is expected to be complete by the end of April 2005. In addition, FPLE has (in consultation with the Indian Affairs Commission) invited the following Tribes to help identify and avoid Traditional Cultural Properties potential located along the project route.

- Three Affiliated Tribes
- Standing Rock Sioux Tribe
- Spirit Lake Sioux Tribe
- Turtle Mountain Tribe
- Sisseton Wahpeton Sioux Tribe
- Northern Cheyenne Tribe
- Crow Tribe

Consistent with the Act and the Guidelines, archaeological, cultural, and historic resources will be avoided by the FPLE construction team to the maximum extent practical.

### 3. Agency Consultation

North Dakota Administrative Code § 69-06-01-05 lists 21 state agencies that are entitled to notice of FPLE's proposed action. A subset of these agencies was notified several times. The subset represents those agencies that FPLE believes has a material interest in the project. Several of the agencies participated in a meeting held at the US Army Corps of Engineers (USACE) Omaha District office in Bismarck North Dakota March 7, 2005. The meeting included an inspection of one potential Missouri River crossing site, where the DC line crosses, from both the eastern and western banks. The following agencies attended that meeting:

- United States Army Corp of Engineers (USACE),
- United States Fish and Wildlife Service (USFWS),
- North Dakota State Water Commission (NDSWC),
- North Dakota Game and Fish Department (NDGFD), and
- North Dakota Historic Preservation Office (NDSHPO).

Email notifications were sent on April 11, 2004 to other agencies on the list that FPLE believes could have a material interest in the project. A copy of the email notifications are provided as Exhibit 3. The following agencies were emailed:

- |                                      |                       |
|--------------------------------------|-----------------------|
| • Department of Transportation       | Tom Freier (Director) |
| • State Historic Preservation Office | Paul Picha            |
| • Indian Affairs Commission          | Cheryl Kulas          |
| • Land Department                    | Michael Haupt         |
| • State Water Commission             | Jim Lindseth          |
| • Game and Fish Department           | John Schumacher       |
| • Aeronautics Commission             | General Office        |
| • Department of Health               | Dave Glatt (Chief)    |
| • Parks and Recreation Department    | Christine Dirk        |

Results of the March 7, 2005 USACE-coordinated meeting and site visit to the river crossing are summarized below:

*US Army Corps of Engineers (USACE) Representatives at the meeting were Daniel Cimarosti, and Jason Renschler.*

The USACE will coordinate with the other agencies in reviewing any USACE permits applications -- i.e., Section 10 Letter of Permission (LOP) for the river crossing and any Section 404 permit applications.

*USFWS Representative - Terry Ellsworth*

USFWS is interested in the potential for impacts to endangered species at any of the proposed river crossing sites under consideration, with bird collisions (Bald eagle, interior least tern, piping plover, whooping cranes) and subsequent mortality being the biggest concerns. The USFWS indicated that their position is that these impacts would be greatest at a new crossing site, relative to crossing near the existing DC utility corridor or other existing crossing, provided the new crossing was at the same height and appropriate avoidance mitigation methodologies were employed. USFWS representatives stated that it would be difficult to obtain a No-Effect determination at a new crossing; while crossing near the existing DC corridor might actually reduce the potential for bird interactions at the crossing by enhancing the visibility of the existing lines. USFWS also expressed concern with sharptail grouse leks, bird collisions (migratory birds and raptors) native prairie and wetlands. Construction activities which have the potential to disturb or disrupt breeding, nesting and fledging of piping plovers and interior least terns will not be allowed until these species have completed these activities.

*ND State Water Commission Representative - Jim Lindseth*

The ND Water Commission's authority includes the Missouri River up to the ordinary high water mark, waters which were meandered out of homestead parcels, wetland with drainages greater than 80 acres, and other designated waters of statewide significance.

Based on a preliminary review of the regulations and subsequent discussions with Mr. Lindseth, it appears that ND Water Commission jurisdiction will not be triggered since construction activities associated with the river crossing will not occur below the high water mark and dredge, fill, and drain activities noted in the regulations will be avoided.

*ND Game and Fish Department Representative - John Schumacher*

The ND Game and Fish is interested in ensuring that impacts to woody habitats, native prairies habitats, avian collisions with line and towers and impacts to sharptail grouse lek sites are minimized.

*ND Historic Preservation Representative - Paul Picha*

The NDSHPO representative expressed concern for known Historic sites, ground disturbance, and visual effects and indicated that a Class I cultural resources inventory should be performed for those areas with ground disturbance.

*Meeting Summary*

Based on the meeting, the preferred river crossing alternative is adjacent to the existing DC line or other existing crossing site. The USACE representative indicated that such a crossing

could likely be permitted for Section 10 and Section 404 by a letter of permission (LOP) and NWP 12 and/or NWP 14 with about a thirty day turnaround from application to issuance. Use of NWPs would be subject to meeting the thresholds for impacts (300 linear feet for stream crossings and 1/2 acre).

The comments and information that have been received to date have been incorporated into the corridor application and are referenced where applicable. Refer to the Exhibit 4 for the Criteria Maps.

#### **4. Collected and Evaluation of Criteria Data**

North Dakota Administrative Code §69-06-08-02 sets forth certain transmission facility corridor and route criteria an applicant must present. They include exclusion, avoidance, selection, and policy criteria. Exclusion and avoidance criteria encompass specific land designations (such as parks and historic sties), human dwellings, water developments, and habitat for state or federal threatened and rare species. Selection criteria relate to the effects from construction on agriculture, noise, and other general environmental conditions. Policy criteria relate to the applicant's policies regarding health, safety, labor relations, and coordination with other interests.

FPLE gathered data from several sources to identify the locations of exclusion and avoidance areas and to determine the potential impact of its proposed facility on selection criteria. A computerized geographic information system (GIS) was utilized to compile and analyze most of the data. GIS was also used to produce the criteria maps. Specific sources of data included:

- North Dakota Natural Heritage Program dataset on sensitive species and habitats and state parks.
- U.S. Fish and Wildlife Service's National Wetland Inventory maps, obtained in GIS format.
- Residences, Homesteads, Federal and State wildlife areas and land currently irrigated or with notable potential for irrigation, within the corridor were located by aerial photograph interpretation.
- Structures (including extractable resources, cemeteries, and communication towers) were derived from data obtained from the North Dakota GIS Hub.
- Woodlands were derived from USGS 7.5 minute topographic quadrangle maps.

### **SECTION C. NEED FOR FACILITY**

#### **1. An analysis of the need for the proposed facility based on present and projected demand for the product or products to be produced by the proposed facility, including the most recent system studies supporting the analysis of the need.**

The permit would authorize the construction of an approximately 28-mile long 230kV radial electric transmission line in the State of North Dakota. The proposed radial electric transmission line will allow the Burleigh County Wind Energy Center to contribute at least 49.5MW of renewable energy to the power grid.

#### **2. A description of any feasible alternative methods of serving the need.**

The route and corridor were selected using the PSC criteria in addition to other constraints such as engineering, cost, and landowner participation. As described above, feasible and prudent alternatives were examined throughout the planning process.

**3. A statement justifying any deviation from the most recent Ten-Year Plan which the proposed facility may present.**

Since FPLE is an independent power producer this section does not apply.

**SECTION D. LOCATION.**

This section includes the justification for selecting the proposed corridor. It describes the general environment and factors that are important from an environmental and human health standpoint. General impacts and mitigation measures are also covered, as are the PSC's Corridor Application Criteria. Policies affecting the manner in which FPLE addressed environmental, human safety, and economic issues are also discussed.

**1. Selection of Study Area and Proposed Corridor**

**Select a study area, which includes the proposed corridor, of sufficient width to enable the Commission to evaluate the factors addressed in N.D.C.C. § 49-22-09.**

This section describes how FPLE chose the study area and the proposed corridor. FPLE selected a study area which was a relatively straight line along the proposed route, approximately 28 miles long.

FPLE used some general criteria to select a proposed corridor within this study area: location of existing transmission facilities (lines and substations), location of communities, land ownership and ecologically sensitive areas.

Location of existing transmission facilities –The proposed facility is a 230 kV transmission line that will extend approximately 28 miles from the Square Butte Cooperative's Center Substation (an AC/DC conversion substation) located in Oliver County approximately 28-miles to its terminus at the proposed Burleigh County Wind Energy Center located approximately 15 miles east of the Missouri River in Burleigh County. This proposed corridor lays to the south of 226 Avenue west to approximately within approximately ½ mile of the Missouri River where it runs to the south to the existing Minnkota Electric DC line (DC line). The transmission line crosses the Missouri River upstream and adjacent to the existing DC line. After the crossing the Missouri River, the proposed corridor continues to the west, north of the 226 Ave line until it reaches Highway 25. At this point, it turns south to the meet the existing DC line, and then proceeds to the Minnkota Power substation along a corridor parallel to the existing DC line. The proposed radial electric transmission line will allow the Burleigh County Wind Energy Center to contribute at least 49.5MW of renewable energy to the power grid.

Location of communities– There are several towns near the proposed project. Cities within Burleigh County (and their 2000 census populations, as available) include Wilton (242 – incorporated as South Wilton), Regan (43), Wing (124), Wogansport and Baldwin. Cities and small unincorporated towns near the proposed project area within Oliver County include Price, Center (678) and Hanover. The northern portion of the city of Wilton (565 – incorporated as North Wilton) is actually in McLean County which lies approximately one mile northwest of the proposed turbine array. The town of Regan is located approximately three miles from the northeast corner of the project area buffer. Burleigh County also hosts the capital city of Bismarck (55,532) located approximately 20 miles south of the proposed project area.

Land ownership – The proposed corridor and route avoids lands within the study area owned by the federal government, lands operated as state wildlife areas and tribal lands.

Ecologically Sensitive Areas - The crossing site represents several challenges for construction of the transmission line crossing. The presence of sandbars will increase the likelihood that endangered species will be present during the nesting season. The presence of these sandbars may also limit the method of construction which can be used to install the transmission line across the river. Use of mechanized equipment which could impact sandbar nesting birds would not be used until piping plovers and interior least terns have fledged and are able to leave the area impacted by construction activities.

The riverine nesting areas of interior least terns are sparsely vegetated sand and gravel bars within a wide unobstructed river channel, or salt flats along lake shorelines. Nesting locations usually are at the higher elevations and away from the water's edge because nesting starts when the river flows are high and small amounts of sand are exposed. The size of nesting areas depends on water levels and the extent of associated sandbars. Based on the projected low water in the Missouri River basin this spring large amounts of suitable nesting habitat will be available near the crossing site.

The least tern's nest is a simple unlined scrape usually containing three brown spotted buffy eggs. Breeding colonies or terneries are usually small (up to 20 nests) with nests spaced far apart. However, colonies of 75 nests have been reported on the Mississippi River. Egg-laying and incubation occur from late May to early August, depending on the geographical location and availability of habitat. After a 20 to 24 day incubation period the chicks hatch and will fledge in another 20 days.

Piping plovers will utilize wide beaches and sandbars for nesting activities. The piping plover's nest is a shallow depression in sand or gravel substrate. Four eggs are generally laid and incubations lasts for approximately 25-31 days. Plover chicks fledge approximately 21 days after hatching.

Prior to any activity at the river crossing site the sand bars and other potential nest sites will be surveyed for the presence of interior least tern nests or chicks. If nesting interior least terns or piping plovers or chicks or fledglings of either species are present during the inspection, construction will be delayed until the area is no longer in use by these species or other mitigation measures have been approved in consultation with the USFWS.

Use of the Missouri River corridor by migrating birds including bald eagles and other raptors, whooping cranes, waterfowl and shorebirds is well documented. The close proximity of Lake Sakakawea to the north likely results in high waterfowl use of the riverine and upland water bodies due to the presence of large populations of avian species in the area. Bald eagles and a variety of other avian species are also known to nest within the Missouri River corridor.

If interior least terns, piping plovers, or other threatened or endangered species are nesting on the sandbars, construction activities which have the potential to disturb or disrupt breeding, nesting and fledging of these species will not be allowed until these activities are complete. The USFWS will likely require that construction at the river crossing be restricted April 15-June 1.

Wetlands and riparian areas are also intrinsically important environmental resources because they provide important wildlife habitat and a variety of hydrologic (flood attenuation and groundwater recharge) and water quality (sediment attenuation, nutrient removal) functions.

The high intensity of farming in the vicinity of the proposed project has resulted in prior or current cultivation of native plant communities. As such, these communities, which are important nesting habitat for many upland bird species, are generally limited in the vicinity of the proposed project. The largest tracts of unfarmed ground in the corridor are located in the Missouri River Breaks on both sides of the river.

## **2. Criteria Maps**

**Identify and map the criteria that led to the proposed corridor location within the study area.**

All criteria that can be mapped are provided in Exhibit 4. The maps all include the location of the proposed corridor, and are organized as follows:

- General overview map, showing location of proposed corridor and route
- Exclusion areas – Threatened and endangered species, state rare species and parks
- Avoidance areas – Federal and state wildlife areas, reservoirs, and irrigated land
- Avoidance areas – Occupied residences and archeological sites
- Selection areas – Gravel pits, communication towers, woodlands
- Selection areas – Wetlands
- Selection areas – Wetland easements of U.S. Fish and Wildlife Service
- Additional criteria cannot be mapped but are described throughout the next section.

## **3. Description of Criteria in the Proposed Corridor**

**Discuss the relative value of each criteria and how the proposed corridor location was selected giving consideration to all criteria.**

The Public Service Commission has established criteria that guides and governs the siting of a transmission line corridor and route, N.D.A.C. § 69-06-08-02. These criteria are divided into four general areas: exclusion areas, avoidance areas, selection criteria, and policy criteria. All were given weight in selection of the proposed corridor.

The proposed corridor was also selected based on the factors identified in Section II.D.1., and consideration was given to the efficiencies created by placing the line along a route as straight as possible. An overview map of the proposed corridor is provided in Exhibit 4. Criteria listed by the Public Service Commission as exclusion, avoidance, selection and policy will be used to select the most appropriate route within the proposed corridor.

### **a. Exclusion Area**

**The following geographical areas shall be excluded in the consideration of a route for a transmission facility. A buffer zone of a reasonable width to protect the integrity of the area shall be included. Natural screening may be considered in determining the width of the buffer zone. (N.D.A.C. § 69-06-08-02)**

#### **(1) Designated or registered national areas**

None of these areas are found in the proposed corridor (or route).

**(2) Designated or registered state: parks; historic sites; monuments; historical markers; archaeological sites; and nature preserves areas**

FPLE is conducting a Class I Archeological/Cultural records search at the North Dakota State Historical Society. Results for the number of sites in the proposed corridor from Oliver County to Burleigh County were not available at the time of this application submittal. In addition, a query request has been submitted to the North Dakota State Historic Preservation Office, but no reply has yet been received.

**(3) County parks and recreational areas; municipal parks; parks owned or administered by other governmental subdivisions. (See Exhibit 4, Criteria Map 2)**

None of these areas are found in the proposed corridor (or route). The Wilton Boat Launch is located approximately 2 miles north of the proposed route.

**(4) Areas critical to the life stages of threatened or endangered animal or plant species. (See Exhibit 4, Criteria Map 2).**

The N.D. Natural Heritage Program (NDNHP) database query identified three federally listed threatened or endangered animal/plant species previously documented within the corridor (or route).

- Charadrius melodus (piping plover)
- Sterna antillarum (least tern)
- Haliaeetus leucocephalus (Bald Eagle)

Potential impacts to the piping plover were previously addressed under Section D-1 A survey for Bald Eagle nests will be conducted during prior to construction to determine whether any of these sites would potentially be disturbed proposed activities. The USFWS will be consulted if a nest is found within 500 feet of the corridor route.

The whooping crane may also occur within the proposed corridor. The total population of whooping cranes in the wild is 188. As such, observations are infrequent and in North Dakota they occur during migration. Spring migration occurs from late-April to mid-June and fall migration occurs from late-August to mid-October. Surveys of whooping crane activity in North Dakota note that most sightings are in the western two thirds of the state and along the Missouri River.

**(5) Areas where animal or plant species that are unique or rare to this state that would be irreversibly damaged. (See Exhibit 4, Criteria Map 2).**

As set forth more fully in the Application, the proposed corridor contains a small number of sensitive species and habitats which have been avoided to the maximum extent possible by this proposed corridor and route. Environmental protection measures will also be employed as agreed to in consultation with the US Fish and Wildlife Service Ecological Services office and the North Dakota Game and Fish Department located in Bismarck, North Dakota.

The corridor and route cross the Missouri River just north of an existing Minnkota Power Cooperative Inc. (Minnkota) transmission line. Sandbars located at the crossing site provide habitat for endangered species including interior least terns

and piping plovers. In order to avoid any impacts to these bird populations, no construction activity will be undertaken from April 15 to June 1 which is the breeding season for these species. In addition, Bald Eagles are known to use the project area. The existing Minnkota transmission line is marked with staggered orange balls in compliance with Federal Avian Administration (FAA) recommendations. The proposed line will be similarly marked in accordance with FAA and USFWS recommendations. These markings, in addition to the fact that the proposed line will match the height of the existing line, will minimize the potential for contact with Bald Eagles and other birds that use the Missouri River corridor.

The Pioneer Riparian community, *Potamogeton vaginatus* (sheathed pondweed), and *Cathartes aura* (turkey vulture) were identified by NDNHP as sensitive components found within the corridor. Minimal disturbance associated with construction activities should have little impact on riparian communities or sheathed pondweed, especially considering disturbance of wetland and riparian communities will be avoided if possible, and minimized where unavoidable. Impacts to turkey vulture are expected to be minimal given that measures taken to minimize impacts to other avian species, including the bald eagle, will limit impacts to this species as well.

The ND Game and Fish Department also published a list of 100 species of conservation priority. A review of those species potentially present in the vicinity of the project is presented in the following table along with a description of their habitats. Obligate aquatic species (e.g.; fish) are not included.

**TABLE 3**  
**Federally-Listed Species<sup>1,2</sup> and North Dakota Game and Fish Department Priority Species<sup>3</sup> Potentially Present in Project Area**  
**Proposed Transmission Line Project**  
**Oliver and Burleigh Counties, North Dakota**

| Common Name                   | Scientific Name                    | Federal | State | Preferred Habitat / Range  |
|-------------------------------|------------------------------------|---------|-------|--|
| American Avocet               | <i>Recurvirostra americana</i>     |         | II    | Statewide, found on ponds or lakes with exposed, sparsely vegetated shorelines; nest in open near water.                         |
| American Bittern              | <i>Botaurus lentiginosus</i>       |         | I     | East of Missouri River; wetland cattails & bullrushes; next in uplands.  |
| American White Pelican        | <i>Pelecanus erythrorhynchos</i>   |         | I     | Primarily Missouri Coteau & drift prairie.   |
| Baird's Sparrow               | <i>Ammodramus bairdii</i>          | FC      | I     | Upland prairies of mixed-grass or tall grass habitat types; not heavily grazed areas.  |
| Bald Eagle                    | <i>Haliaeetus leucocephalus</i>    | T       | I     | Forested habitat near bodies of water.   |
| Black Billed Cuckoo           | <i>Coccyzus erythrophthalmus</i>   |         | I     | Statewide, woodlands, thickets, prairieshubs, shelterbeltds & wooded areas of towns.   |
| Black Tern                    | <i>Chlidonias niger</i>            | FC      | I     | Inland marshes & sloughs with dense emergent vegetation.   |
| Black-footed Ferret           | <i>Mustela nigripes</i>            | E       | II    | An obligate of prairie dog towns. No recorded observations in recent years, potential exists for reintroductions.                |
| Blue Sucker                   | <i>Cycleptus elongatus</i>         | FD      | I     | Found in the Missouri River, prefers swift current of large, turbid rivers in areas with rocky or gravel bottoms.                |
| Bobolink                      | <i>Dolichonyx oryzivorus</i>       |         | II    | Statewide; uses a variety of grasslands.   |
| Canvasback                    | <i>Aythya Valisineria</i>          |         | II    | East of Missouri River, semipermanent wetlands; nests over water in dense vegetation.  |
| Chestnut-Collared Longspur    | <i>Calcarius ornatus</i>           |         | I     | Grazed or hayed mixed-grass prairie.   |
| Dickcissel                    | <i>Spiza americana</i>             |         | II    | Statewide, mainly southern portion of state; alfalfa, sweet clover, & other brushy grasslands.                                   |
| Ferruginous Hawk              | <i>Buteo regalis</i>               | FC      | I     | Dry unbroken prairie with little cultivated land.  |
| Franklin's Gull               | <i>Larus pipixcan</i>              |         | I     | East of Missouri River. Build nests in dead marsh plants.  |
| Grey Wolf                     | <i>Canis lupus</i>                 | T       | III   | Not known to be in state except in extreme NE corner.  |
| Grasshopper Sparrow           | <i>Ammodramus savannarum</i>       |         | I     | Statewide; uses idle or lightly-grazed mixed-grass prairie, meadows & hayfields.   |
| Horned Grebe                  | <i>Podiceps auritus</i>            |         | I     | East of Missouri River, wetlands & lakes with open water.  |
| Interior Least Tern           | <i>Sterna antillarum</i>           | E       | II    | Habitat confined to the Missouri River; nests on sparsely vegetated sandbars. Critical habitat designated.                       |
| Lark Bunting                  | <i>Calamospiza melanocorys</i>     |         | I     | Statewide; sagebrush or sage prairie preferred.  |
| Le Conte's Sparrow            | <i>Ammodramus leconteii</i>        |         | II    | High densities in Missouri Coteau; fens, wet meadows & marshes.  |
| Loggerhead Shrike             | <i>Lanius ludovicianus</i>         | FC      |       | Open country with patches of trees or shrubs presnent; wooded coulees & shelterbelts with native prairie or cropland nearby.     |
| Long-billed Curlew            | <i>Numenius americanus</i>         |         | I     | High densities in Missouri Coteau; uses wetlands, streams & lakes, nests in often heavily grazed prairie.                        |
| Marbled Godwit                | <i>Limosa fedoa</i>                |         | I     | High densities in Missouri Coteau; uses wetlands, streams & lakes, nests in often heavily grazed prairie.                        |
| McCown's Longspur             | <i>Calcarius mccownii</i>          |         | I     | West of Missouri River. Prefers arid, short-grass prairie or heavily grazed mixed-grass prairie.                                 |
| Nelson's Sharp-Tailed Sparrow | <i>Ammodramus nelsoni</i>          |         | I     | East of Missouri river, fens & shallow marsh zones of wetlands & lakes.  |
| Northern Harrier              | <i>Circus cyaneus</i>              |         | II    | Statewide, but primarily in Missouri Coteau & drift prairie. Nests inupland grasses near water.                                  |
| Northern Pintail              | <i>Anas acuta</i>                  |         | II    | East of Missouri River; wetalnds for food; nests in uplands.   |
| Pallid Sturgeon               | <i>Scaphirhynchusalbus</i>         | T       | II    | Missouri River. Loss of habitat attributed to damming and channelization of Missouri River.                                      |
| Perigrine Falcon              | <i>Falco peregrinus anatum</i>     | FE      | III   | Any habitat with suitable prey; cliffs for nesting.  |
| Piping Plover                 | <i>Charandrius melodus</i>         | T       | II    | Barren sand & gravel shores of rivers & lakes; avoid dense vegetation; alkaline wetlands with salt encrusted beaches & sandbars. |
| Redhead                       | <i>Aythya americana</i>            |         | II    | East of Missouri River, semipermanent wetlands; nests over water in emergent vegetation.   |
| Red-headed Woodpecker         | <i>Melanerpes erythrocephalus</i>  |         | II    | Found in natural stands of mature deciduous trees along the Missouri River, shelterbelts, wooded areas. Nests in snags.          |
| Sedge Wren                    | <i>Cistothorus platensis</i>       |         | II    | East of Missouri River; prefers wet meadows of tall grasses & sedges.  |
| Sharp Tailed Grouse           | <i>Tympanuchus phasianellus</i>    |         | II    | Statewide on prairies that contain scattered patches of small trees or shrubs.   |
| Short-Eared Owl               | <i>Asio flammeus</i>               |         | II    | Statewide, prairies, marshes, & fields; nests on ground in pariries, hayfields, & stubble fields.                                |
| Sprague's Pipit               | <i>Anthus spragueii</i>            |         | I     | Statewide, extensive tracts of ungrazed or lightly-grazed prairie.   |
| Swainson's Hawk               | <i>Buteo swainsoni</i>             |         | I     | Statewide, nest in lone praire trees.  |
| Upland Sandpiper              | <i>Bartramia longicauda</i>        |         | I     | Statewide, most common in dry, open mixed-grass prairie.   |
| Western Burrowing Owl         | <i>Athene cunicularia hypugea</i>  | FC      | II    | Heavily grazed tracts of mixed-grass prairie.  |
| Whooping Crane                | <i>Grus americanus</i>             | E       | III   | Shallow wetlands that are characterized by cattails, bulrushes, & sedges; upland areas during migration.                         |
| Willet                        | <i>Catoptrophorus semipalmatus</i> |         | I     | Heavy Densities on the Missouri Coteau; prefer wetlands; nests in uplands in native prairies away from water.                    |
| Wilson's Phalarope            | <i>Phalaropus tricolor</i>         |         | I     | Statewide in shallow wetlands & mudflats, nests in grass on the margins of wetlands.   |
| Yellow Rail                   | <i>Coturnicops noveboracensis</i>  |         | I     | East of Missouri river, fens or groundwater-fed wetlands.  |

**Federal**  
E Endangered  
T Threatened  
FC Former Candidate

**North Dakota Game & Fish Department**

I Species having a high level of conservation priority because of declining status either in North Dakota or across their range; or a high rate of occurrence in North Dakota  
II Species having a moderate level of conservation priority or a high level of conservation priority, but a substantial amount of non-State Wildlife Grant funding is available to  
III North Dakota's species having a moderate level of conservation priority, but are believed to be peripheral or do not breed in North Dakota.

1 USGS, 1995  
2 FWS, 2004b  
3 NDGFD, 2004

**b. Avoidance Areas**

**The following geographical areas shall not be considered in the routing of a transmission facility unless the applicant shows that under the circumstances there is no reasonable alternative. In determining whether an avoidance area should be designated for a facility the commission may consider, among other things, the proposed management of adverse impacts; the orderly siting of facilities; system reliability and integrity; the efficient use of resources; and alternative routes. Economic considerations alone shall not justify approval of these areas. A buffer zone of a reasonable width to protect the integrity of the area shall be included unless a distance is specified in the criteria. Natural screening may be considered in determining the width of the buffer zone. (N.D.A.C. § 69-06-08-02)**

- (1) Designated or registered national: historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; and grasslands. (See Exhibit 4, Criteria Map 3).**

Based on a cursory calculation, there are approximately 160 acres of federal Wildlife Management located in the proposed corridor and the proposed route avoids all of these. (See Exhibit 4, Criteria Map 3). The Missouri River is a recreational river. The route crosses the river at River Mile 1339. No other areas in the corridor meet this criterion.

- (2) Designated or registered state: wild, scenic, or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands. (See Exhibit 4, Criteria Map 3).**

There is one area meeting this criterion in the proposed corridor. The Missouri River is a recreational river.

- (3) Historical resources which are not specifically designated as exclusion or avoidance areas. (See Exhibit 4, Criteria Map 4).**

No areas in the proposed corridor meet this criterion. However, the results of the Class I survey and tribal consultations are not yet available.

- (4) Areas which are geologically unstable.**

No areas along the route meet this criterion. However, some sites within the corridor are unsuitable for construction. Some slopes in the Missouri River Breaks are unstable and prone to mass-movement. Additionally, unsurveyed underground mine shafts may be present in the area. Any potentially unstable sites, including the sites mentioned, will be identified during route surveying. Measures required to avoid or mitigate unstable areas will be incorporated into the engineering design. The data available does not identify any unstable areas along the proposed route.

- (5) Within five hundred feet of a farmhouse, rural residence, or place of business. This criterion shall not apply to a water pipeline transmission facility (See Exhibit 4, Criteria Map 4).**

There are 54 rural structures within the proposed corridor. Only one (1) of these occupied residences is located within 500 feet of the proposed route. The remaining 53 structures are either abandoned farmsteads or outbuildings associated with local

agricultural operations. All structures were identified on aerial photographs of the site. Only those structures located closer than 500 feet of the proposed route were investigated in the field to determine their precise nature. The dwelling in section 18-T142N-R79W is located within 500' of the route. The owner was contacted and did not have any objection to the placement of the transmission route. See Exhibit 3b for more details of this correspondence.

**(6) Reservoirs and municipal water supplies (See Exhibit 4, Criteria Map 3).**

There is one reservoir within the corridor, totaling approximately 910 acres of surface water. None of these are located on the proposed route. There are no other areas in the proposed corridor meeting this criterion.

**(7) Water sources for organized rural water districts**

There are no rural water districts within the proposed corridor.

**(8) Irrigated land (See Exhibit 4, Criteria Map 3).**

Based on a cursory calculation, there are approximately 663 acres which have been identified as having irrigation potential. These areas fall within one mile of the Missouri River. (See Exhibit 4, Criteria Map 3). These sites were identified through interpretation of aerial photographs and topography and area indicative of only areas obviously receiving irrigation or potentially capable of flood irrigation.

**(9) Areas of recreational significance not designated as exclusion areas**

The Missouri River and Nelson Lake offer boating, fishing and other recreational opportunities. The Wilton Boat Launch is located approximately 2 miles north of the proposed route along the river. Nelson Lake is within 1.5 miles of the route, but is beyond the terminus.

**c. Selection Criteria**

**A corridor or route shall be designated only when it is demonstrated to the commission by the applicant that any significant adverse effects which will result from the location, construction, and maintenance of the facility as they relate to the following, will be at an acceptable minimum, or that those effects will be managed and maintained at an acceptable minimum. (N.D.A.C. § 69-06-08-02).**

**(1) Impact upon agriculture**

**(a) Agricultural production.**

During construction, agricultural production within the proposed corridor will not be affected except within certain areas along the route and at selected staging locations. Staging location will be placed on previously disturbed areas where they are available. Areas disturbed for industrial uses such as the substation site will be utilized whenever practicable, but other disturbed areas such as cropland may also be utilized. Given the small size of these staging areas and the short term of construction, impacts from staging are expected to be localized and minimal.

Following construction, any disturbed area, either in the right-of-way or in these staging areas, will be restored as close as practicable to their original condition. The degree of impact to any area will depend upon the extent of construction activities and soil conditions of the particular area. Normal construction should only

temporarily affect native rangeland vegetation along the route. Where rangeland and cropland is disturbed and doesn't regrow naturally in the next growing season, FPLE will replant the area with a native grass seed mixture or crop and the area will be reclaimed to conditions compatible with the surrounding area. Staging areas and other sites receiving heavy use will be tilled following to the extent necessary to alleviate compaction and prepare a seed bed.

After construction, agricultural production will be unrestricted throughout the bulk of the right-of-way. Placement of structures for the proposed facility will displace small areas of cropland and hay land, and machinery will need to maneuver around structures. Production and harvesting machinery will otherwise be able to operate without hindrance under the proposed facility. Occasionally, maintenance of the line will require additional construction-type activities along the route. Landowners will be compensated through an easement payment for any potential loss of land and crop production.

Livestock production will not be affected by construction or operation of the proposed facility. Construction crews will work with landowners to ensure that fenced pastureland will remain secure for cattle. Following construction, cattle will be free to graze below the proposed facility and virtually all land will be available for grazing along the route.

**(b) Family farms and ranches.**

The main impact to family farms and ranches would be temporary and minimal disturbance to pastureland and hay land as noted above. Landowners will be compensated through an easement payment for any potential loss of land and crop production.

**(c) Land which the owner can demonstrate has soil, topography, drainage, and an available water supply that can cause the land to be economically suitable for irrigation.**

FPLE is not aware of any land that is planned for irrigation other than those areas identified in section D.3.b (8), but FPLE will discuss irrigation plans with landowners when discussing easement arrangements.

**(d) Surface drainage and groundwater flow patterns.**

The surface drainage and groundwater flow patterns within the proposed corridor will not be affected along the route, and there is expected to be no effect upon spring run-off drainage patterns. Existing field approaches will be used to access construction sites, and it is anticipated that no new field approaches will be required. The erection of structures will affect land contours so minimally that there will be no effect on drainage.

**(2) Impact Upon**

**(a) Noise sensitive land uses.**

Construction will create very temporary sound disturbances. Because of the rural location of the proposed route, construction should create only a temporary and minimal impact near those few residences and places of business located along the route.

At a distance of 50 feet, construction noise will only occasionally exceed 80 dB (during operation of augers, tampers and impact wrenches). By comparison, a busy street has a typical noise level of about 80 dB, and agricultural machinery often operates at higher levels. When construction machines are not operated, noise levels will be well under 80 dB. In order to minimize noise impacts, all construction equipment will be equipped with a recommended muffler in good working order, and construction activities near homes and places of business will be limited to normal working hours.

Following construction, there will be a minimal amount of sound from the proposed facility as the result of corona effects. Corona effects occur when air molecules near conducting wire are ionized due to changes in the electric field intensity at the conductor surface, producing audible noise, radio noise, small amounts of ozone, and corona-related energy loss. Corona-generated audible noise from transmission lines and substations is generally described as a crackling or hissing noise. This noise is most noticeable when conductors are wet (as a result of precipitation). During dry weather, noise is barely perceptible, creating only a sporadic crackling sound.

**(b) The visual effect on the adjacent area.**

The proposed facility will be visible to landowners and community residents who live near the proposed facility. The structure design along the transmission line will be wooden, poles, intended to, among other things, minimize visual impacts.

**(c) Extractive and storage resources. (See Exhibit 4, Criteria Map 5).**

Although extractive resources exist within the corridor, they are not currently being developed. Most, if not all, of the mine shafts are abandoned. Where active these shafts would accommodate very minimally coal production. FPLE avoided all active gravel and sand pits and mine shafts when siting the route.

**(d) Wetlands, woodlands, and wooded areas. (See Exhibit 4, Criteria Maps 5 and 6)**

There are approximately 967 acres of wetlands and 910 acres of lakes within the proposed corridor (see Table 1). There is a federal wetland easement administered by the USFWS within the proposed corridor. The wetlands are located at various sites along the proposed route. The lake is located west of end of the route but within the proposed corridor. Prior to construction, wetlands in the immediate vicinity of the proposed route will be surveyed in compliance with USACE requirements. FPLE will attempt to span as many of these areas as possible without placement of structures in the wetland. The presence of wetlands, especially along the west bank of the Missouri River, may require permitting as a result of construction activities. Presence of wetlands is common within the lowlands adjacent to the Missouri River. Following determination of final tower sites along the route, permits will be sought from the North Dakota State Water Commission where wetlands or waters within their jurisdiction may be impacted.

Based on a cursory calculation, there are approximately 2000 acres of woodlands and shelterbelts within the proposed corridor ranging in size from less than one acre to 720 acres. (See Exhibit 4, Criteria Map 5). Most of the larger areas are located along the Missouri River. Approximately 5 acres are located within the proposed route.

FPLE will attempt to minimize impacts to woodlands.

**(e) Radio and television reception, and other communication or electronic control facilities. (See Exhibit 4, Criteria Map 5).**

Based on data from the North Dakota State GIS Hub, one communication tower (microwave tower) and associated facilities is located within the proposed corridor. FPLE will coordinate with operators of towers near the proposed route to avoid any interference with tower operations. FPLE anticipates that the proposed facility will have no adverse impact on radio, television, or other communication or electronic control facilities.

**(f) Human health and safety.**

FPLE will employ proper construction methods to ensure the project will result in minimal impacts to human health and safety.

Human health and safety will be FPLE's paramount concern during construction and operation of the proposed facility. Appropriate standards will be met for construction and installation, and all applicable safety procedures will be followed after installation. The proposed facility will be designed and constructed to meet or exceed the standards of the National Electrical Safety Code.

Safety precautions will be taken during construction and line installation. Conductors will be installed by establishing stringing setup areas within the right-of-way approximately every two miles along the route. Conductors will be installed between setup areas using a "controlled tension method," which ensures that the cable comes off the reel at a constant tension without backlashes. Conductor stringing operations will also require brief access to each structure to secure the conductor wires to the insulators or shield wire clamps once final line sag is established.

Stringing equipment generally consists of wire pullers, tensioners, conductor reels, shield wire reels, and sheave blocks. Stringing operations consist of pulling lightweight cables or ropes through the stringing sheaves located at every structure site. This cable or rope will be used to pull the conductors through the sheaves under sufficient tension to keep the conductor from coming into contact with the ground. Temporary guard or clearance poles will be installed over existing distribution or communication lines, streets, roads, highways, railways, or other obstructions after any necessary notifications are made and/or permits obtained. This ensures that conductors will not obstruct traffic or come into contact with existing energized conductors or other cables, and protects the conductors from damage.

Regular maintenance and inspections will be performed during the life of the facility to ensure its continued integrity. Periodic inspections will be performed by ground personnel on snowmobile or ATV, or by aerial means. Inspections will be limited to the right-of-way. If problems are found during inspection, repairs will be assigned to construction crews. If damages to crops are incurred during maintenance and repairs, reimbursement will be made to the landowner, consistent with the terms of the easement.

The proposed facility will generate electromagnetic fields (EMFs) once energized. The effect of EMF exposure on human health has been a matter of public concern over the past few years. The National Institute of Environmental Health Sciences (NIEHS) issued its final report on June 15, 1999, following six years of intensive research. It concluded that the scientific evidence that extra low frequency EMF exposures pose any health risk is weak. The NIEHS was the lead government agency in directing and carrying out a Congressionally mandated research program on EMF. The EMF levels of the proposed facility are explained below.

The EMF level is related to the power carried by the line, the configuration and sag of the conductors, span length, and location of measurement relative to the line. EMF levels are inversely proportional to the distance from the conductors.

For example, operating at 200,000 kVA (the expected operating level of the project) at a point 3.5 feet above ground at mid-span of an 800 foot span with the conductor height of 27 feet and 70 foot poles, the annual maximum level of EMF will measure approximately 128 mG (milliGauss). At a point 3.5 feet above ground at the base of one of the structures, the annual maximum EMF level will measure approximately 70 mG. At a point 100 feet in transverse direction from the line at a point 3.5 feet above ground at mid-span, the annual maximum EMF will measure approximately 11 mG. At 500 feet in a transverse direction from the line, the annual maximum EMF will measure approximately 0.07 mG.

The EMF levels stated in the above example are expected annual maximums. The minimum level would be about 30 percent of the annual peak, and an annual time-weighted average would be about 45 percent of the annual maximum. The maximum electromagnetic field levels are likely to occur during late afternoon and early evening hours, on either the warmest or coolest days during the year, when the demand for electricity is greatest. Under certain abnormal transmission switching arrangements, the EMF levels could exceed the values given above, e.g. another transmission line down due to a storm. These switching arrangements are typically short term.

FPLE will continue to closely monitor this issue and will respond to any new research on EMF as the circumstances require.

**(g) Animal health and safety**

Livestock impacts will be avoided as discussed in Section D.3.c.1. above.

**(h) Plant life**

Impacts of the proposed facility on agricultural plant life will be minimal as discussed above, and landowners will be compensated for any losses. Native prairie disturbed by construction will be reseeded with a native grass seed mixture and unavoidable losses of trees and shrubs will be restored to as close as practicable to pre-existing conditions. Wetland vegetation will be avoided to the extent practicable and unavoidable disturbances will be mitigated as required by applicable USACE or NDSWC permits.

**d. Policy criteria**

**The following have been adopted by the commission to give preference to an applicant that will maximize benefits that result from the adoption of the policies and practices, N.D.A.C. § 69-06-08-02.**

Because FPLE's proposed facility has taken the Commission's policy criteria into consideration, and because the proposed facility adopts and reinforces these policy considerations and maximizes the benefits resulting from the adoption of these policies, this Application should be given preference.

**(1) Location and design.**

FPLE has numerous policies that guide the location and design of electric transmission lines. (Examples are provided in Exhibit 6). These policies include minimizing and mitigating impacts, following the National Electric Safety Code requirements and policies, designing the system to efficiently transfer electricity, ensuring worker and public health and safety, and constructing facilities to most effectively and efficiently meet its delivery obligations.

**(2) Training and utilization of available labor in this state for the general and specialized skills required.**

FPLE will use available and qualified contractors to construct the proposed facility. All personnel involved in the construction of the proposed facility must follow the bid specifications in order to meet applicable safety requirements.

**(3) Economies of construction and operation.**

FPLE has designed and will operate the proposed facility as economically efficient as possible.

**(4) Use of citizen coordinating committees.**

No citizen coordinating committees were used for the proposed route or proposed corridor. However, FPLE has held meetings with local government officials and the public to inform them of the proposed facility and to get valued input.

**(5) A commitment of a portion of the transmitted product for use in this state.**

FPLE's proposed transmission line will enable the construction of a 49.5 MW wind energy project in North Dakota. This project will benefit the state and local economy.

**(6) Labor relations.**

Labor relations will not be affected.

**(7) The coordination of facilities.**

By its very nature, the proposed facility will create efficient coordination with existing facilities. The proposed facility was conceived as a way to coordinate existing substations and existing transmission facilities, and to strengthen the reliability of the area’s electrical facilities.

**(8) Monitoring of impacts.**

The impacts of the construction and operation of the proposed facility are discussed in section D.3.c., above. FPLE will monitor revegetation success following construction along the route consistent with applicable Stormwater Pollution Prevention Plans required for construction. Any concerns raised by agencies, landowners, or the Public Serve Commission will be addressed immediately. Impacts to wetland and woodlands will be avoided to the maximum extent possible.

**(9) Utilization of existing and proposed rights-of-way and corridors.**

FPLE does not own any existing facilities within the corridor between Oliver County and Burleigh County. The proposed route passes through four exiting Department of Transportation rights-of-way. A large portion of the proposed route is located within the Minnkota right-of-way.

**(10) Other existing or proposed transmission facilities.**

Coordination of the proposed facility with existing and proposed transmission facilities is discussed above.

**e. Summary of Criteria in Proposed Corridor and Route.**

**Table 1**

| <b>Criteria</b>                                 | <b>Acres or Number within Corridor<sup>a</sup></b> | <b>Acres or Number within Route<sup>b</sup></b> | <b>% of Corridor occupied by Criteria</b> | <b>% of Route occupied by Criteria</b> |
|---|--|---|---|--|
| Exclusion: Community Parks                      | 0  | 0   | 0   | 0                                      |
| Exclusion: Habitat for Threatened, Rare species | 3  | 1   | NA  | NA                                     |
| Avoidance: Federal Waterfowl Production Areas   | 0  | 0   | 0   | 0                                      |
| Avoidance: State Wildlife Management Areas      | 160 acres  | 6 acres   | 0.27%                                     | 1.65%                                  |
| Avoidance: Irrigated land                       | 663  | 11.5  | 1.2 %                                     | 3.4%                                   |
| Avoidance: Reservoirs                           | 910 acres  | 3.6 acres                                       | 1.7 %                                     | 1%                                     |
| Avoidance: Occupied residences                  | 54   | 8   | NA  | NA                                     |
| Avoidance: Other historic resources             | Unknown  | Unknown   | NA  | NA                                     |
| Selection: Extractive Resources                 | *  | *   | NA  | NA                                     |
| Selection: Wetlands                             | 967 acres  | 5.0 acres                                       | 1.8%                                      | 1.4                                    |
| Selection: Woodlands                            | 2000 acres   | 5 acres   | 3.7%                                      | 1.5%                                   |
| Selection: Communication Towers                 | 1  | 0   | NA  | NA                                     |

<sup>a</sup> corridor size is estimated at 54,000acres

<sup>b</sup> Route with 100- ft. buffer is estimated at 334 acres

\* Extractive resources exist within the corridor but are not currently being developed.

**f. Design and construction limitations.**

In order to satisfy the need expressed in section II.C of this application, it was necessary to originate the proposed facility at a substation in Oliver County and connect it to a proposed transmission facility in Burleigh County. The location of the substation and the connection in Burleigh County have limited design by dictating the points of terminus for the line.

**g. Economic considerations.**

FPLE has strived and will continue to strive to minimize any economic damage this proposed facility might create. Landowners will be compensated for land within the right-of-way along the proposed route. The route was chosen in as straight a line as possible with consideration given to willing landowner participation, exclusion areas, avoidance areas, and other selected areas. Obviously, when the length of the line is increased, the project costs also increase.

**4. General Mitigative Measures to Minimize Adverse Impacts.**

**Discuss the general mitigative measures that will be taken to minimize adverse impacts which result from a route location in the proposed corridor.**

FPLE will avoid potential impacts to sensitive resources, which includes exclusion, avoidance and selection criteria, as noted above in the criteria sections above. (See Section II.D.3). Specific impacts that would be caused by the proposed facility and mitigation for those impacts are provided in the Route Permit Application. Generally, FPLE will follow the philosophy of avoiding impacts to sensitive criteria first and foremost. When avoidance is not possible, efforts are made to compensate or mitigate for those impacts. Possible impacts include damage to and small loss of agricultural land, where FPLE will compensate landowners; impacts to woodlands and wetlands, where FPLE will develop and follow mitigation plans as required by the Commission; and minimizing impacts to soil erosion, noise, and water quality by following certain specifications during construction.

## 5. Qualifications of People Involved in the Corridor Study

List the qualifications of the people in the various disciplines that contributed to the corridor location study.

| Name          | Educational and Professional Experience  | Project Responsibility   |
|---------------|--|--|
| John DiDonato | Director , Project Development<br>FPLE<br>Bachelor's degree, Kent State University.<br>Master's degree, Florida Atlantic University            | Project developer representing FPLE in all commercial and regulatory aspects of the project. |
| Kenneth Stein | Principal Environmental Specialist<br>FPLE<br>J.D University of Oregon, Environmental Law<br>B.S University of Michigan, Environmental Science | Project environmental manager.   |
| Kurt Beichel  | Construction Project Manager<br>FPLE   | Provided input on route from a "constructability" perspective                                |
| Bob Vossberg  | Consulting Engineer<br>Alliant Energy  | Transmission line engineering.   |
| John Wergin   | Construction Project Leader<br>FPLE  | Representing FPLE on landowner discussions and selection of corridor.                        |
| Tom Factor    | Land Easement Specialist/Route Mapping<br>FPLE   | Representing FPLE on landowner discussions and selection of corridor.                        |
| Ted Weissman  | Land Easement Specialist<br>FPLE   | Representing FPLE on landowner discussions and selection of corridor.                        |
| Brian Bjella  | Attorney for applicants<br>Fleck, Mather & Strutz, Ltd.<br>J.D. degree, University of North Dakota   | Applicant's counsel.   |

## 6. Maps

**Map the criteria within the designated corridor showing the proposed route and location of any new associated facilities.**

See Section II.D.2 of the Certificate of Corridor Compatibility Application.

## REFERENCES

North Dakota Game and Fish Department (NDGFD). 2004. North Dakota's 100 Species of Conservation Priority. North Dakota Outdoors. July, 2004.

United States Fish and Wildlife Service (FWS). Threatened and Endangered Species System. North Dakota Listings. Downloaded December 15, 2004. Online at: [http://ecos.fws.gov/tess\\_public/TESSWebpageUsaLists?state=all](http://ecos.fws.gov/tess_public/TESSWebpageUsaLists?state=all)

# **Application for Route Permit**

# APPLICATION FOR ROUTE PERMIT

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## I. INTRODUCTION

This is an Application for a Route Permit by FPLE. Although separate and apart from, it is to be reviewed in conjunction with FPLE's Certificate of Corridor Compatibility Application. In these Applications, FPLE is seeking siting approval for a 230,000 Volt (230 kV) transmission line from Oliver County to Burleigh County (See Exhibit 1). Because the two Applications have been consolidated for filing, and in order to avoid redundancies, many sections of the Route Permit Application refer back to the Certificate of Corridor Compatibility Application for analysis.

## II. ANALYSIS ACCORDING TO PSC GUIDELINES

This Application follows the format set forth in the North Dakota Public Service Commission Application Guidelines for a Route Permit ("PSC Guidelines"), promulgated pursuant to the North Dakota Energy Conversion and Transmission Facility Siting Act, N.D.C.C. Chapter 49-22.

### SECTION A. DESCRIPTION OF FACILITY

#### 1. Type

See Section II.A.1. of the Certificate of Corridor Compatibility Application.

#### 2. Product

See Section II.A.2. of the Certificate of Corridor Compatibility Application.

#### 3. Size and Design

See Section II.A.3. of the Certificate of Corridor Compatibility Application. A Design Data Report will be included at a later date.

#### 4. Time Schedule

See Section II.A.3. of the Certificate of Corridor Compatibility Application.

#### 5. Right-of-way Preparation, Construction, and Reclamation Procedures

**(This section is not specifically called for in the PSC Guidelines, but it is included to provide additional relevant information as contemplated under the Energy Conversion and Transmission Facility Siting Act, N.D.C.C. § 49-22-08.1, Subd.e.)**

#### River Crossing

The overhead line will be supported on each side of the navigable waterway by steel tubular towers located adequate distance from the river bank to ensure no disturbance of the riverbank itself as illustrated in Exhibit 2. Disturbance during installation of the tower structures will occur during excavation for installation of the tower foundations. The foundations supporting the two-legged steel towers on each side of the river will require excavation to approximately a depth of 30 feet with a diameter of minimum of 16 feet.

#### Transmission Line

The proposed route passes primarily through agricultural land and range land. Because there are very few obstructions within the proposed route, minimal right-of-way preparations will be necessary. In those few areas where there is tree and shrub growth, right-of-way clearing may include cutting and removal. Where practicable, trees and low-growing vegetation will not be removed if future growth will not interfere with the operation or maintenance of the line. There may be limited use of herbicides to remove or control the growth of vegetation in some areas. Herbaceous and smaller woody plants will not be disturbed, except for those that will be crushed unavoidable during structure installation. No critical threatened or endangered

species habitat or otherwise sensitive vegetation will be permanently disturbed. There will be no machine clearing of vegetation within 50 feet of any river or stream, and ground cover vegetation near rivers or streams will not be disturbed.

Some structure locations may require soil analysis. Soil borings will be taken for the purpose of determining the soil properties for engineering analysis. These borings will be taken by an experienced geotechnical testing laboratory using a 2-inch outside diameter split barrel sampler. Access to the test sites will be needed by the geotechnical lab drill rig.

The structures will be designed for installation at existing grades. Therefore, structure sites will not be graded or leveled, unless it is necessary to provide a reasonably level area for construction access and activities. Once construction is completed, any graded area will be restored to its original contour to the extent practicable.

After the right-of-way is prepared, structures will be framed and erected at the structure site. Each structure site will need to be accessed several times. This access will include construction crews and equipment, such as digger/derrick trucks to auger holes for the structures, a crane for structure setting, and crew vehicles and bucket trucks for wire stringing and clipping operations.

The largest disturbance during installation of the tower structures will occur during the excavation of the foundations. Foundations will extend into the subsurface approximately 28 feet and be approximately 8 feet in diameter. Boring equipment will be used to facilitate the installation of tower foundations. The foundations will be constructed of reinforced concrete with pre-fabricated reinforcing placed in the boreholes. Spoil removed during boring activities will be removed to adjacent upland areas.

The most noticeable impact on the site will be removal of surrounding trees in the area of tower construction, particularly on the eastern bank, to allow adequate room for operation of the equipment. Following the tower installation is complete the entire disturbed area will be groomed and seeded, including replacement of trees and herbaceous vegetation. The anticipated area of disturbance at each tower site is approximately a sixty-foot radius around each tower location.

Private roads from the main highways to the river bank(s) will likely require upgrading to accommodate cement truck traffic to the site. The roads will be upgraded by re-grading and placing limestone aggregate on a geotextile to obtain a suitable road base to support construction equipment. Following construction of the facilities at the crossing site, the road will be restored to the original grade and reseeded with native vegetation or crop depending on the existing condition prior to construction activities.

In addition to the right-of-way along the route, temporary construction easements will be obtained from landowners for the duration of construction. These construction easements will be limited to any additional staging or laydown areas required outside of the transmission line right-of-way. Where possible, staging and laydown areas will be located within the right-of-way and limited to previously disturbed or developed areas.

After structures have been erected, conductors will be installed by establishing stringing setup areas within the right-of-way. These stringing setup areas will be located approximately every two miles along the route. Conductors will be installed between setup areas using a "controlled tension method," which ensures that the cable comes off the reel at a constant tension without backlashes. Conductor stringing operations will also require brief access to each structure to secure the conductor wires to the insulators or shield wire clamps once final line sag is established.

Stringing equipment generally consists of wire pullers, tensioners, conductor reels, shield wire reels, and sheave blocks. Stringing operations consist of pulling lightweight cables or ropes through the stringing sheaves located at every structure site. This cable or rope will be used to pull the conductors through the sheaves under sufficient tension to keep the conductor from coming into contact with the ground. Temporary guard or clearance poles will be installed over existing distribution or communication lines, streets, roads, highways, railways, or other obstructions after any necessary notifications are made and/or permits obtained. This ensures that conductors will not obstruct traffic or come into contact with existing energized conductors or other cables, and protects the conductors from damage. Once a section of a line has been installed, temporary structures will be removed, holes backfilled and the area of disturbance reseeded to produce the same cover that was removed.

Debris associated with the transmission line construction may include construction materials such as packaging material, insulator crates, conductor reels, and wrapping. This debris may also include excess excavated soil and removed vegetation. Materials with salvage value, including conductor reels, unused conductor and hardware, poles, and other materials, will be removed from the site for reuse. Excess soil and vegetation will be distributed along the transmission right-of-way, but will not be placed in wetlands or other aquatic resources. Solid waste will be temporarily stored within the right-of-way or within the temporary construction easements, and then transported to appropriate disposal facilities. Debris will be disposed of in accordance with federal, state, and local regulations.

Limited ground disturbance at the structure sites is anticipated during construction. A main marshaling yard for secure, temporary storage of materials and equipment will be established by the construction contractor in a previously disturbed or developed area, and will include sufficient space to lay down material and assemble structures or hardware. Other staging areas will be located within the right-of-way, and will be limited to the structure site areas for structure laydown and framing prior to structure installation. Disturbed areas will be restored to their original condition to the maximum extent practicable. Post-construction reclamation activities will generally include the following:

- Cleaning up all construction sites, including removing and disposing of debris.
- Removing all temporary facilities, including access trains, and staging and laydown areas.
- Employing appropriate erosion control measures.
- Reseeding disturbed areas (due to construction activities) with vegetation like that which was removed and restoring the areas to their original condition to the extent possible.

## **6. Easement Acquisition**

**(This section is not specifically called for in the PSC Guidelines, but it is included to provide additional relevant information as contemplated under the Energy Conversion and Transmission Facility Siting Act, N.D.C.C. § 49-22-08.1, Subd.f.)**

FPLE will compensate landowners for easements based on the strip area of land actually encumbered and also for facilities (structures and down guys) placed in the encumbered strip.

## **SECTION B. LOCATION**

This section explains the considerations that contributed to FPLE's selection of the proposed route. It describes the justification for FPLE's location of the proposed route within the proposed corridor. FPLE's environmental policies are discussed in Section II.B.1. The factors set forth in N.D.C.C. § 49-22-09 are examined in Section II.B.2., and environmental and human health

criteria are discussed and analyzed in Section II.B.4. Specific impacts of the proposed facility and mitigation of those impacts are provided in Section II.B.5.

**1. FPLE LLC Company Policies**

**Discuss the utility’s policies and commitments to limit the environmental impact of its facilities, including copies of board resolutions and management directives.**

FPLE has strong corporate environmental commitments. Its policies are designed to avoid and minimize environmental impacts of its facilities. FPLE was ranked #1 by Innovest (an independent ranking firm) for its environmental commitment. Please refer to the <http://www.fplenergy.com> for more information on this and other environmental awards. Other policies ensure adherence to the National Electric Safety Code, efficient transfer of electricity, worker and public health and safety, and economical construction facilities to minimize rate increases to its customers. Relevant policies are discussed throughout this Application and examples are provided in Exhibit 6.

**2. Factors listed in N.D.C.C. § 49-22-09**

**Discuss the factors listed in § 49-22-09, N.D.C.C. to aid the Commission’s evaluation of the proposed route.**

The Energy Conversion and Transmission Facility Siting Act (N.D.C.C. § 49-22-09) lists 11 factors designed to aid the Commission in its evaluation and designation of corridors and routes. This section discusses the actions FPLE have taken or will take to address these factors. Specific information is also provided in later sections that describes the location and consideration of exclusion and avoidance areas, impacts to the environment, and mitigative measures.

- a. Available research and investigations relating to the effects of the location, construction, and operation of the proposed facility on public health and welfare, natural resources, and the environment.

Research and investigations relating to the effects of the location, construction and operation of the proposed facility are referenced throughout this Application and the Certificate of Corridor Compatibility Application.

- b. The effects on new energy conversion and transmission technologies and systems designed to minimize adverse environmental effects.

FPLE will follow the most current standards of the National Electric Safety Code (NESC). These state-of-the-art design standards help minimize adverse effects to the environment and ensure the safety and health of the public, as well as the employees and contractors who construct, operate and maintain the facilities. FPLE will also follow safety policies that are even more stringent than the NESC. These policies further minimize environmental impacts, and ensure the safety of both the public and FPLE’s employees.

FPLE has also followed their policies that require them to practice and promote environmental stewardship. (See Exhibit 6). FPLE’s policies were developed and are constantly revised to incorporate the most recent scientific and technological information available for electric transmission facilities.

- c. The potential for beneficial uses of waste energy from a proposed energy conversion facility.

This factor is not applicable to this transmission facility project.

- d. Adverse direct and indirect environmental effects which cannot be avoided should the proposed site or route be designated.

The presence of wetlands, especially along the west bank of the Missouri River, may require USACE permitting as a result of construction activities. Presence of wetlands is common within the lowlands adjacent to the Missouri River. Following determination of final tower sites along the route, permits will be sought from the North Dakota State Water Commission where wetlands or waters within their jurisdiction may be impacted.

FPLE will obtain and follow any conditions of any required U.S. Fish & Wildlife Service (USFWS) wetland permits.

Based on a cursory calculation, there are approximately 5 acres of woodlands that will also be unavoidably impacted during project construction and these will not be allowed to regrow.

Other unavoidable direct and indirect effects to agricultural lands along the route are described more fully in Section II.D.3.c.1.a. of this Application.

- e. Alternatives to the proposed site, corridor, or route which are developed during the hearing process and which minimize adverse effects.

This Application is submitted prior to any actual hearing. FPLE remains committed to examine any reasonable alternatives that may be proposed and do not result in substantive change. The project facility was designed to serve the wind energy center located on the east side of the river. The proposed route is the most efficient route for this wind energy center to the Center Substation at the western end of the proposed route. The site proposed for the new wind energy center has excellent wind resources and minimal environmental effects.

- f. Irreversible and irretrievable commitments of natural resources should the proposed site, corridor, or route be designated.

There are no irreversible or irretrievable commitments of natural resources created by the siting of the proposed facility, corridor, or route. Environmental protection measures will also be employed as agreed to in consultation with the US Fish and Wildlife Service Ecological Services office and the North Dakota Game and Fish Department located in Bismarck, North Dakota.

- g. The direct and indirect economic impacts of the proposed facility.

The proposed facility will provide direct and indirect positive economic impacts within the State of North Dakota. The purpose of the project is to increase the reliability of electric service throughout the region. This increased reliability and capacity may help attract industrial growth – especially in the agricultural processing industry.

Local businesses are likely to experience positive impact from construction activities along the route. Construction materials and supplies for the proposed facility will be purchased from local suppliers whenever feasible.

Landowners along the proposed route may experience minor negative impacts because of the loss of land for agricultural production. Those landowners will be compensated for losses through easement payments.

- h. Existing plans of the state, local government, and private entities for other developments at or in the vicinity of the proposed site, corridor, or route.

FPLE is not aware of any existing plans for other development in the vicinity of the proposed route and corridor. Local governments and private entities have expressed an interest in developing food processing cooperatives and other processing facilities as a way of adding value to agricultural commodities produced within or near the proposed corridor. The proposed facility will enhance the electric system, to the benefit of industrial and non-industrial customers alike.

- i. The effect of the proposed site or route on existing scenic areas, historic sites and structures, and paleontological or archaeological sites.

FPLE is conducting a Class I Archeological/Cultural records search at the North Dakota State Historical Society. Results for the number of sites in the proposed corridor from Oliver County to Burleigh County were not available at the time of this application submittal. (See also the analysis in Section II.D.3.b.(3) of the Certificate of Corridor Compatibility Application).

- j. The effect of the proposed site or route on areas which are unique because of biological wealth or because they are habitats for rare and endangered species.

There will be minimal effect on areas that are unique or provide habitat for rare or endangered species. (See analysis in Section II.D.2.a.(4) of the Certificate of Corridor Compatibility Application).

- k. Problems raised by federal agencies, other state agencies, and local entities.

Each of these agencies is aware of the proposed facility. Federal and state agencies raised very few issues for consideration during the March 2005 agency consultation meeting. Those issues have been addressed throughout this Application and the Certificate of Corridor Compatibility Application. FPLE will follow all conditions that may be imposed by these agencies.

### **3. Criteria maps**

**Identify and map the criteria that led to the proposed route location within the designated corridor.**

See Section II.D.2. of the Certificate of Corridor Compatibility Application and Exhibit 4.

### **4. Description of PSC criteria found along the proposed route**

**Discuss in detail the relative value of each criteria and how the location, construction, and operation of the facility will affect each criteria.**

See Section II.D.3. of the Certificate of Corridor Compatibility Application and Exhibit 4.

### **5. Evaluation of criteria found along the proposed route**

**The criteria to be evaluated shall include at a minimum all of the following which are within the designated corridor:**

- a. Exclusion area;**
- b. Avoidance areas;**
- c. Selection criteria;**
- d. Policy criteria;**

**e. Design and construction limitations; and  
f. Economic considerations.**

The proposed transmission line route avoids the exclusion areas and avoidance areas to the maximum extent practical within the corridor.

a. Exclusion areas

- (1) **Designated or registered national: parks, memorial parks; historic sites and landmarks; natural landmarks; monuments; and wilderness areas.**

None located along the proposed route. See Section II.D.3.a.(1) of the Certificate of Corridor Compatibility Application.

- (2) **Designated or registered state: parks; historic sites; monuments; historical markers; archaeological sites; and nature preserves.**

None located along the proposed route. See Section II.D.3.a.(2) of the Certificate of Corridor Compatibility Application.

- (3) **County parks and recreational areas; municipal parks; parks owned or administered by other governmental subdivisions. (See Exhibit 4, Criteria Map 2)**

None located along the proposed route. See Section II.D.3.a.(3) of the Certificate of Corridor Compatibility Application.

- (4) **Areas critical to the life stages of threatened or endangered animal or plant species. (See Exhibit 4, Criteria Map 2).**

Endangered species habitat located along Missouri River crossing however avoidance and mitigation has been agreed in consultation with state and federal wildlife agencies. See Section II.D.3.a.(4) of the Certificate of Corridor Compatibility Application.

- (5) **Areas where animal or plant species that are unique or rare to this state would be irreversibly damaged. (See Exhibit 4, Criteria Map 2).**

None located along the proposed route. See Section II.D.3.a.(5) of the Certificate of Corridor Compatibility Application.

b. Avoidance Areas

- (1) **Designated or registered national: historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; and grasslands. (See Exhibit 4, Criteria Map 3).**

None located along the proposed route. See Section II.D.3.b.(1) of the Certificate of Corridor Compatibility Application.

- (2) **Designated of registered state: wild, scenic or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands (See Exhibit 4, Criteria Map 3).**

Route passes along boundary of a State of North Dakota Game and Fish Department Wildlife Management Area however. The route was developed in consultation with North Dakota Game and Fish staff. See Section II.D.3.b.(2) of the Certificate of Corridor Compatibility Application.

**(3) Historical resources which are not specifically designated as exclusion or avoidance areas. (See Exhibit 4, Criteria Map 4).**

A Class I records search of the proposed corridor is still underway and historic/cultural resources will be avoided to the maximum extent practical. See Section II.D.3.b.(3) of the Certificate of Corridor Compatibility Application.

**(4) Areas which are geologically unstable.**

None located along the proposed route. See Section II.D.3.b.(4) of the Certificate of Corridor Compatibility Application.

**(5) Within five hundred feet of a farmhouse, rural residence, or place of business. This criterion shall not apply to a water pipeline transmission facility (See Exhibit 4, Criteria Map 4).**

The route avoids residences located within the corridor by 500 feet with the exception of one. This participating landowner has verbally agreed to provide a letter to the commission granting FPLE permission to pass within the 500 foot exclusion area. See Exhibit 3 for a copy of the email from FPLE's land representative recording his discussion with the landowner. See Section II.D.3.b.(5) of the Certificate of Corridor Compatibility Application.

**(6) Reservoirs and municipal water supplies. (See Exhibit 4, Criteria Map 3).**

None located along the proposed route. See Section II.D.3.b.(6) of the Certificate of Corridor Compatibility Application.

**(7) Water resources for organized rural water districts.**

None located along the proposed route. See Section II.D.3.b.(7) of the Certificate of Corridor Compatibility Application.

**(8) Irrigated land. (See Exhibit 4, Criteria Map 3).**

While these areas have been avoided to the extent practical, irrigated lands tend to run north-south along the Missouri River, making it difficult to avoid with an east-west route alignment. Impacts to these areas will be avoided to the maximum extent practical. See Section II.D.3.b.(8) of the Certificate of Corridor Compatibility Application.

**(9) Areas of recreational significance which are not designated as exclusion areas.**

None located along the proposed route. See Section II.D.3.b.(9) of the Certificate of Corridor Compatibility Application.

c. Selection Criteria

**(1) The impact upon agriculture:**

**(a) Agricultural production.**

The route does cross some agricultural lands – however landowners have been given a choice of pole structure and span length to minimize the potential effects on agricultural activities. See Section II.D.3.c.(1)(a) of the Certificate of Corridor Compatibility Application.

**(b) Family farms and ranches.**

The route does cross some family farm/ ranch land – however landowners have been given a choice of pole structure and span length to minimize the

potential effects on farming/ ranching. See Section II.D.3.c.(1)(b) of the Certificate of Corridor Compatibility Application.

- (c) **Land which the owner can demonstrate has soil, topography, drainage, and an available water supply that cause the land to be economically suitable for irrigation.**

While these areas have been avoided to the extent practical, irrigated lands tend to run north-south along the Missouri River, making it difficult to avoid with an east-west route alignment. Impacts to these areas will be avoided to the maximum extent practical. See Section II.D.3.c.(1)(c) of the Certificate of Corridor Compatibility Application.

- (d) **Surface drainage patterns and ground water flow patterns.**

See Section II.D.3.c.(1)(d) of the Certificate of Corridor Compatibility Application.

**(2) The impact upon:**

- (a) **Noise sensitive land uses.**

None located along the proposed route. See Section II.D.3.c.(2)(a) of the Certificate of Corridor Compatibility Application.

- (b) **The visual effect on the adjacent area.**

The route is generally located adjacent to an existing transmission corridor/ route this will minimize the effect of this new project on the visual resources of the area. See Section II.D.3.c.(2)(b) of the Certificate of Corridor Compatibility Application.

- (c) **Extractive and storage resources. (See Exhibit 4, Criteria Map 5).**

None located along the proposed route. See Section II.D.3.c.(2)(c) of the Certificate of Corridor Compatibility Application.

- (d) **Wetlands, woodlands, and wooded areas. (See Exhibit 4, Criteria Maps 5 and 6).**

Pole locations will be micro-sited in the field to avoid wetlands, woodlands and wooded areas to the maximum extent practical. See Section II.D.3.c.(2)(d) of the Certificate of Corridor Compatibility Application.

- (e) **Radio and television reception, and other communication or electronic control facilities. (See Exhibit 4, Criteria Map 5).**

None located along the proposed route. See Section II.D.3.c.(2)(e) of the Certificate of Corridor Compatibility Application.

- (f) **Human health and safety.**

None located along the proposed route. See Section II.D.3.c.(2)(f) of the Certificate of Corridor Compatibility Application.

- (g) **Animal health and safety.**

None located along the proposed route. See Section II.D.3.c.(2)(g) of the Certificate of Corridor Compatibility Application.

**(h) Plant life.**

None located along the proposed route. See Section II.D.3.c.(2)(h) of the Certificate of Corridor Compatibility Application.

d. Policy Criteria

See Section II.D.3.d of the Certificate of Corridor Compatibility Application.

e. Summary of Criteria in Proposed Corridor and Route

See Section II.D.3.e of the Certificate of Corridor Compatibility Application.

f. Design and Construction Limitations

See Section II.D.3.f of the Certificate of Corridor Compatibility Application.

g. Economic Considerations

See Section II.D.3.g of the Certificate of Corridor Compatibility Application.

**6. Environmental Impacts and Mitigation**

**Discuss the mitigative measures that will be taken to minimize adverse impacts which result from the location, construction, and operation of the facility.**

This section summarizes potential environmental impacts of the proposed facility, especially those that are not covered in the above listed criteria, and details mitigation measures.

a. Physical environment

**(1) Topography and geology**

Topography and geology will not be affected along the route.

**(2) Mineable resources**

There are no active sand or gravel pits along the route. Coal mine developments are common in the general area and potential exists for coal resource to be present in the strata beneath the proposed corridor. However, at this time there are no known plans for mine development along the proposed route. Given the number of mines in the area, coal may be mineable.

**(3) Water resources**

FPLE will follow construction guidelines and recommendations of the Department of Health. This includes the use of mesh or burlap to hold soil during construction; establishing vegetative cover on disturbed or newly constructed areas; and following safe storage and handling procedures to prevent contamination of water from fuel spillage, lubricants, and chemicals.

**(4) Soils**

To minimize the amount of soil compaction during construction, access trails will be kept to the minimum necessary for construction equipment. When soils are exposed, FPLE will employ appropriate erosion control measures. Practices will include placement of sediment barriers downstream of construction and revegetation as soon as possible after construction. Compaction will be alleviated by tilling as necessary following construction. However, such measures are not expected to be necessary to reestablish vegetation.

**(5) Atmospheric conditions**

There are two potential atmospheric impacts from the proposed facility construction: (1) excess dust from construction, and (2) noise. Dust levels will be monitored during the construction process and if excess dust is noted, water will be sprayed to suppress it. Also, ensuring that heavy equipment has proper muffling systems will minimize noise during construction. Construction near farm and city residence will be limited to normal working hours to minimize impact of residents.

b. Biological environment

**(1) Vegetation**

Construction will affect six main types of vegetation: (1) hay land, (2) cropland, (3) native rangeland, (4) wetlands, (5) conservation set-aside land, and (6) woodlands. In a few areas, right-of-way clearing will consist of the removal of trees and brush within the right-of-way. Where practicable, trees and low-growing vegetation will be left uncleared if their future growth will not interfere with the operation or maintenance of the line. In some areas there will be limited use of herbicides to remove or control the growth of vegetation. Herbaceous and smaller woody plants will not be disturbed, except for those that will be disturbed unavoidably during structure installation. Tree removal will be minimized to the extent practicable to allow for safe and efficient management of the tower construction activities.

Areas that are disturbed to the point that vegetation is removed will be reseeded using similar vegetation that was removed, to the extent possible.

Thirteen acres of trees, mostly shelterbelts, will be removed during construction and will not be allowed to naturally regrow in the right-of-way. Disturbed areas will be restored to their original condition to the maximum extent practicable.

Structures and, in certain circumstances, fill will be placed in wetlands only when the wetland is too large to span, subject to applicable permits. Disturbance will be kept to a minimum. Where disturbance takes place from structure installation and assembly, vegetation will be allowed to grow back naturally. Any dredge material that is taken out of wetlands will be placed on upland sites. FPLE will abide by any applicable permit from the U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service.

**(2) Fish and wildlife**

In order to examine potential fish and wildlife impacts of the proposed facility, representatives of FPLE obtained comments from and met with U.S. Fish and Wildlife Service and the North Dakota Game and Fish Department.

There are two main impacts to fish and wildlife: (1) displacement of habitat by structure placement, and (2) migratory and resident bird collision of or electrocution with the power line. An examination of these impacts and FPLE's proposed mitigation plans in outlined below.

**Habitat loss**

Habitat displacement caused by construction of structures for grassland-type habitats will be short-term only. Once the structures are in place, grassland habitat should naturally regrow, and where it does not, FPLE will replant the area with cover compatible with soils and existing land use.

Habitat loss of woodlands will be permanent in those wooded areas that will be cleared. Disturbed areas will be restored to their original condition to the maximum extent practicable.

### **Electrocution**

Electrocution of birds by power lines is a concern mostly for raptor species, such as golden eagles and red-tailed hawks. Birds are electrocuted when they come in contact with more than one conductor wires at once. This can occur on smaller distribution lines that have short distances between conductors (Olendorff et al. 1981 and Avian Power Line Interaction Committee 1996). The proposed facility has sufficient distance between conductors (about 15 to 20 feet) to make electrocution very unlikely.

### **Bird collision**

Bird collision is a concern mostly for large, heavy bodied, flocking birds that make daily flight between adjacent habitats for roosting and feeding, and those with nocturnal feeding flights. Therefore, migratory waterfowl (e.g., tundra swans, snow geese, Canada geese, and dabbling ducks) and large waterbirds (e.g., sandhill cranes, pelicans, and gulls) have the greatest risk for collision, specifically where the proposed facility crosses large bodies of water and wetlands (Avian Power Line Interaction Committee 1994).

The proposed route crosses numerous wetlands that may be utilized by migratory waterfowl and waterbirds. To minimize impacts associated with bird collisions, FPLE is coordinating with local wildlife officials of the North Dakota Game and Fish Department to determine traditional roosting areas for migratory flocks.

### **(3) Rate and endangered species**

As set forth more fully in the Corridor Application, there are five federally listed threatened or endangered animal/plant species previously documented within the corridor (or route).

The proposed corridor contains a small number of sensitive species and habitats which have been avoided to the maximum extent possible by this proposed corridor and route. Environmental protection measures will also be employed as agreed to in consultation with the US Fish and Wildlife Service Ecological Services office and the North Dakota Game and Fish Department located in Bismarck, North Dakota.

The corridor and route cross the Missouri River just north of an existing Minnkota Power Cooperative Inc. (Minnkota) transmission line. Sandbars located at the crossing site provide habitat for endangered species including interior least terns and piping plovers. In order to avoid any impacts to these bird populations, no construction activity will be undertaken from April 15 to June 1 which is the breeding season for these species. In addition, Bald Eagles are known to use the project area. The existing Minnkota transmission line is marked with staggered orange balls in compliance with Federal Avian Administration (FAA) recommendations. The proposed line will be similarly marked in accordance with FAA and USFWS recommendations. These markings, in addition to the fact that the proposed line will match the height of the existing line will minimize the

potential for contact with Bald Eagles and other birds that use the Missouri River corridor.

c. Cultural environment

**(1) Land use**

The proposed facility will have both short-term and long-term impacts to agricultural land use. (See discussion in Section II.D.3.c.(1) of the Corridor Certificate Application). Short-term impacts will take place during construction. With the proper construction and reclamation methods mentioned above for cropland, rangeland and hay land, most land use will return to normal. Long-term impacts, if any, will be minimal and are likely only to affect crop and hay land. Landowners will be compensated for these losses.

**(2) Agriculture**

Because agriculture is the dominant land use in the area, it will be important to monitor any potential impacts. Landowners will be compensated for crops or other assets damaged during construction. The proposed facility should not affect long-term productivity of the soil. The original contours will be maintained to keep existing drainage patterns intact. (See also the discussion in Section II.D.3.c.(1) of the Corridor Certificate Application).

**(3) Community services**

The impact to community services will be as a result of construction activity and influx of contractor employees. FPLE's personnel and contractors will be utilized for all construction activities. The communities along the proposed route have sufficient hotels and other services to handle the influx of workers.

**(4) Transportation**

The proposed facility crosses U.S. Highway 83 and State Highways # 25, 1805, and 1804. Numerous county and township roads, and section line trails will also be crossed. The construction, placement, or maintenance of the proposed facility will temporarily affect transportation on these highways and roads. FPLE will coordinate with the state, county, and township officials to obtain acceptable crossing design methods and any necessary permits.

During wire stringing operations, temporary guard or clearance poles will be installed over existing distribution or communication lines, streets, roads, highways, railways, or other obstructions after any necessary notifications are made or permits obtained. This ensures that conductors will not obstruct traffic or come into contact with existing energized conductors or other cables, and protects the conductor from damage.

**(5) Population and economy**

FPLE's employees and contractors will design, construct, and maintain the proposed facility. All workers will be either FPLE's employees or contract employees. It is possible that a contractor will be either FPLE's employees or contract employees. It is possible that a contractor may hire a small number of local workers. No additional permanent jobs will be created by this action. The construction activities will provide a seasonal influx of additional dollars into the local communities during the construction phase, and materials will be purchased from local vendors where feasible.

**(6) Archaeological and Historical sites**

FPLE is conducting a Class I Archeological/Cultural records search at the North Dakota State Historical Society. Results for the number of sites in the proposed corridor from Oliver County to Burleigh County were not available at the time of this application submittal. (See Section II.D.3.b.(3).)

**7. Qualifications of People Involved in the Facility Route Location Study**

See Section II.D.5 of the Certificate of Corridor Compatibility Application.

**8. Maps**

See Section II.D.2 of the Certificate of Corridor Compatibility Application and the Waiver of Procedures.

**REFERENCES**

North Dakota Game and Fish Department (NDGFD). 2004. North Dakota's 100 Species of Conservation Priority. North Dakota Outdoors. July, 2004.

United States Fish and Wildlife Service (FWS). Threatened and Endangered Species System. North Dakota Listings. Downloaded December 15, 2004. Online at: [http://ecos.fws.gov/tess\\_public/TESSWebpageUsaLists?state=all](http://ecos.fws.gov/tess_public/TESSWebpageUsaLists?state=all)

# **Indexes to Statutory Requirements**

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- e. A description of the right-of-way preparation and construction and reclamation procedures.....Section II.A.5. Route Application
- f. A statement setting forth the manner in which: (1) the Utility will inform affected landowners of easement acquisition, and necessary easement conditions and restrictions. (2) The utility will compensate the landowners for easements, without reference to the actual consideration to be paid .....Section II.A.6. Route Application
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# **Exhibits**

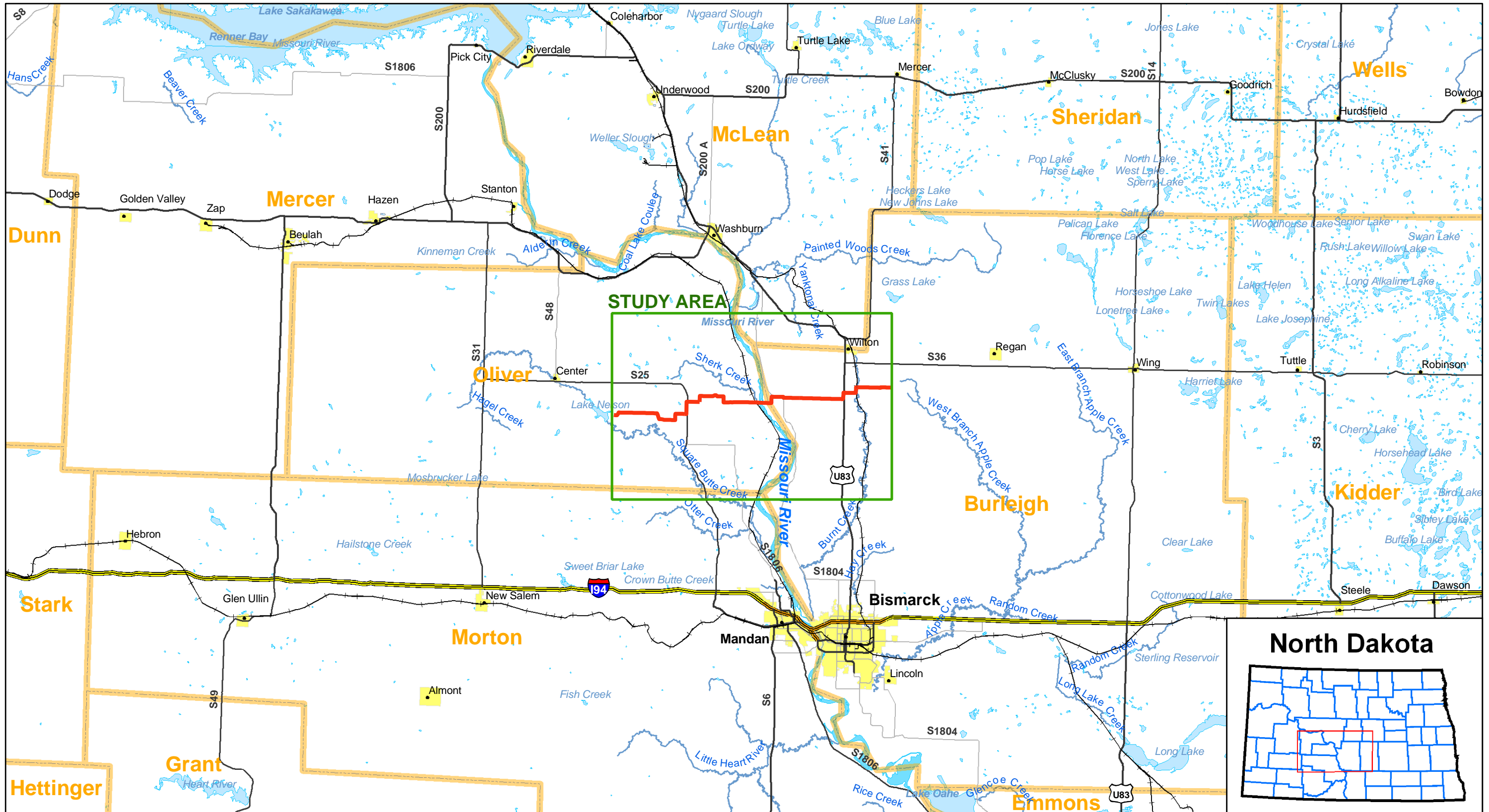
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### **Exhibit**

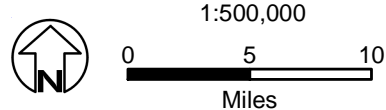
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- 4 Criteria Maps**
- 5 Critical Issues Analysis (Will be submitted at a later date)**
- 6 FPL Policies**

# **Exhibits**

## **Exhibit 1**



- Cities and Towns
- Proposed Transmission Line
- ▭ Study Area
- ▭ County Lines

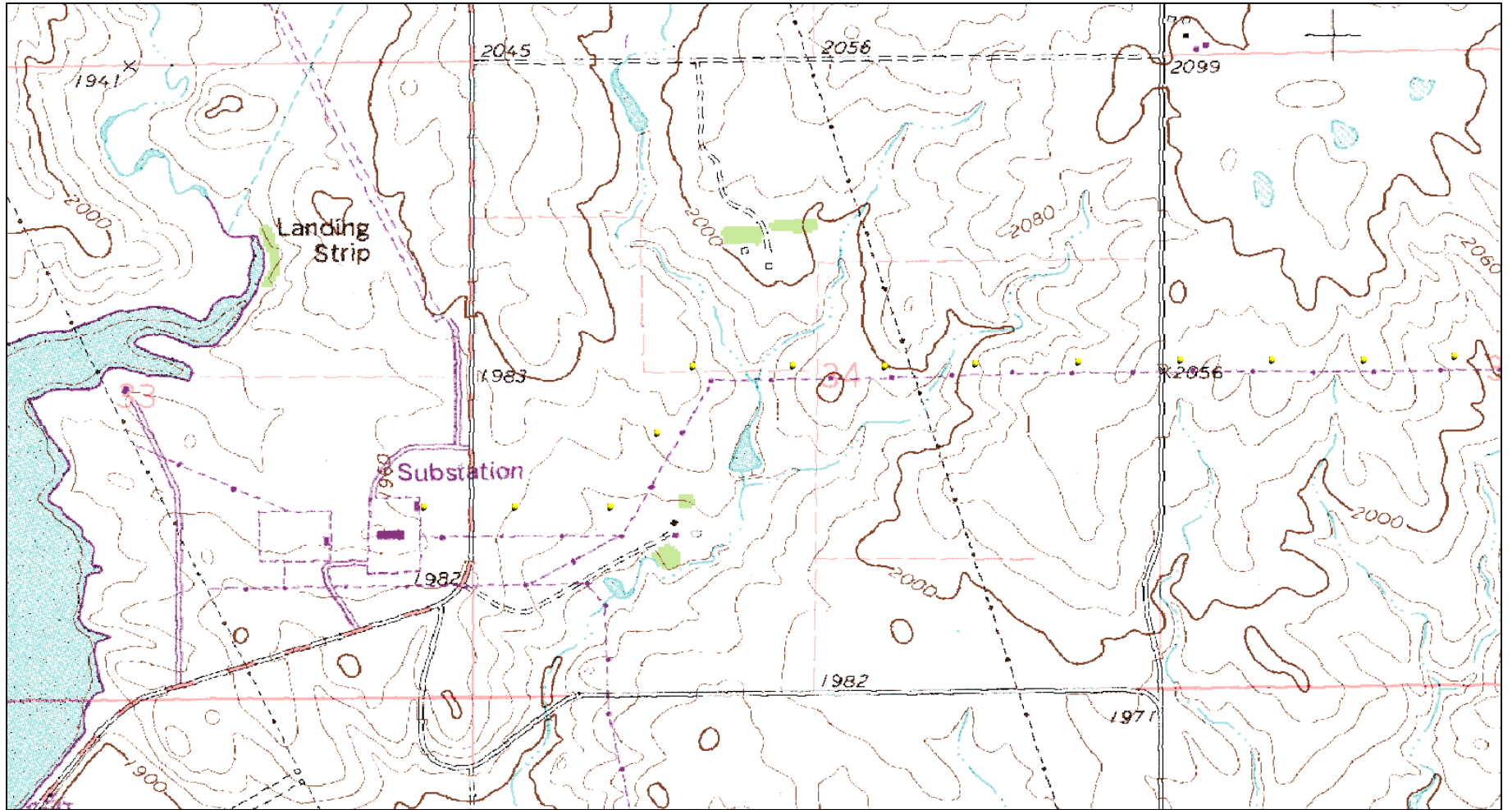


**FIGURE 1**  
**GENERAL LOCATION MAP AND STUDY AREA**  
**FPLE - ELECTRICAL TRANSMISSION LINE**  
**BURLEIGH AND OLIVER COUNTIES, NORTH DAKOTA**

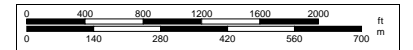
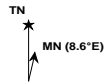
## **Exhibit 2**

## Exhibit 2a

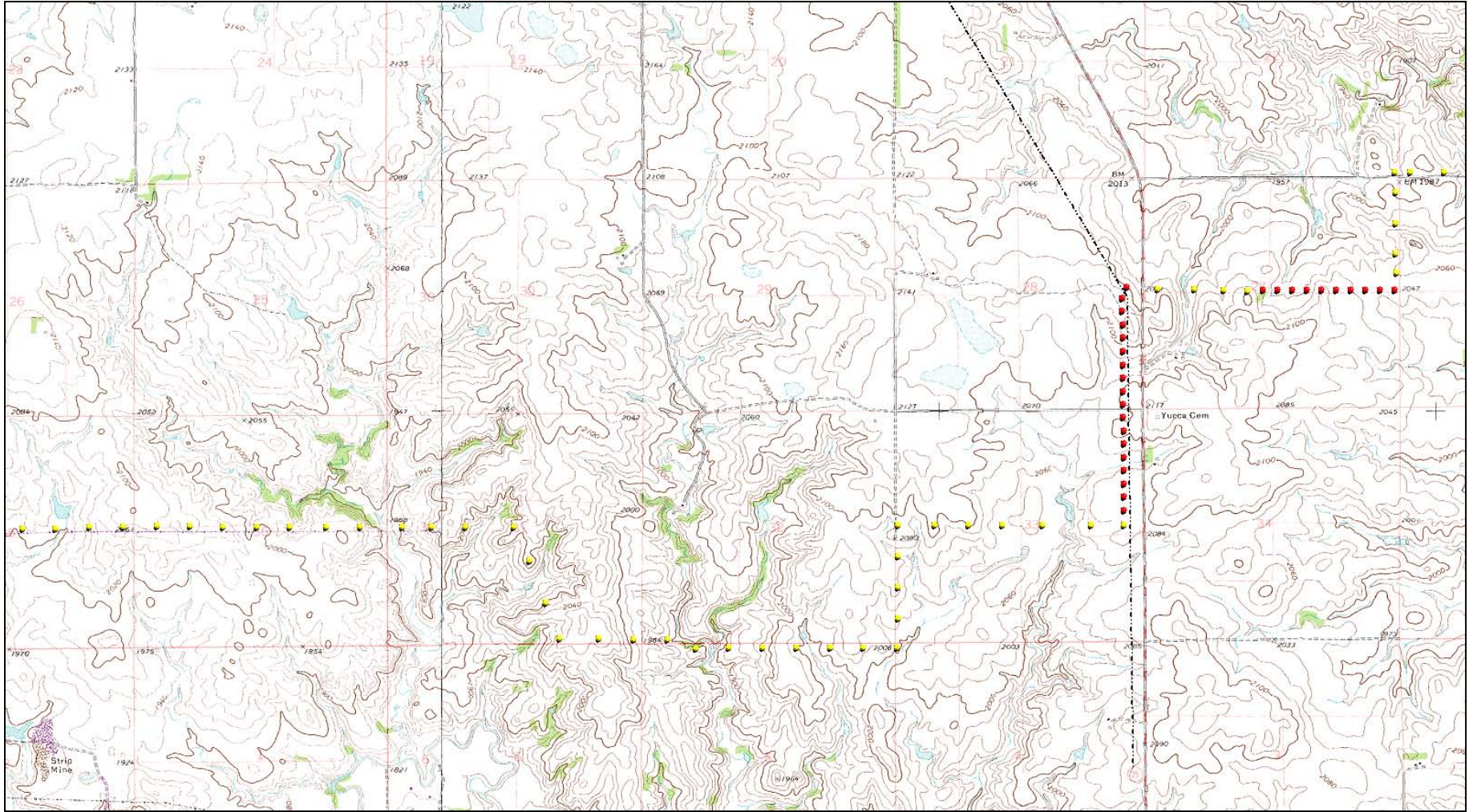




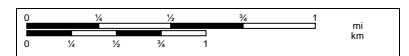
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www.delorme.com



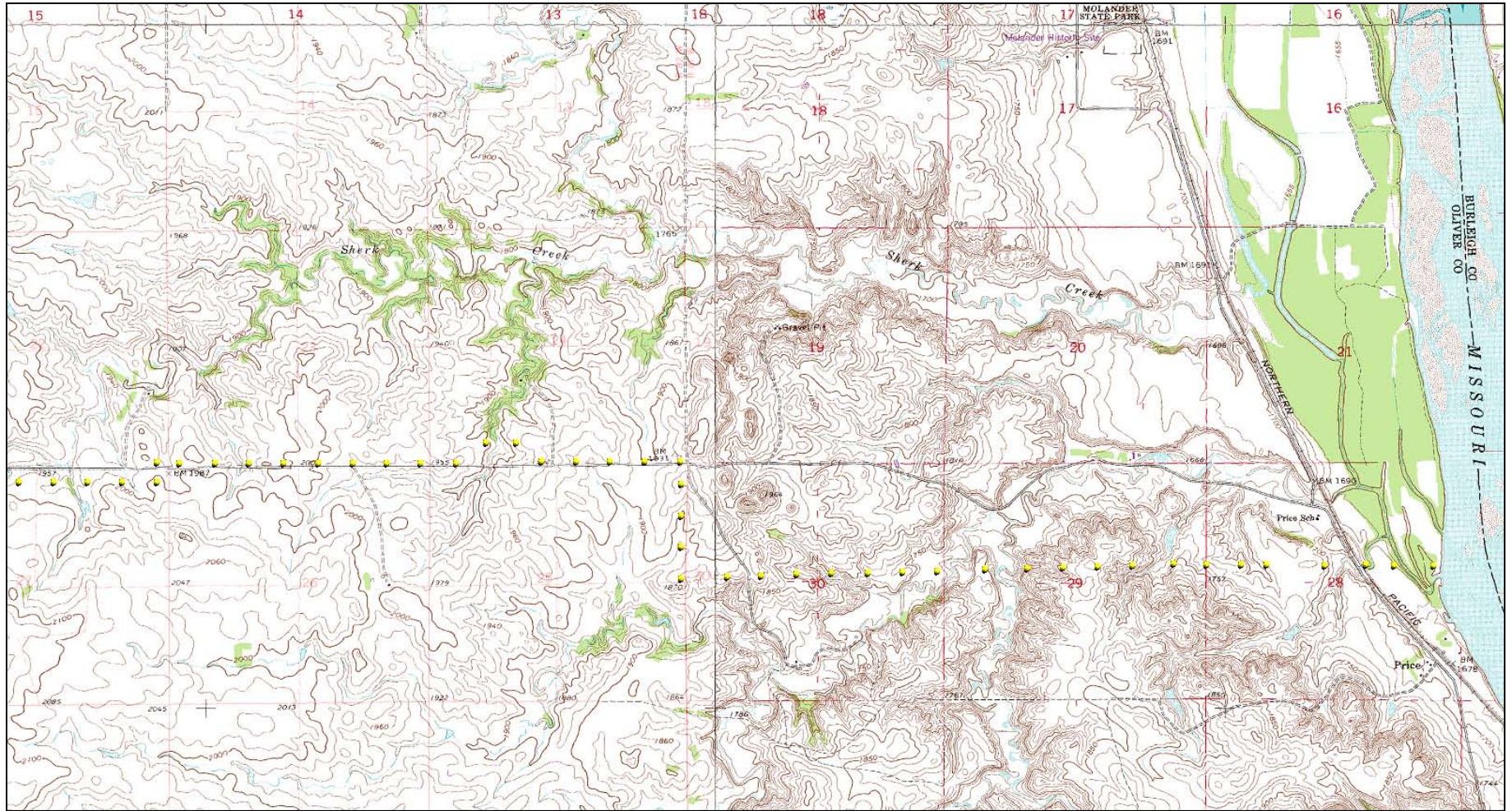
Data Zoom 14-4



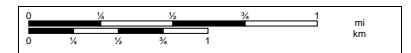
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www.delorme.com



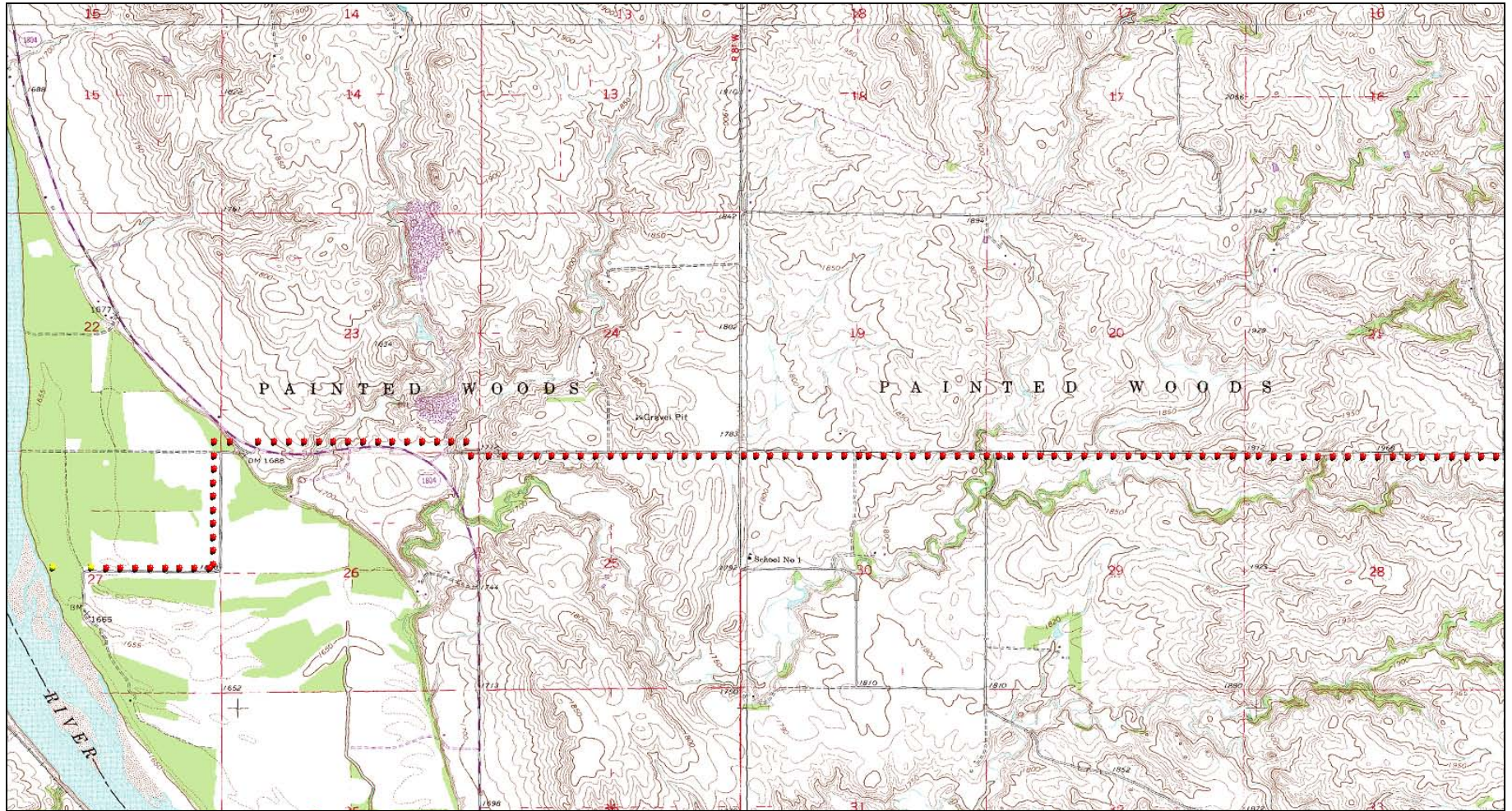
Data Zoom 13-0



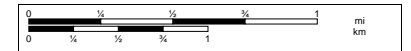
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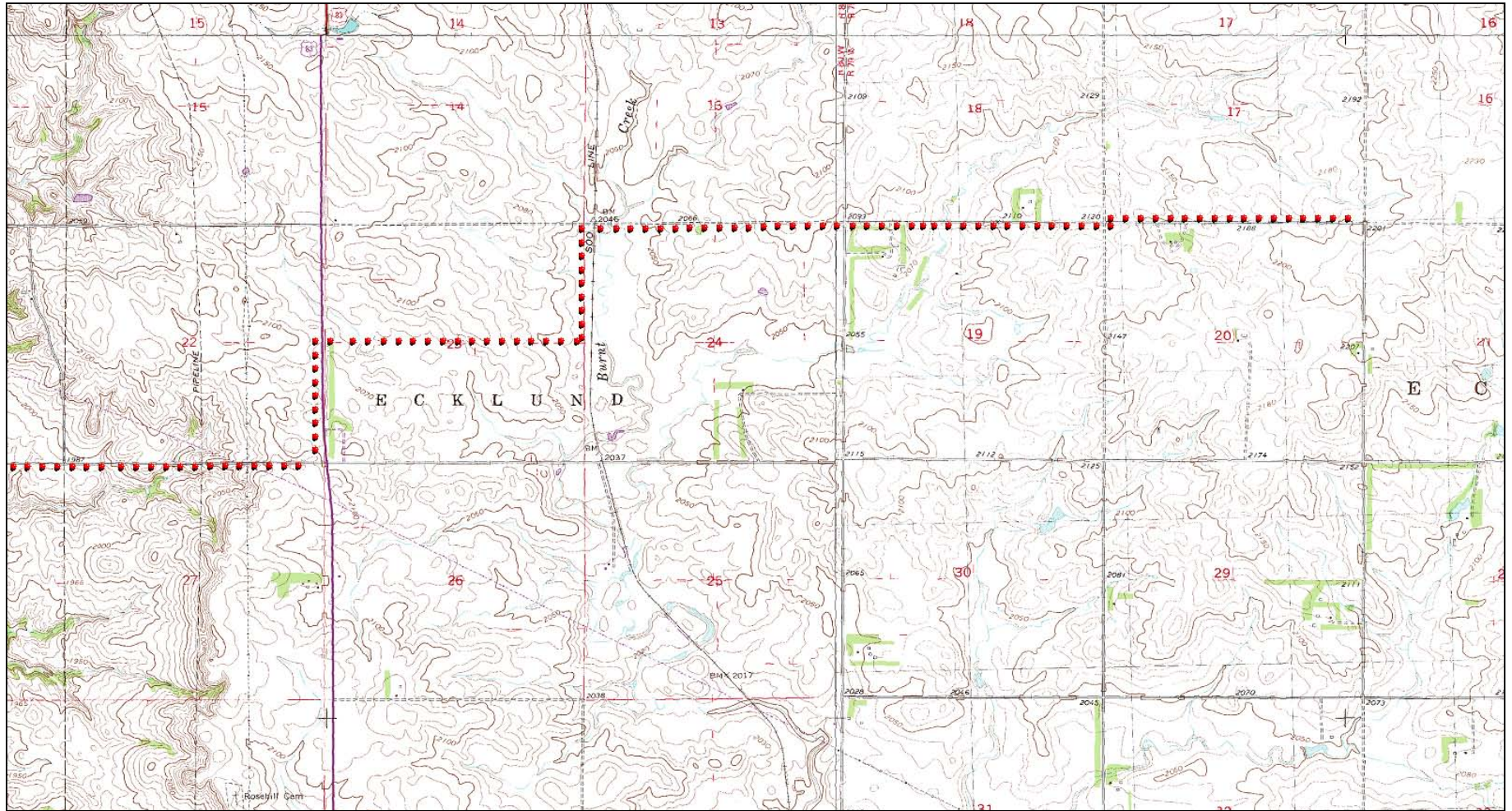
Data Zoom 13-0



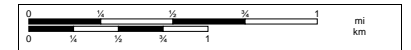
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Data Zoom 13-0

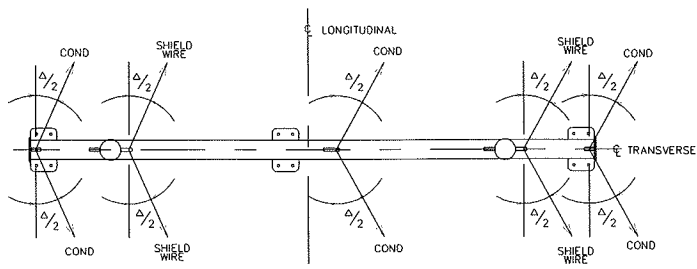


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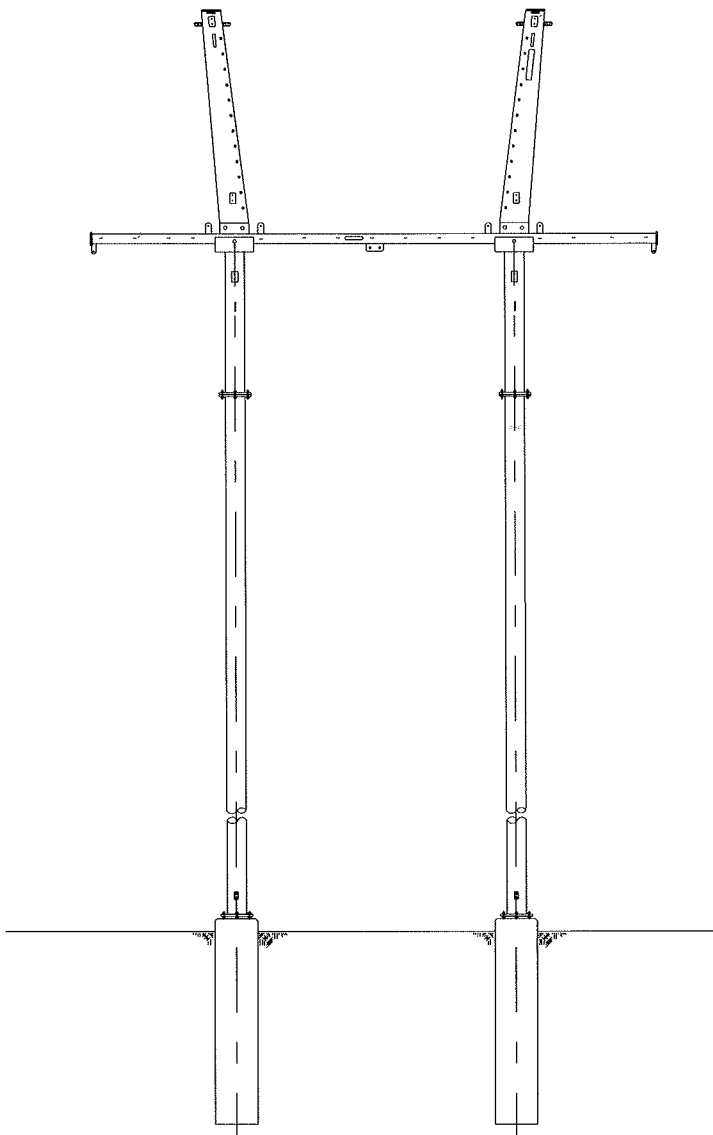


Data Zoom 13-0

Exhibit 2b



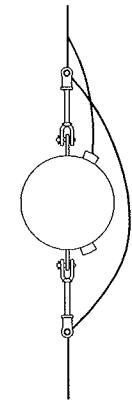
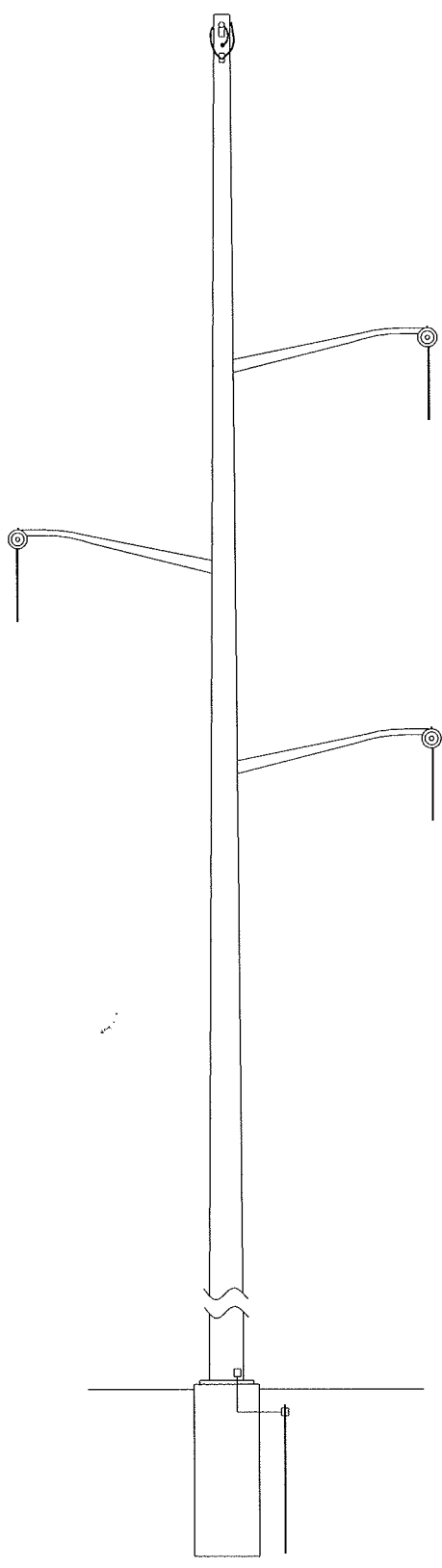
PLAN VIEW



PROFILE VIEW

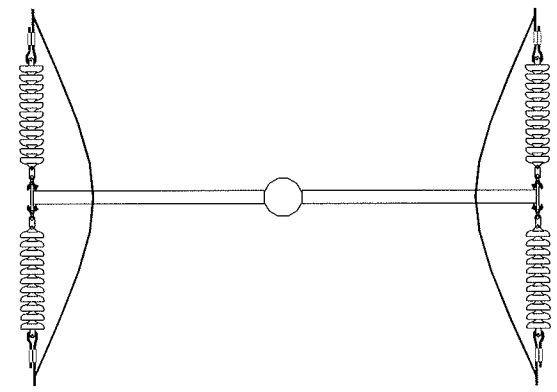
BURLEIGH COUNTY WIND FARM--DOUBLE SHAFT  
 RIVER CROSSING STRUCTURE

## Exhibit 2c



SHIELD WIRE PLAN

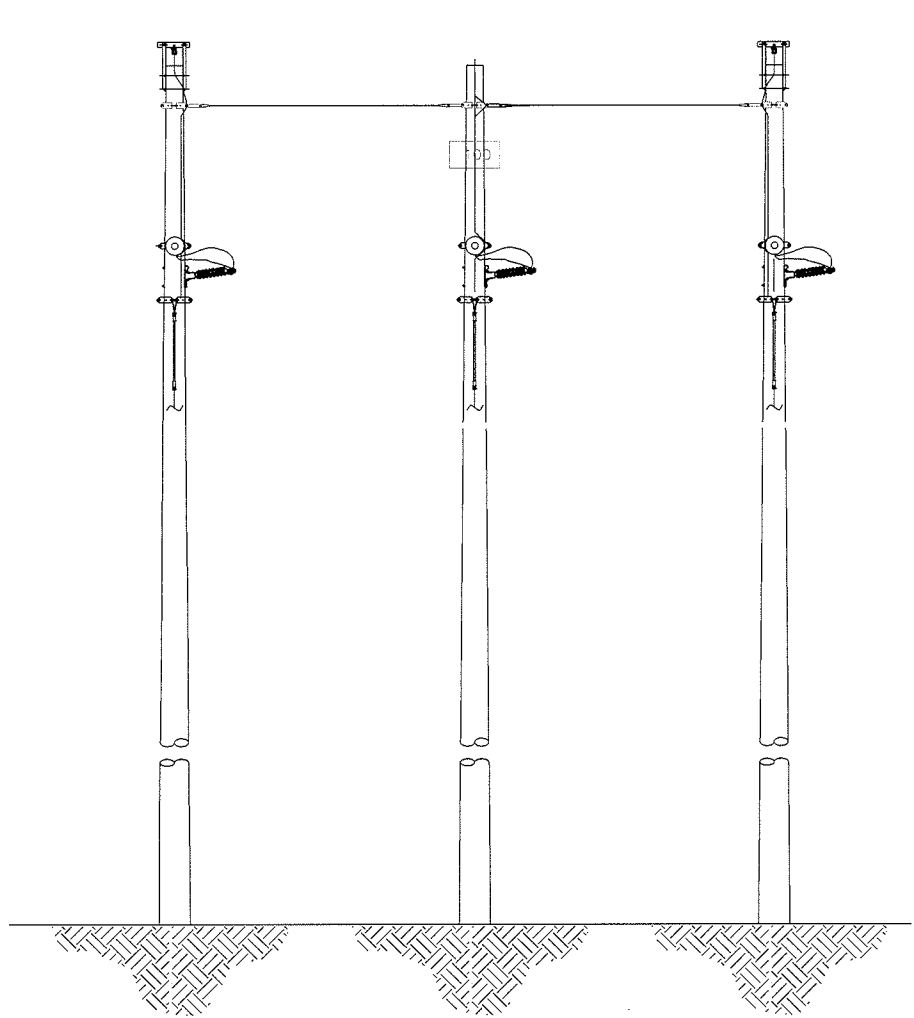
CONTRACTOR TO MAINTAIN  
60" CLEARANCE FROM JUMPER  
TO ANY METAL SURFACE.



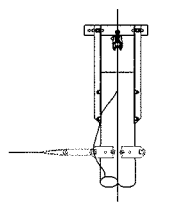
CONDUCTOR PLAN

BURLEIGH COUNTY WIND FARM--SINGLE SHAFT RIVER CROSSING STRUCTURE

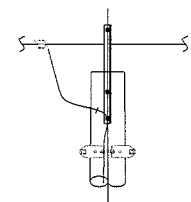
## Exhibit 2d



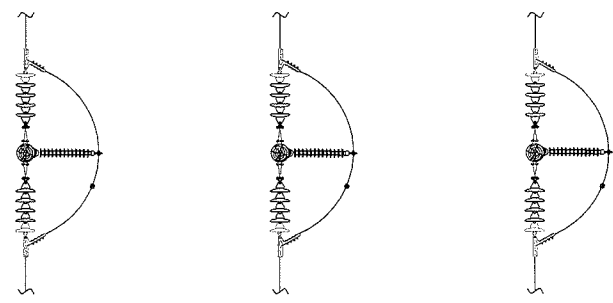
PROFILE



DETAIL C



DETAIL B



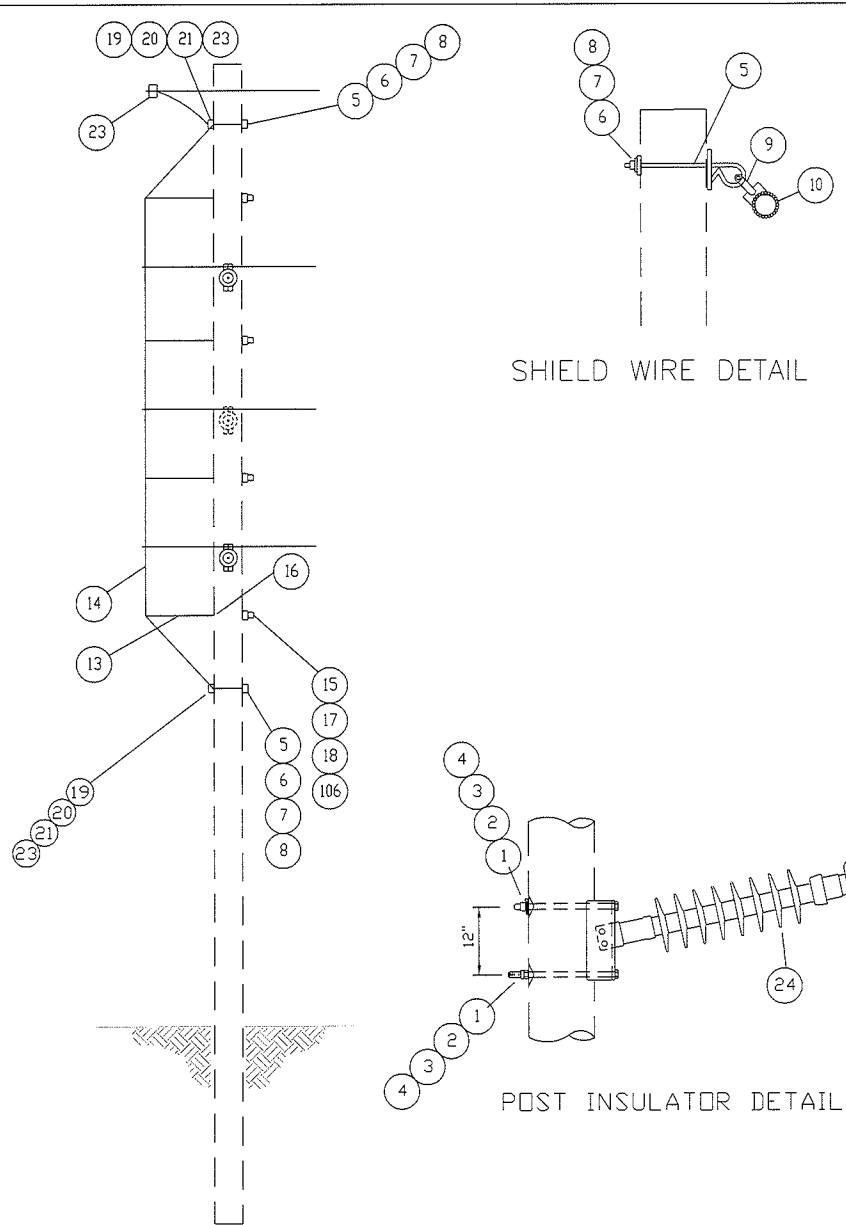
PLAN VIEW

BURLEIGH COUNTY WIND FARM--THREE POLE RIVER CROSSING  
STRUCTURE

## Exhibit 2e

SEE DRAWING  
TM-115 FOR  
FRAMING

SEE DRAWING  
TM9-GRW  
FOR GROUNDING



SHIELD WIRE DETAIL

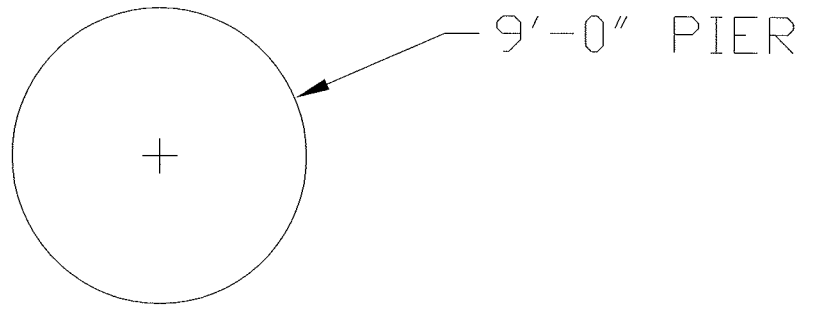
POST INSULATOR DETAIL

LIST OF MATERIALS

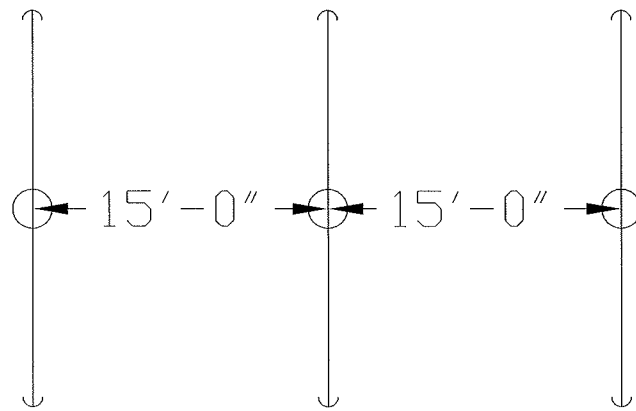
| REF. | REQ'D | DESCRIPTION  |
|------|-------|--|
| 1    | 6     | BOLT, MACH. w/NUT, 7/8" x REQ'D LENGTH (HUGHES B8XX-X OR EQUAL).               |
| 2    | 6     | WASHER, SQUARE, 4" x 4" x 1/4", 15/16" HOLE (HUGHES SCW4-80 OR EQUAL).         |
| 3    | 6     | WASHER, SPRING, 1 5/16" HOLE (HUGHES 2702.8 OR EQUAL).                         |
| 4    | 6     | LOCKNUT, 7/8" (HUGHES MF80 OR EQUAL).  |
| 5    | 3     | SHOULDER EYE BOLT 3/4" x REQ'D LENGTH" (HUGHES 2721.7XX-X OR EQUAL).           |
| 6    | 3     | WASHER, SQUARE CURVED, 4" x 4" x 1/4", 13/16" HOLE (HUGHES SCW4-70 OR EQUAL).  |
| 7    | 3     | WASHER, SPRING, 13/16" HOLE (HUGHES 2702.7 OR EQUAL).                          |
| 8    | 3     | LOCKNUT, 3/4" (HUGHES MF70 OR EQUAL).  |
| 9    | 1     | Y-CLEVIS EYE (PREFORMED YC-5206 OR EQUAL).                                     |
| 10   | 1     | AGS, SINGLE, 3/8"-7 EHS (PREFORMED AGS-7104 OR EQ.)                            |
| 13   | 4     | INSULATOR, DOWNLEAD, FBR GLS, 5/8"x12 IN. (DB DLM12BC OR EQ.)                  |
| 14   | 35    | WIRE, BARE, 1/0 ACSR 6/1 (RAVEN)   |
| 15   | 4     | WASHER, SPRING, 5/8 IN., HOLE (HUGHES 2702.6)                                  |
| 16   | 4     | WASHER, FLAT, 2 1/4 IN. SQ., 1 1/16 IN. HOLE (HUGHES SW2-1/4-XX-XX)            |
| 17   | 4     | NUT, LOCK, MF, GALV SQUARE 5/8 IN. (HUGHES MF60 OR EQUAL).                     |
| 18   | 4     | BOLT DOUBLE ARMING GALV 5/8 IN. (HUGHES TR6XX-F OR EQ.)                        |
| 19   | 60'   | WIRE, BARE, #4 COPPERWELD, DEAD SOFT   |
| 20   | 60    | STAPLE, GROUND WIRE, ZINC PLATED, 1/4 IN. x 1-1/2 IN. (CHANCE 7511-3/4 OR EQ.) |
| 21   | 2     | GRIP, FORMED WIRE, 1/0 ACSR 6/1 (PREFORMED DG-4544 OR EQUAL).                  |
| 23   | 3     | CLAMP, PARALLEL GROOVE ONE BOLT (ANDERSON LC-51-A OR EQ.)                      |
| 24   | 3     | INSULATOR, HOR. POST, 2 HOLE BLADE, POLYMER (DB 522008-1002 OR EQ.)            |
| 25   | 3     | AGS, SINGLE, 795 ACSR 26/7 (PREFORMED AGS-5130 OR EQUAL)                       |
| 26   | 3     | AGS, Y-CLEVIS, EYE (PREFORMED YC-5209)   |
| 106  | 2     | WASHER, SQ., CURVED, 4" x 4" x 1/4", 1 1/16" HOLE (HUGHES SCW4-60 OR EQ.)      |

BURLEIGH COUNTY WIND FARM--115KV WOOD TANGENT STRUCTURE

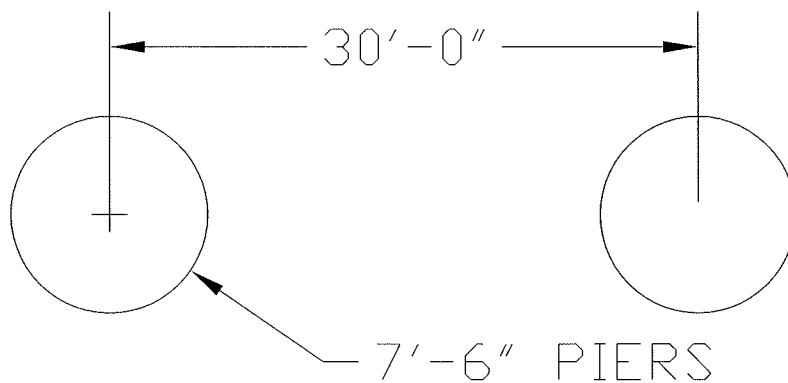
Exhibit 2f



SINGLE SHAFT DRILLED PIER FOUNDATION



THREE POLE GUYED FOUNDATION



DOUBLE SHAFT DRILLED PIER FOUNDATION

BURLEIGH COUNTY WIND FARM--RIVER CROSSING  
FOUNDATION PLANS (APPROXIMATE DIMENSIONS)

## **Exhibit 3**

Exhibit 3a

From: Kenneth\_Stein@fpl.com

Date: 04/12/2005

To: Highway department (Dept of Transportation) - Tom Freier Director  
State Historic Preservation Office of North Dakota - Paul Picha  
Indian Affairs Commission - Cheryl Kulas  
Land Department - Michael Haupt  
State Water Commission - Jim Lindseth  
Game and Fish Department - John Schumacher  
Aeronautics Commission  
Parks and Recreation Department - Christine Dirk  
North Dakota Department of Health - Chief (Dave Glatt)

Subject: Transmission Line Application

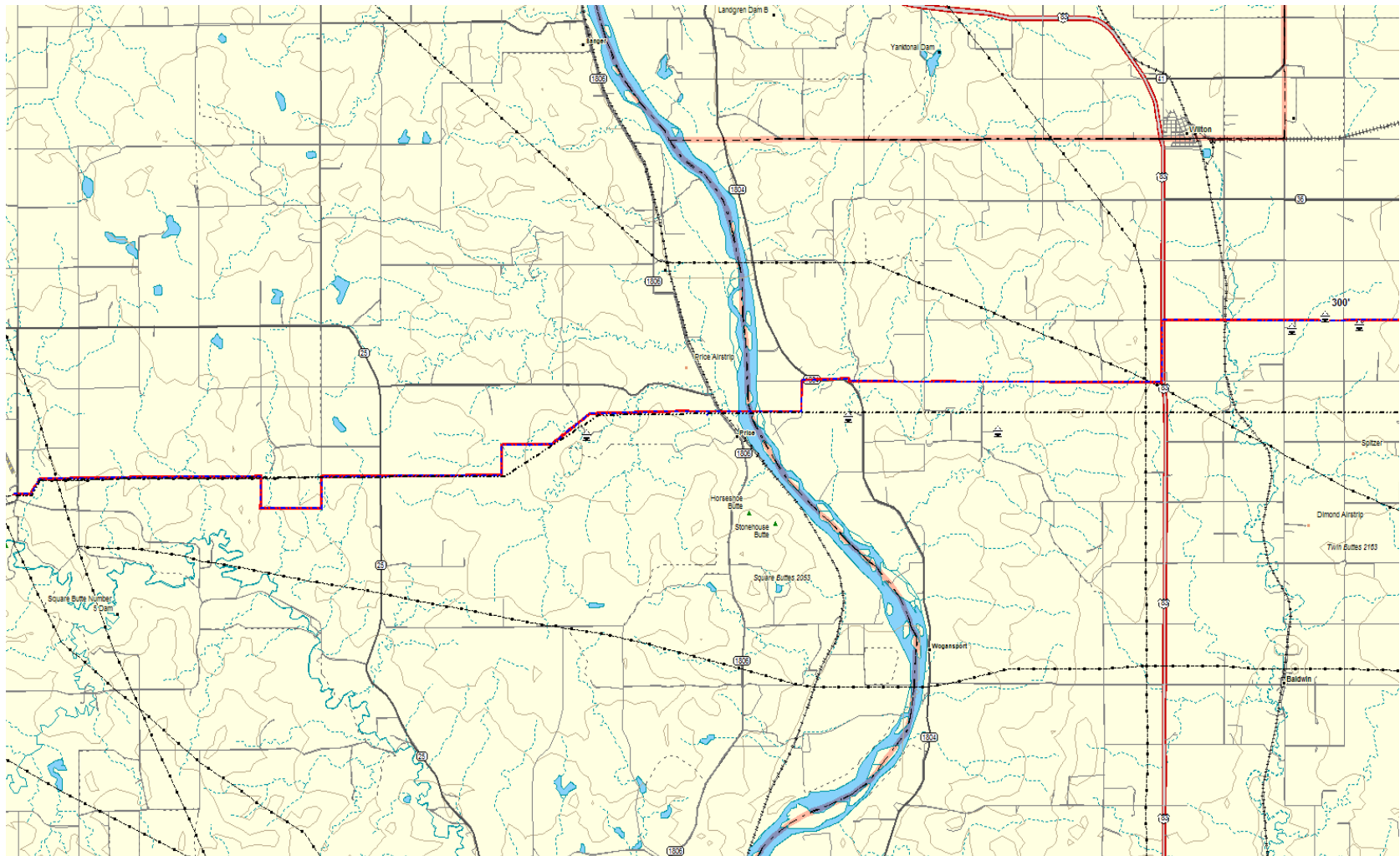
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FPL Energy is submitting an application to the ND Public Service Commission (PSC) for an approximately 30 mile long transmission line project that will follow an existing corridor in Burleigh and Oliver Counties. Please refer to the attached figure identifying the proposed route.

Per PSC regulations, we anticipate that you will be receiving a copy of the application for review likely in early May. We welcome any comments that you have. Please contact me if you have any questions:

FPL Energy  
Attn: Kenneth Stein  
Principal Environmental Specialist  
JB/JES  
700 Universe Blvd  
Juno Beach, FL 33408  
(561)691-2216  
Kenneth\_Stein@fpl.com

Thank you.



## **BURLEIGH COUNTY, NORTH DAKOTA**

### **Agency Meetings and Site Visit**

A representative from Maxim Technologies visited the site from March 7 through March 11, 2005. A meeting with representatives from agencies with potential jurisdictional authority was held on March 7, 2005.

The remainder of the site visit included an examination of areas of the proposed project including wind turbine locations, a proposed Missouri River crossing site, and assessment of one proposed transmission corridor. Only areas of the project which for which access agreements were in place or accessible from public roads were visually inspected.

### ***Agency Coordination Meeting***

We met for several hours with each agency representative presenting their respective agency's concerns. Attendees included representatives with the United States Army Corp of Engineers (USACE), United States Fish and Wildlife Service (USFWS), North Dakota State Water Commission (NDSWC), North Dakota Game and Fish Department (NDGFD) and the North Dakota Historic Preservation Office (NDSHPO). The meeting included an inspection of one potential Missouri River crossing site, where the DC line crosses, from both the eastern and western banks.

*USACE Representatives at the meeting were Daniel Cimarosti, and Jason Renschler.*

The USACE which will coordinate the review of any permits applications, Section 10 Letter of Permission (LOP) or Section 404 permit applications with the other agencies, expressed some concerns with the July construction date, if an individual permit is required. Minimum above water height is dependent upon line voltage carried; in this case minimum is 20 feet above the water, taking into consideration flood heights. This will likely not be an issue based on USFWS comments concerning crossing design as detailed in the next paragraph.

*USFWS Representative - Terry Ellsworth*

The major concern of the USFWS is the potential for impacts to endangered species at any of the proposed crossing sites, with bird collisions (Bald eagle, interior least tern, piping plover, whooping cranes) and subsequent mortality being the biggest concerns. The USFWS indicated that their position is that these impacts would be greatest at a new crossing site, relative to crossing near the existing DC utility corridor or other existing crossing, provided the new crossing was at the same height and appropriate avoidance mitigation methodologies were employed. USFWS representatives stated that it would be difficult to obtain a No-Effect determination at a new crossing; while crossing near the existing DC corridor might actually reduce the potential for bird interactions at the crossing by enhancing the visibility of the existing lines. USFWS also expressed concern with sharptail grouse leks, bird collisions (migratory birds and raptors) native prairie and wetlands.

*ND State Water Commission Representative - Jim Lindseth*

The ND Water Commission's authority includes the Missouri River up to the ordinary high water mark, waters which were meandered out of homestead parcels, wetland with drainages greater than 80 acres, and other designated waters of statewide significance.

Based on a preliminary review of the regulations, it appears that wetland regulations will not apply, as the dredge, fill, and drain activities noted in the regulations will be avoided. However, if the river crossing requires construction within in areas below the high water mark, then the regulations on islands and beds of navigable streams and waters would apply. This should be further discussed with the State Water Commission to verify that these determinations are correct. Final determinations cannot be made without final project development information.

*ND Game and Fish Department Representative - John Schumacher*

The ND Game and Fish expressed concerned with impacts to woody habitats, native prairies habitats, avian collisions with line and towers and impacts to sharptail grouse lek sites.

*ND Historic Preservation Representative - Paul Picha*

The NDSHPO representative expressed concern for known Historic sites, ground disturbance, and visual effects and indicated that a Class 1 cultural resources inventory should be performed for those areas with ground disturbance.

Based on the meeting, the preferred alternative is crossing adjacent to the existing DC line or other existing crossing site. The USACE representative indicated that such a crossing could likely be permitted for Section 10 and Section 404 by a simple letter of permission (LOP) and NWP 12 and/or NWP 14 with about a thirty day turnaround from application to issuance. Use of NWPs would be subject to meeting the thresholds for impacts (300 linear feet for stream crossings and 1/2 acre).

***Site Description***

*Missouri River Crossing Site*

The proposed site for crossing the Missouri River was located adjacent to and upstream of the existing Minnkota Electric DC line crossing. The Missouri River at this location is multi-channeled with several large sand bars present in mid-channel. These sandbars are utilized as nesting and foraging habitat by interior least terns and piping plovers. One adult bald eagle was observed in the area at the time of the site visit. This eagle was using large tree along the river bank in the crossing area for roosting and was observed flying low over the river in search of fish other food resources. Both banks are forested with large cottonwood and elm trees. Portions of the west bank in the vicinity are in hay or row crop production. Several wetland drainages were also present in the floodplain on the western bank. If this site is selected, it may not be possible to avoid at least minimal impacts to wetlands.

### Transmission Corridor

One transmission corridor was investigated during the site visit. This proposed corridor investigated during the site visit lays to the south of 226 Avenue west to approximately within approximately ½ mile of the Missouri River where it runs to the south to the existing Minnkota Electric DC line (DC line). The transmission line crosses the Missouri River upstream and adjacent to the existing DC line. After the crossing the Missouri River, the proposed corridor continues to the west, north of the 226 Ave line until it reaches Highway 25. At this point, it turns south to meet the existing DC line, and then proceeds to the Minnkota Power substation along a corridor parallel to the existing DC line.

The transmission line project area lies in a rural location with farming and livestock grazing and related agricultural operations dominating the land use. Land use within the proposed transmission line corridor is primarily agricultural, consisting of a mosaic of land in row-crop and hay-crop production, native and non-native grassland pastures and what appears to be Conservation Reserve Program (CRP) lands. Pasture land and hay land dominate the agricultural use in the portion of the corridor west of Highway 83. Areas which appear to be unbroken native grassland are present on several of the prominent ridges located within the project area. These areas possess numerous plant species which are found in native prairie habitats. These areas are currently or have been historically grazed or hayed and are not representative of undisturbed native prairie habitats which formerly dominated the landscape.

Forested areas consist almost entirely of patches of shrub/scrub located within drainages or uncultivated areas of the site. These areas may provide roosting, nesting and perching habitat for raptor and bats. No raptor nests were observed within the project boundaries.

Numerous wetland areas were identified during the site visit. These wetlands provide habitat for a wide variety of wildlife including reptiles and amphibians, birds and waterfowl and mammals present on the site. Wetland areas are present in every section of land within the project area, with the majority of wetlands. Wetland types include palustrine emergent wetlands with a predominance of herbaceous vegetation, palustrine emergent shrub/scrub and palustrine emergent forested wetlands with connections to ephemeral and permanent drainages which are tributaries to navigable WUS.

Depending upon the location of transmission towers and roads used to access tower locations, wetland impacts may occur. Impacts to tributaries streams to navigable waters will likely be under the jurisdiction of the USACE and will require Section 404 permits for any culvert installations and road crossing. These types of crossings can likely be permitted using Nationwide Permit (NWP) number 12 or 14, provided combined impacts of the project for these types of crossings are less than ½ acre in total. Impacts to wetlands determined to be isolated from WUS should be avoided if possible. However, impacts to these wetland types would not require Section 404 permits or mitigation activities.

In Section 26 of Township 142 N, Range 80 W, the proposed corridor cuts through what appears to be a subdivided parcel of land. One residence was present within the subdivided parcel at the time of the site visit.

Exhibit 3b

Correspondence Regarding Dwelling in  
Section 18-T142N-R79W

In pursuant to the dwelling in section 18-T142N-R79W, I have reviewed with the owner our plans to place a 230 KV line within 500' of the dwelling. He understands the line is a necessary element of FPLE's proposed wind farm and has no objection to their placement. He has given me his verbal permission and followed it up with a written consent. The letter is on file.

Thank you.

Ted Weissman  
1000 University Manor Drive  
Suite 21  
Fairfield, Iowa 52556

Exhibit 3c

## PSC Service List

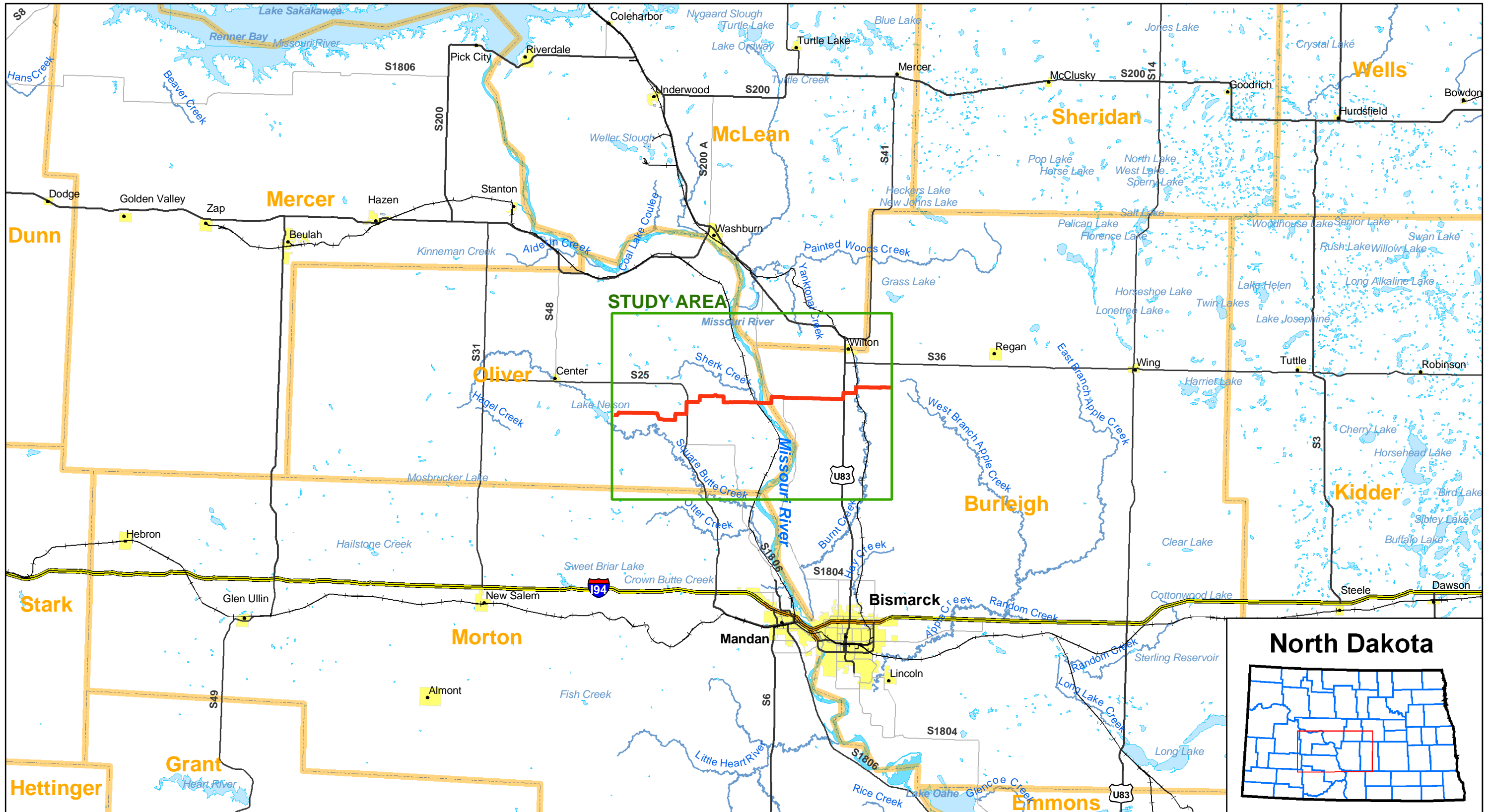
(Please note that this list references half of the owners who are affected.  
Contact information for additional landowners will follow as soon as possible.)

| Parcel                          | Name                   | Address                              | Phone  |
|---------------------------------|------------------------|--------------------------------------|--|
| <b>Eklund AK</b>                |                        |                                      |  |
| <b>T142N R79W</b>               |                        |                                      |  |
| Sec.17-T142N-R79W S/2           | Darwin Gordon          | 4401 279 AV NE, Wilton,<br>ND        | 734-6698 Cell for evenings<br>- 701-471-1862 |
| Sec.20-T142N-R79W NW            | Darwin Gordon          | see above                            |  |
| 19 N/2                          | Milo E Schuler         | 27701 26St NE, Wilton,<br>ND         | 701-734-6677                                 |
|                                 |                        |                                      |  |
| <b>Eklund AJ</b>                |                        |                                      |  |
| <b>T142N R80W</b>               |                        |                                      |  |
| Sec.24-T142N-R80W NE            | Wayne Granfor          | 1300 266 Av NE, Wilton,<br>ND        | 701-734-6370                                 |
| Sec.24-T142N-R80W NW            | Mary Lane              | 10800 353 St SE, Moffit,<br>ND 58560 | 701-387-4427                                 |
| Sec.23-T142N-R80W NE            | Anton Krush            | 31501 12 ST NE, Wilton,<br>ND        | 701-734-6725                                 |
| Sec.23-T142N-R80W NW            | Lois Gordian LE        | 526 Burleigh Road Wilton,<br>ND      | (701) 734-6332                               |
| Sec.22-T142N-R80W NE            | Donald & Bonnie Holden | 25590 HWY 83, Wilton,<br>ND          | 701-734-6767 cell 701-471-<br>9968           |
| Sec.22-T142N-R80W N/2 of<br>SE  | Stanley Murrey         | 27500 15 ST NW, Wilton,<br>ND        | 701-734-6396                                 |
| Sec.22-T142N-R80W SE/4 of<br>SE | Esther Murrey          | 207 Minnesota Ave<br>Wilton, ND      | contact Stanley Murrey 701-<br>734-6396      |
| Sec.27-T142N-R80W               | Donald & Bonnie Holden | see above                            |  |

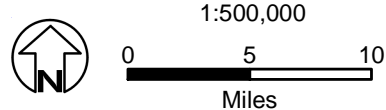
| <b>Parcel</b>           | <b>Name</b>                                       | <b>Address</b>                               | <b>Phone</b>                                       |
|-------------------------|---|--|--|
| <b>Painted Woods BJ</b> |   |  |  |
| <b>T142N R80W</b>       |   |  |  |
| Sec.28-T142N-R80W NE    | Donald & Bonnie Holden                            | see above                                    |  |
| Sec.28-T142N-R80W NW    | Esther Murrey                                     | 207 Minnesota Ave<br>Wilton, ND              | 701-734-6768                                       |
| Sec.29-T142N-R80W N     | Martin & Donna Hagen                              | 25451 41 ST NW, Wilton,<br>ND                | 734-6353   |
| Sec.30-T142N-R80W N     | H Johnson ETAL - owned by<br>John & Berta Anstrom | P.O. Box 11074 Fargo, ND<br>58106-1074       | 701-237-5114                                       |
|                         |   |  |  |
| <b>Painted Woods BI</b> |   |  |  |
| <b>T142N R81W</b>       |   |  |  |
| 25 NE                   | Martin & Donna Hagen                              | see above                                    |  |
| Sec.23-T142N-R81 W/2    | Margaret Davenport                                | 27550 HWY 1804 NW,<br>Baldwin, ND 58521-9744 | contact is her son Dan<br>Davenport (701) 255-6098 |
| Sec.23-T142N-R81 E/2    | William Hansen                                    | 266th Ave. NW Wilton,<br>ND 58579            | 701- 734-6548                                      |
|                         | Bruce Hansen                                      | 266th Ave. NW Wilton,<br>ND 58579            | 701- 734-6548                                      |
| Sec.22-T142N-R81W SE    | Margaret Davenport                                | 27550 HWY 1804 NW,<br>Baldwin, ND 58521-9744 | contact is her son Dan<br>Davenport (701) 255-6098 |
| Sec.24-T142N-R81W SW    | William Hansen                                    | see above                                    | 701- 734-6548                                      |

| <b>Parcel</b>      | <b>Name</b> | <b>Address</b>   | <b>Phone</b>   |
|--------------------|-------------|--|--|
| 27 S/2 of N/2      | June Miller | June I. Miller 1914<br>Catherine Drive Bismarck,<br>ND 58501 | 701.255.3679   |
| 27-142-81 N/2, N/2 | Ken Opheim  | 702 Ithica Avenue, Spirit<br>Lake, IA 51360                  | 712-336-4938 work 507-<br>831-0369 email<br>skopheim@hotmail.com |

**Exhibit 4**



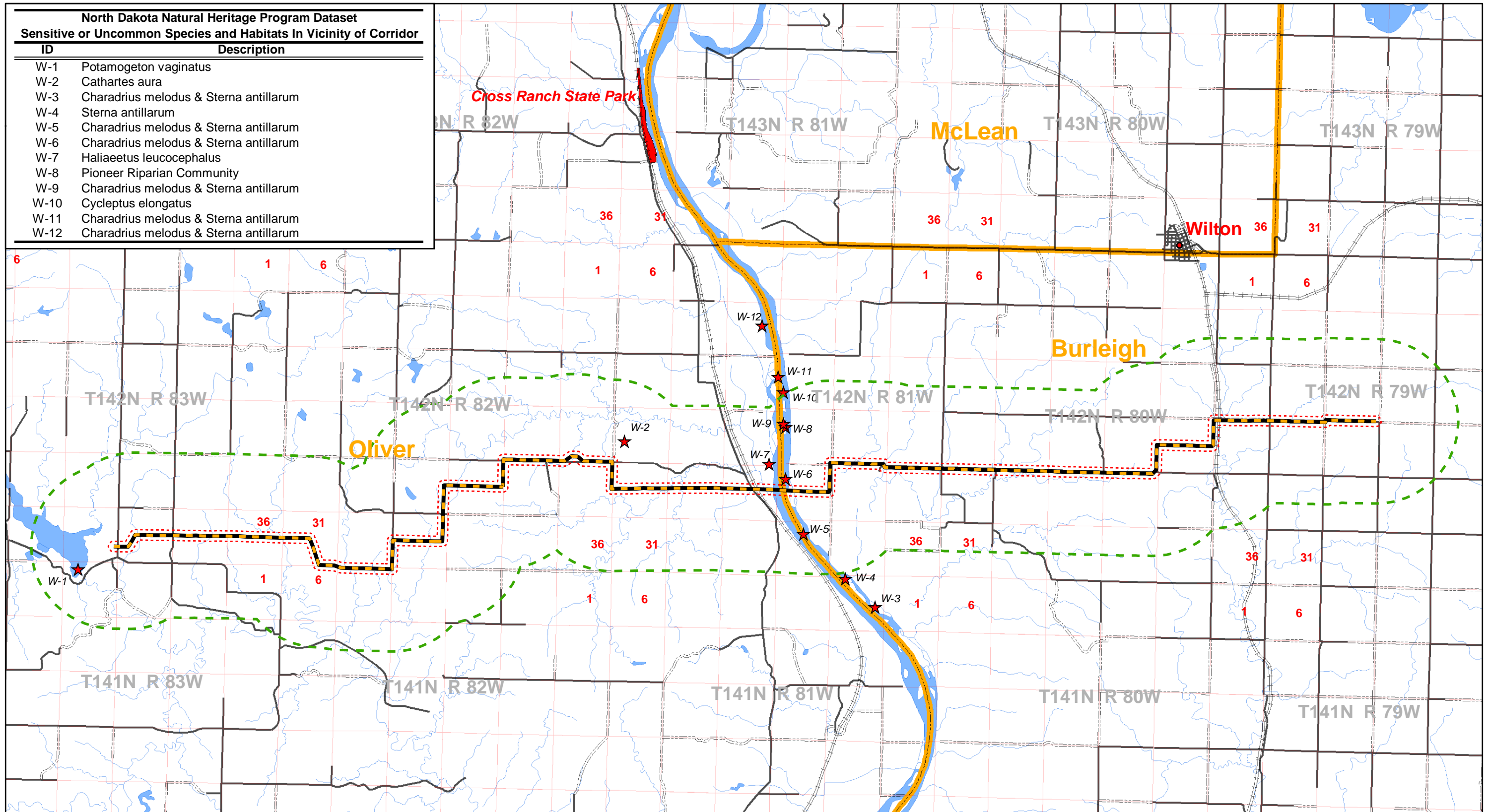
- Cities and Towns
- Proposed Transmission Line
- ▭ Study Area
- ▭ County Lines



**FIGURE 1**  
**GENERAL LOCATION MAP AND STUDY AREA**  
**FPLE - ELECTRICAL TRANSMISSION LINE**  
**BURLEIGH AND OLIVER COUNTIES, NORTH DAKOTA**

**North Dakota Natural Heritage Program Dataset**  
**Sensitive or Uncommon Species and Habitats In Vicinity of Corridor**

| ID   | Description                            |
|------|--|
| W-1  | Potamogeton vaginatus                  |
| W-2  | Cathartes aura                         |
| W-3  | Charadrius melodus & Sterna antillarum |
| W-4  | Sterna antillarum                      |
| W-5  | Charadrius melodus & Sterna antillarum |
| W-6  | Charadrius melodus & Sterna antillarum |
| W-7  | Haliaeetus leucocephalus               |
| W-8  | Pioneer Riparian Community             |
| W-9  | Charadrius melodus & Sterna antillarum |
| W-10 | Cycleptus elongatus                    |
| W-11 | Charadrius melodus & Sterna antillarum |
| W-12 | Charadrius melodus & Sterna antillarum |



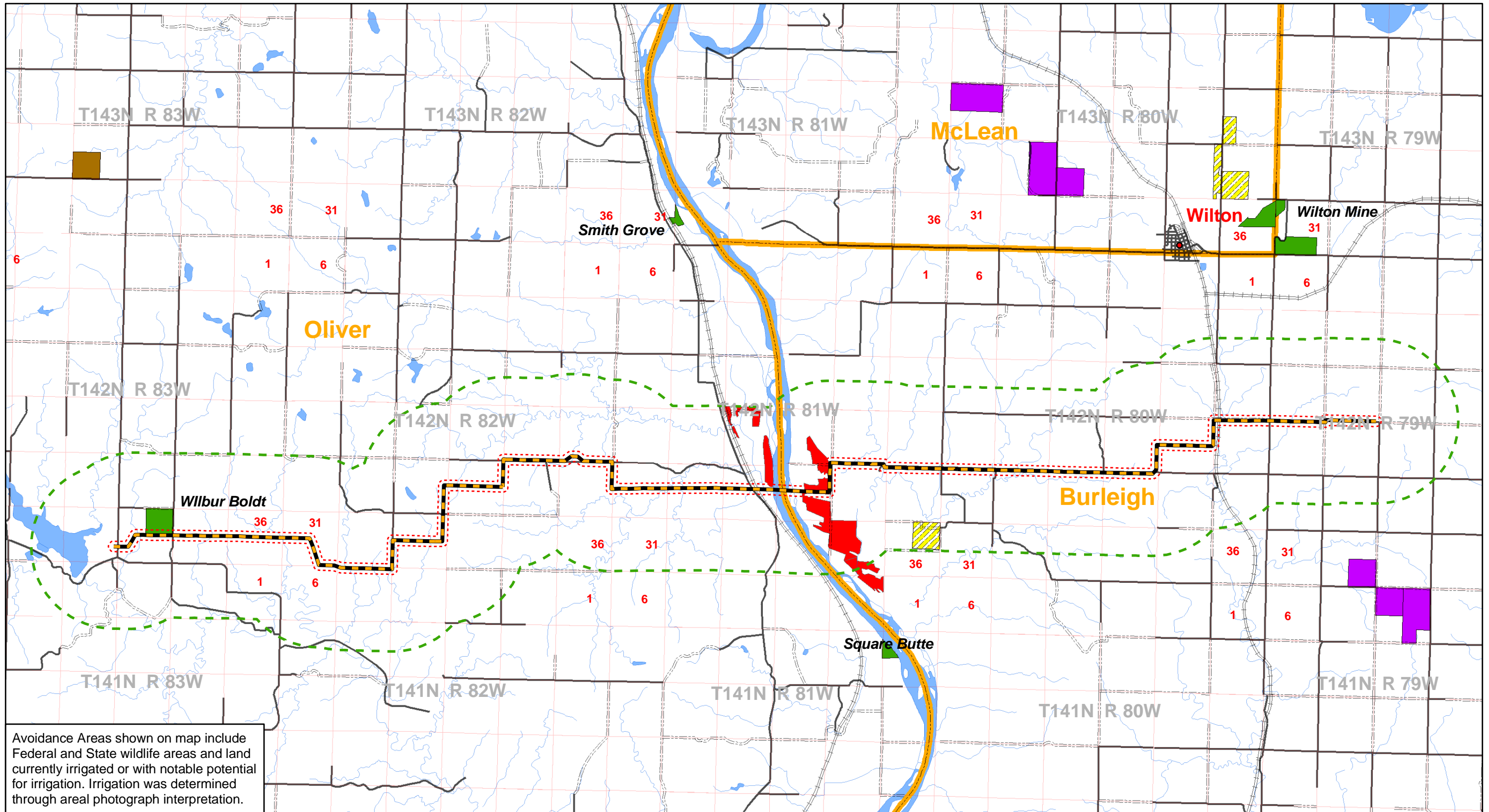
- ★ Sensitive Species and Habitats
- ▭ County Lines
- ▬ Transmission Line
- ⋯ Trails or Minor Roads
- ▭ State Park
- ▬ Corridor (1.5 Mile Offset)
- ▬ Railroads
- ▬ 500ft Route Buffer

**TETRA TECH, INC.**

1:110,000

Miles

**FIGURE 2**  
**EXCLUSION AREAS**  
**FPLE - ELECTRICAL TRANSMISSION LINE**  
**BURLEIGH AND OLIVER COUNTIES, NORTH DAKOTA**



Avoidance Areas shown on map include Federal and State wildlife areas and land currently irrigated or with notable potential for irrigation. Irrigation was determined through areal photograph interpretation.

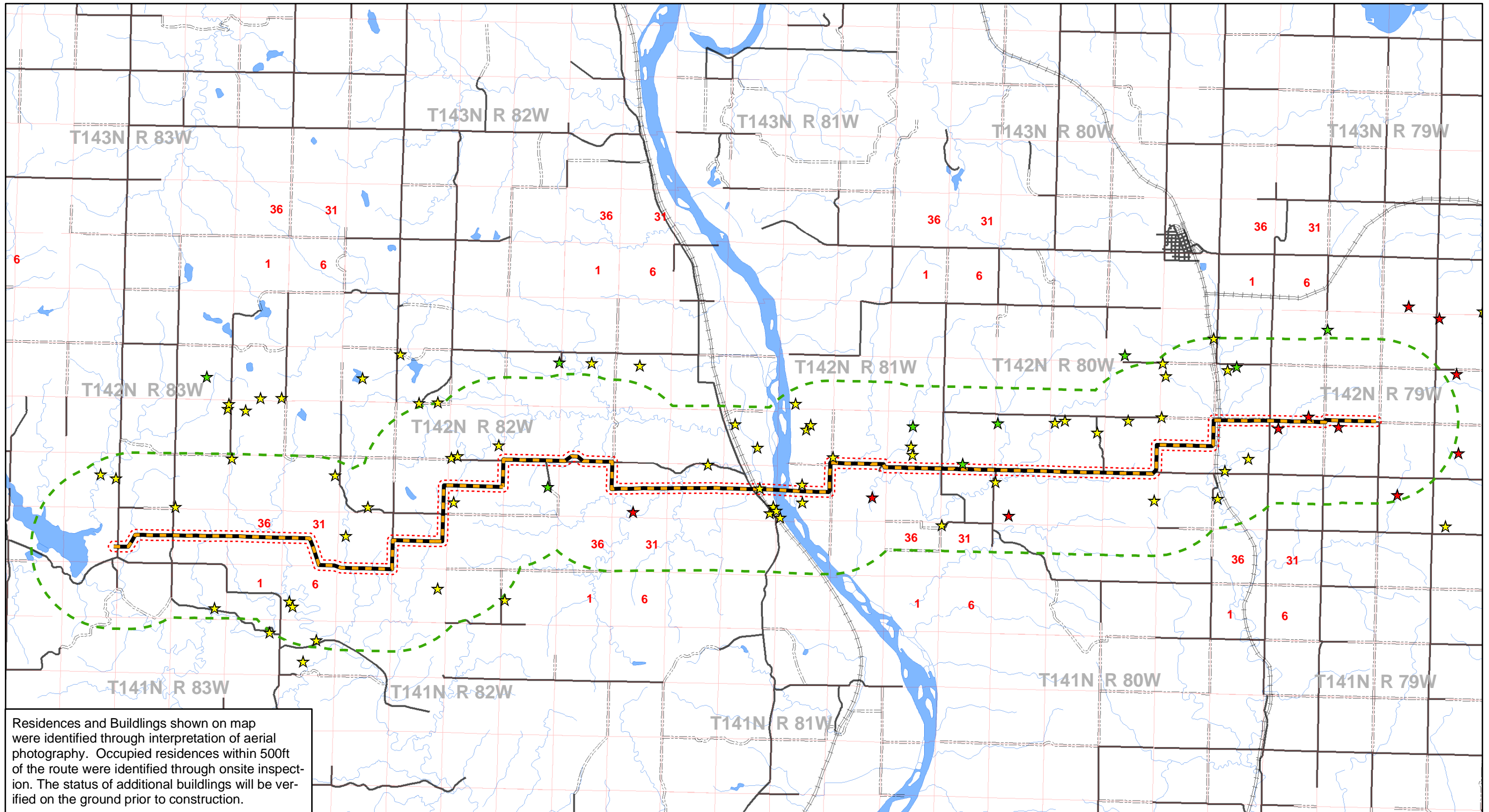
**TETRA TECH, INC.**

1:110,000

0 1 2 Miles

- Trails or Minor Roads
- Railroads
- County Lines
- Conservation Reserve Enhancement Program
- ▨ Conservation Reserve Program
- Wildlife Management Area
- Other ND Game & Fish
- Irrigation Potential
- - - 500ft Route Buffer
- - - Corridor (1.5 Mile Offset)
- Transmission Line

**FIGURE 3**  
**AVOIDANCE AREAS**  
**FPLE - ELECTRICAL TRANSMISSION LINE**  
**BURLEIGH AND OLIVER COUNTIES, NORTH DAKOTA**



Residences and Buildings shown on map were identified through interpretation of aerial photography. Occupied residences within 500ft of the route were identified through onsite inspection. The status of additional buildings will be verified on the ground prior to construction.

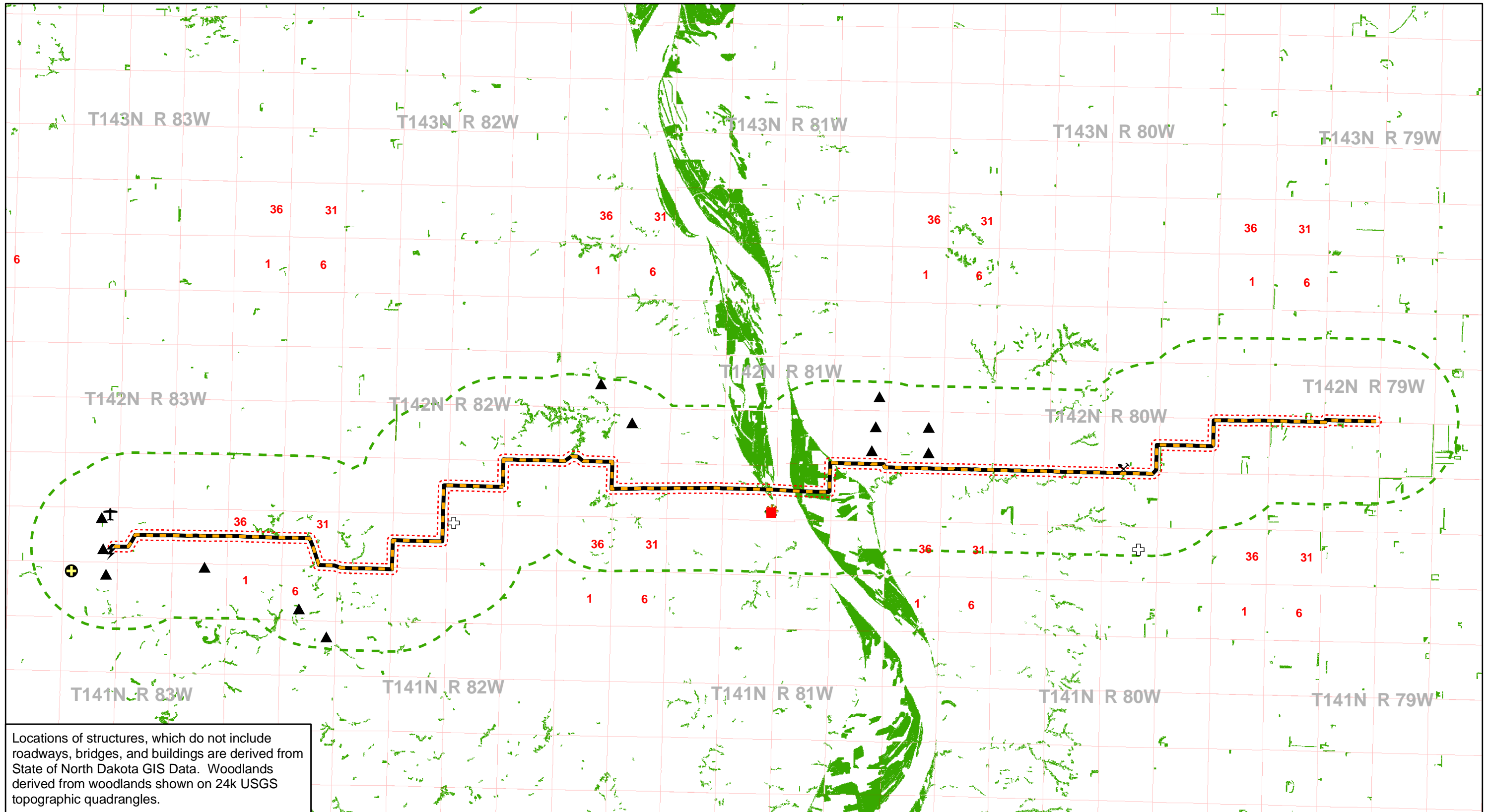
**TETRA TECH, INC.**

1:110,000

0 1 2 Miles

- Roads
- == Railroads
- ★ Building (Status Unknown)
- ★ Occupied Residence
- ★ Vacant Residence
- Transmission Line
- - - 500ft Route Buffer
- - - Corridor (1.5 Mile Offset)

**FIGURE 4**  
**AVOIDANCE AREAS - RESIDENCES AND FARMSTEADS**  
**FPLE - ELECTRICAL TRANSMISSION LINE**  
**BURLEIGH AND OLIVER COUNTIES, NORTH DAKOTA**

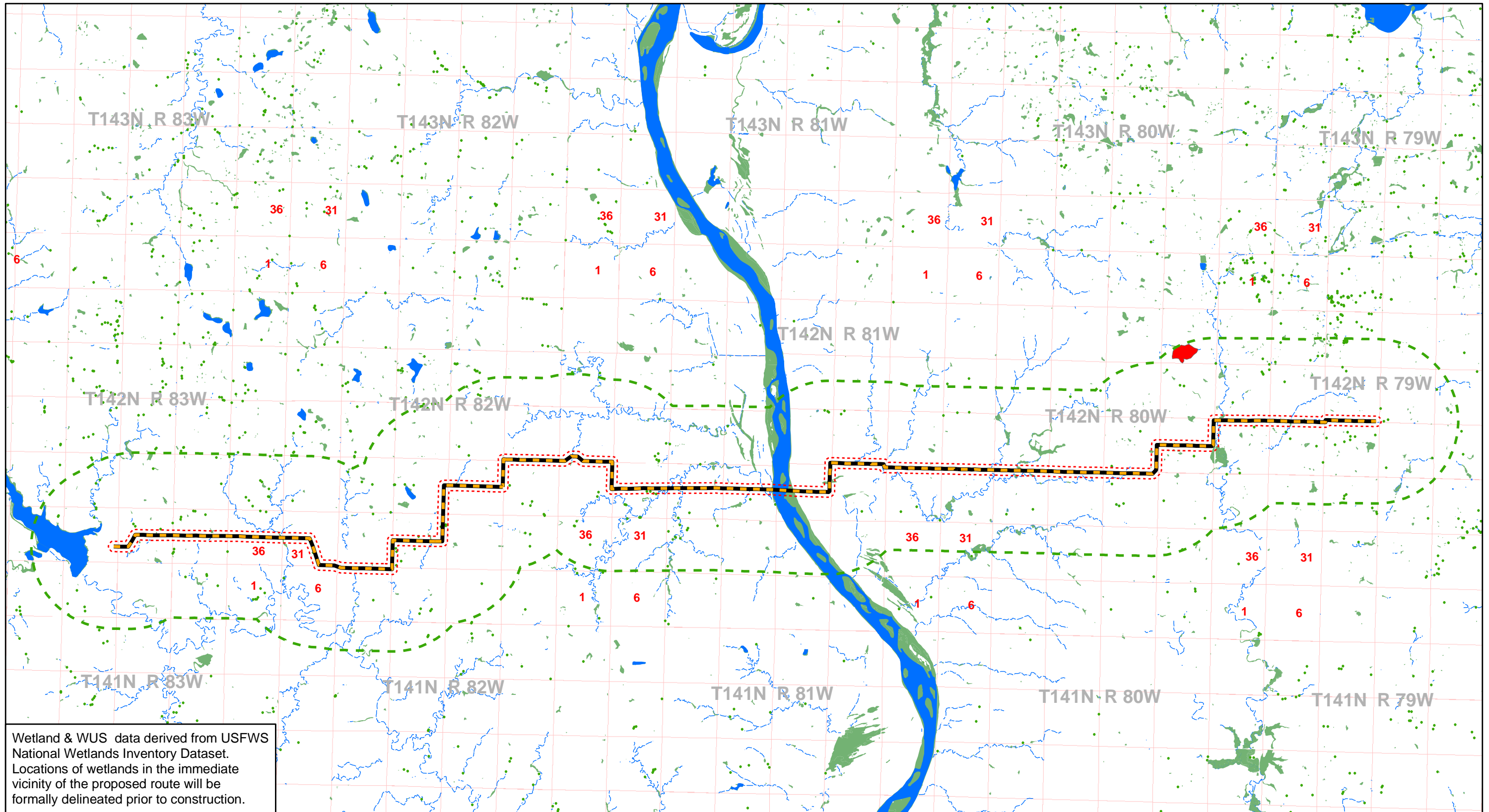


Locations of structures, which do not include roadways, bridges, and buildings are derived from State of North Dakota GIS Data. Woodlands derived from woodlands shown on 24k USGS topographic quadrangles.

- |                            |                         |                                       |
|----------------------------|-------------------------|---------------------------------------|
| Woodlands                  | Cemetery, North & South | Power Plant                           |
| Transmission Line          | Gravel Pit              | Power Substation                      |
| 500ft Route Buffer         | Landing Area or Strip   | Railroad Station                      |
| Corridor (1.5 Mile Offset) | Mine Shaft or Drift     | Store or Small Business Establishment |



**FIGURE 5**  
**AVOIDANCE AREAS - STRUCTURES**  
**FPLE - ELECTRICAL TRANSMISSION LINE**  
**BURLEIGH AND OLIVER COUNTIES, NORTH DAKOTA**



1:110,000  
0 1 2  
Miles

- Waters of the US
- Wetland Point Features
- FWS NWI Wetlands
- Major Water Body
- USFWS Wetland Easements
- Transmission Line
- 500ft Route Buffer
- Corridor (1.5 Mile Offset)

**FIGURE 6**  
**AVOIDANCE AREAS - WETLANDS**  
**FPLE - ELECTRICAL TRANSMISSION LINE**  
**BURLEIGH AND OLIVER COUNTIES, NORTH DAKOTA**

## **Exhibit 5**

# **Critical Issues Analysis (Environmental Resource Report)**

*Will be submitted at a later date if requested*

## **Exhibit 6**



BUILDING FOR  
A SUSTAINABLE FUTURE  
ENVIRONMENTAL REPORT

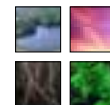




## FPL Group At A Glance (NYSE: FPL)

FPL Group is one of the nation's largest providers of electricity-related services with annual revenues of \$8.5 billion. Our companies include:

|                                  | Overview   | Highlights  |
|----------------------------------|--|---|
| <b>Florida Power &amp; Light</b> | Serves 4 million customer accounts in Florida                    | More than 21,000 MW of generating capacity covering 27,700 square miles of service territory, approximately 550 substations and over 67,000 miles of electric lines |
| <b>FPL Energy</b>                | A leader in producing electricity from clean and renewable fuels | More than 5,000 MW of owned operating capacity in more than a dozen states  |
| <b>FPL FiberNet</b>              | A leading provider of fiber-optic networks in Florida            | More than 2,500 route miles of fiber optic capacity, which is the second-largest metropolitan area fiber network in the U.S.  |



# To Our Friends and Neighbors

We at FPL Group work hard to provide reliable and reasonably priced electricity and related services to customers across the United States. Doing so safely and in harmony with our environment continues to be a value all of our employees share. It is a challenge and commitment we take very seriously, and it is a key to our success.

The examples in this report will help you understand how we're minimizing our impact on the environment and collaborating with our communities on sensitive issues.

Building on our successes, we can look with great confidence to the challenges and opportunities of the future. Growth in demand for electricity will continue across the markets we serve. Much of this growth will be driven by increases in the use of technology, which is radically transforming the way we live, work and play. Consumers, community groups and others are more keenly aware of environmental issues than ever before and will continue to share their views with us and with policymakers in government.

These realities are driving us to think in new and highly creative ways about how best to serve both our customers and the communities in which we do business, while positioning the company for strong performance going forward.

We're excited about the future. Meeting the demand for cost-effective production of electric power *can* go hand-in-hand with sustaining, protecting and enhancing our beautiful and fragile environment ... and, in our view, it *must*. Future generations will be affected by how we act today, and we believe this is the most important reason to continue building a sustainable future for every part of our business.

Sincerely,

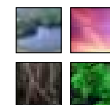
Lew Hay  
Chairman,  
CEO and President

Randy LaBauve  
Vice President,  
Environmental Services

# We're Your **Neighbors**



**Innovest ranked FPL #1 out of 28 major electric utilities surveyed for environmental performance.**



FPL Group is one of the largest energy companies in the nation, with millions of people benefiting from the electricity and related services we provide.

Our aim, however, is to operate not as a large, faceless corporation, but rather as a team of dedicated employees led by strong corporate leadership. In that sense, we're sharply focused on:

- anticipating and understanding our customers' needs;
- building long-term relationships in the neighborhoods and communities of which we're a part, and;
- being open-minded and receptive to new ideas.

An important part of all of these strategies and actions is a commitment to conduct all business activities in an environmentally responsible manner. For example:

- We work to embrace the spirit and intent of environmental laws, regulations and standards, as we continue to focus on environmental improvement.

- We incorporate environmental protection and stewardship as an integral part of the design, construction, operation and maintenance of our facilities.
- We encourage the wise use of energy to minimize adverse impacts on the environment.
- We communicate clearly and frequently on environmental issues.
- We conduct periodic self-evaluations and report on our performance.

So after having heard our intentions, some may ask: How have we done? Has FPL Group been a good neighbor?

Many of you will judge our performance based on your own personal interactions with and observations of the company ... and that's as it should be. Others of you may find it helpful to judge our performance by reviewing the numerous local, state and national environmental awards FPL Group continues to receive.

For example:

- In 2002 FPL ranked first out of 28 major electric utilities surveyed in an environmental assessment conducted by Innovest, an independent advisory group. Innovest believes a company's environmental performance bodes well for its future stock price performance.
- We were awarded the 2001 Waste Reduction and Pollution Prevention Award from the Solid Waste Association of North America. Its Florida Sunshine

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The Florida Ocean Alliance, whose mission is to protect and enhance ocean resources, presented FPL with its Environmental Achievement Award for our innovative energy management programs in 2001.

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Chapter recognized us for our efforts to conserve resources and protect the environment.

- FPL received a 2001 Program Champion Award from the Environmental Protection Agency’s WasteWise program. This is the third time we have received this honor. WasteWise is a voluntary program and involves business, government agencies and others who have pledged to conserve natural resources

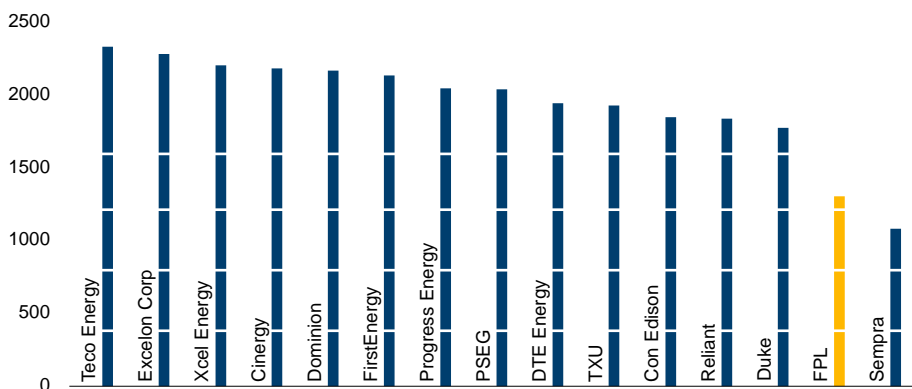
through solid waste reduction.

- Our innovative wildlife, land and water management efforts at FPL Energy’s Harris hydroelectric facility in Maine were recognized by the National Hydropower Association in its 2002 Outstanding Stewardship of America’s Rivers report.
- The Florida Department of Environmental Protection named FPL a “Partner for Ecosystem Protection” for our emission-

reducing “repowering” projects at our Fort Myers and Sanford locations. Repowering involves converting older, oil-fired plants to new clean-burning and more efficient natural gas-fired technology.

- Guidelines and information we developed for our Web site, [www.fpl.com](http://www.fpl.com), for protection of the Florida manatee generated a StudyWeb Academic Excellence Award for FPL. StudyWeb is a favorite Web site for teachers and students who use the site’s educational resources for classroom projects and homework assignments.

Although we’ve earned important recognition for our environmental programs, we continue to seek ways to do even better.



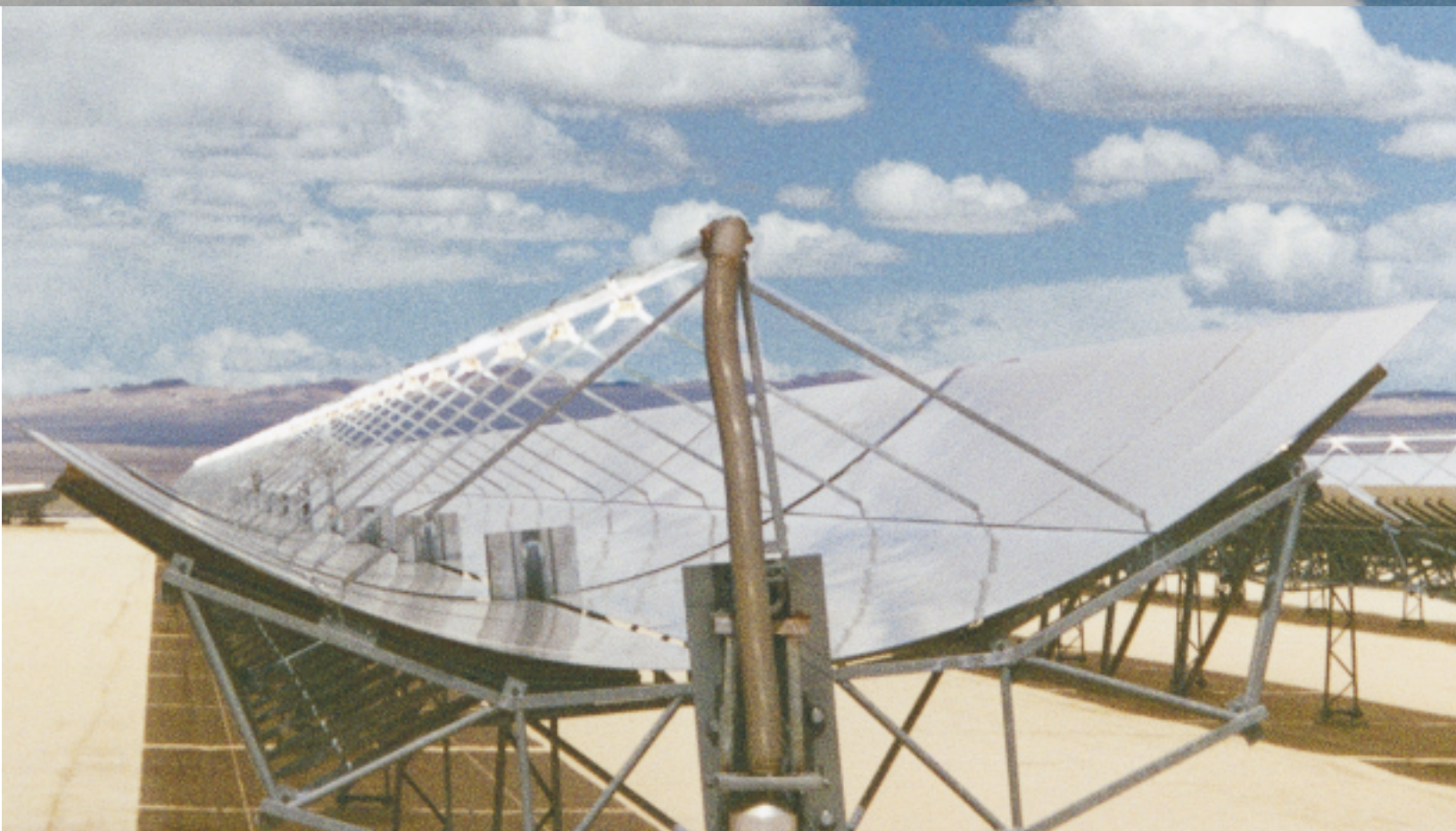
**Fossil Generation Portfolio CO2 Emissions (lbs/mwh)**

Source: Resource Data Institute. Based on a 3-year average of 1999-2001. Includes only fossil generation. Excludes plants with incomplete data, usually peakers and smaller units.

FPL Group is a charter partner in the Environmental Protection Agency’s voluntary Climate Leaders program aimed at reducing greenhouse gas emissions. The program will begin by inventorying six greenhouse gases produced by fossil fuel-burning facilities and other greenhouse gas contributors.

Over the past decade, we voluntarily have made significant reductions in plant emissions, and today we have some of the lowest emission rates of sulfur dioxide, nitrogen oxide and carbon dioxide in the industry. Partnering with the EPA in Climate Leaders is an important next step for FPL Group to take on our journey to assess and reduce emissions at our power plants in Florida and throughout the country.

FPL Energy owns and operates the largest solar field in the world at its Mojave Desert facility.



## We're Taking Care of **Business**

**F**rom design and construction to operations, maintenance, and all other aspects of our business, no major decision is made at FPL Group without carefully considering its environmental impact.

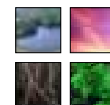
For example, it's our policy that:

- the Board of Directors reviews company environmental strategies and performance;
- operating divisions' business plans include environmental

- performance as a key component;
- we regularly conduct environmental audits of our facilities and operations;
- environmental factors make up a big part of company "due



FPL Energy is the largest developer and operator of wind energy in the United States.



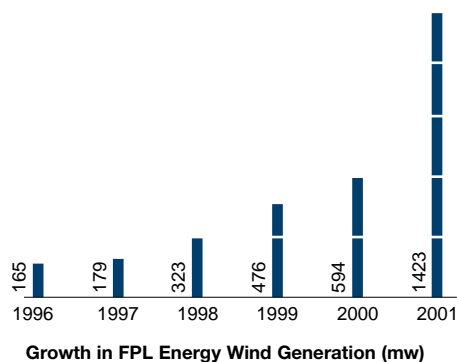
diligence” research prior to making any decision to purchase a development project, power plant or business;

- employees are trained in many aspects of environmental awareness, management and procedures, and;
- employee performance evaluations consider whether environmental targets have been completed successfully.

The environmental activities of FPL Group are guided by environmental professionals who represent more than 45 areas of expertise and have an average of 15 years of experience. Many worked previously as regulators, power plant personnel or environmental consultants.

Here’s a glimpse at how the company’s high expectations are being achieved on a daily basis:

- FPL maintains a diverse fuel mix of nuclear, oil, natural gas and coal to ensure reliable service to our customers.



- FPL Energy is the nation’s leading developer, builder and owner of wind generation facilities, with more than 23 facilities across the U.S.
- We own and operate the largest wind farm in the west, the Stateline Energy Center on the Oregon-Washington border.
- We own the largest solar fields in the world — the Solar Electric Generating Stations (SEGS) — in California’s Mojave desert.
- We operate 29 hydroelectric facilities in Maine and New Hampshire.

While we continue to add new power plants across the nation, we

also utilize energy conservation programs in Florida to help individual customers reduce their demand for electricity, saving energy and money at the same time. These programs include:

- a Web-based home energy survey available at [www.fpl.com](http://www.fpl.com) to help customers understand how they are using power and find ways to maximize energy efficiency in their homes;
- encouraging customers — often via rebates — to adopt high efficiency heating, ventilation, air conditioning, lighting, window treatments and roof and ceiling insulation, and;
- our voluntary “On-Call” program where customers elect to have FPL briefly interrupt some of their electric appliances for short periods during times of high electricity demand, in exchange for credits on their bill.

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We are actively supporting research and development programs that promote the development of alternative, cost-effective renewable energy sources. We’re also continuing to explore innovative new retail programs using environmentally-friendly sources such as solar, biomass, landfill gases, wind and hydroelectric power.

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# We're Enhancing Our Commitment

**F**PL Group is constantly seeking ways to improve our performance to go beyond what is expected. This commitment permeates our business, notably our approach to environmental issues. We frequently develop or support programs that are more far-reaching than what is legally required.

We strive for more efficient operations and improved performance with less impact on the environment. For example:

- In Maine, we assist in preserving archeological sites on our

property, in carbon-dating recovered materials, and we monitor our sites annually to ensure they are not disrupted by erosion.

- We were awarded Edison Electric Institute's National Land Management Award for our stewardship of 25,000 acres surrounding our Turkey Point plant. This site contains fresh and estuarine wetlands, subtropical hardwood forests and is home to 26 state- and 17 federally-protected animal species,

including the American crocodile and the wood stork.

- Our 20 years of monitoring at our Turkey Point plant has shown dramatic increases in the number of endangered American crocodile hatchlings: from 15 to more than 300 annually.
- We sponsor charity fishing tournaments at several of our plants, as well as beach cleanups, to which families and friends are invited.

Water is another valued natural resource. With our hydroelectric

Our hydroelectric facilities provide environmental and recreational benefits.



facilities in Maine and New Hampshire, and water as a key ingredient in electricity generation at other plants as well, we have a keen interest in managing this resource wisely.

- In Maine, we manage river flows to meet the habitat needs of fish species and to provide opportunities for whitewater recreation, boaters and anglers at our dams. We also manage water levels for fish spawning, loon nesting and public water access.
- In an ongoing water use reduction project, we installed equipment and procedures at six power plants to collect, treat and re-use water for such purposes as steam

generation and plant operations. The use of this water has reduced our need for groundwater and municipal water supplies.

- Our Bellingham plant in Massachusetts and Doswell plant in Virginia are known as “zero discharge” facilities. This means we re-use all industrial wastewater, preserving the quality of our rivers, lakes and streams.

Our commitment to reduce emissions has yielded important dividends for air quality as well.

- Our hydro, wind, nuclear and solar plants across the country generate no greenhouse gases whatsoever.

- Over the past 10 years, FPL has demonstrated a trend of reductions in the rates of sulfur dioxide and nitrogen dioxides by 29% and 38% respectively.
- In Florida, our rates of emission of sulfur dioxide, carbon dioxide and nitrogen oxides are among the lowest of the major investor-owned utilities in the state and in the nation.

Beyond developing new ways to maintain and enhance our resources, we look for opportunities to properly dispose of waste and to recycle and re-use materials required for company operations.

- A voluntary clean-up of non-hazardous industrial waste



Our Turkey Point plant is home to the endangered American crocodile.

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The cooling canals at our Turkey Point plant are one of three nesting areas in the country for the endangered North American saltwater crocodile. The remote and secure canals afford a tranquil and protected environment for this reclusive species.

---

products has removed more than 350,000 tons of waste from 13 facilities in Florida. This clean-up has helped us identify many innovative recycling techniques such as transforming the wastes into useful products.

- For more than 20 years, FPL has

operated an in-house recycling center and presently handles more than 100 different types of recyclable materials. The center's mission is to cost-effectively recover and market the company's surplus assets, maximizing value while

protecting the environment.

- Each year, we recycle an average of 14,000 tons of reclaimed metals; 6,000 tons of scrap wood; 1,300 tons of porcelain; and 1,000 tons of paper and cardboard.
- Our recycling center benefits

from a unique partnership with Palm Beach Habilitation Center, which prepares adults with disabilities to learn skills needed for full-time employment.

- More than \$1.7 million worth of poleline hardware was

refurbished and restocked in 2001, a 21% increase over 2000.

- Children, businesses and the environment all benefit from the work of the Resource Depot, a clearinghouse through which businesses donate surplus goods.

These materials are then given to day care centers, teachers and parents for use in learning and other creative activities with children. FPL is a charter sponsor of this charitable organization.

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FPL Group is continuously looking for ways to improve our operations to minimize impacts on birds and other wildlife near our facilities. To support this commitment we have initiated a comprehensive wildlife and natural resources training program for our field crews.

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FPL assists in the safe relocation of osprey nests.

# We're Building Better Communities Through Stronger Relationships

Our neighbors recognize that electric power is essential to today's lifestyles. Together, we're making our communities great places to live, work and play.

And working with our neighbors on things that matter most to them can reap many rewards for the environment.

Through tours, special displays and mailings, and our Web site, [www.fpl.com](http://www.fpl.com), we offer a wide array of information to schools, community groups and individuals about how we do business and the environmental issues we all care about. For example:

- We sponsor popular evening walks near our St. Lucie plant on Hutchinson Island in Florida where people can view loggerhead sea turtles nesting. We also conduct nesting surveys for the State of Florida, maintain one of the largest sea turtle databases in the world and track the movements of these turtles for wildlife agencies.
- Our award-winning Web site features information on tree planting in Florida, as well as educational materials for students and teachers on endangered and protected species.
- In Maine, we've built special fishways and pumps to help a variety of native fish migrate. The tours we offer to school groups and the public include videos, classroom presentations, visits to fishways and fish viewing areas.
 

Before we undertake major electric system expansion or upgrade projects, we reach out to solicit the views of community members on a variety of issues, including how to minimize our impacts on the environment.
- As part of our two major energy-boosting "repowering" projects in Florida, we sought the views of customers, environmental groups, state and local legislators and the arts community. We have incorporated their ideas in developing plans for our new operations.
- We also work closely with the community when planning and siting our transmission and distribution systems — our poles and wires. By using existing corridors we've avoided disrupting private property and having to disturb natural resources.

## FPL Fort Myers Plant Emission Improvements From Repowering (lbs/mwh)

| Emission                          | Historical | Repowered |
|-----------------------------------|------------|-----------|
| Nitrogen Oxide (NO <sub>x</sub> ) | 7.23       | 0.26      |
| Sulfur Dioxide (SO <sub>2</sub> ) | 20.94      | 0.02      |
| Carbon Dioxide (CO <sub>2</sub> ) | 1722.00    | 774.00    |
| Carbon Monoxide (CO)              | 1.53       | 0.18      |
| Particulate Matter (PM)           | 0.62       | 0.04      |
| Volatile Organic Compounds (VOC)  | 0.05       | 0.01      |

FPL Group seeks input from our communities when planning new operations.



---

FPL Group has instituted community outreach programs that have become an integral part of our planning for all major projects. This outreach, which uses such tools as phone surveys, meetings, open houses and presentations to community and environmental groups, is a proactive measure that ensures the community has an opportunity to voice their questions and concerns about a project. This approach enables us to respond to community concerns in a timely and meaningful way and has resulted in stronger relationships in many communities involved in our repowering projects, new development projects, nuclear relicensing, substation and transmission line siting projects, and hydroelectric licensing.

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The lush flora and fauna of Manatee Island, located in the Caloosahatchee River adjacent to the Fort Myers plant, will continue to be protected with FPL's donation of the 18-acre refuge to the U.S. Fish and Wildlife Service in January 2001. The island serves as a unique haven for birds and other species of wildlife. With FPL's donation, Manatee Island becomes the first addition to the Caloosahatchee National Wildlife Refuge, established in 1920.

---

Many of the environmental projects we undertake in our neighborhoods are driven by a strong network of employee volunteers. Each year, Earth Day and Arbor Day, for example, spur a variety of activities. Recently:

- FPL Energy staff members volunteered to host fourth and fifth graders from CK Burns Elementary School in Saco, Maine, at a salmon release at the Saco River. Students learned about salmon habitat and migration patterns.
- Habitat for Humanity engaged several of FPL's employees in its effort to build a home completely by women and for women. The home also conformed to FPL's BuildSmart™ guidelines for energy efficiency.
- In Florida, FPL volunteers joined forces with the Marine Resources Council, Boy Scouts and Explorers and the Merritt Island High School Earth Club to plant 2,000 mangroves along the east side of our Cape Canaveral plant.
- At Miami's Metro Zoo, nearly 100 FPL volunteers highlighted our energy conservation efforts



FPL donated Manatee Island to the National Wildlife Refuge.

and our ecological activities protecting endangered species. An FPL electric vehicle and our mobile emissions testing laboratory were also on display.

- In Sarasota, Florida, vegetation management staffers helped dedicate Millennium Trail, a grove of 145 native trees at the John and Mabel Ringling Sarasota Museum of Art.
- We make the best use of the special talents of our large and growing retiree population in various activities. For example, FPL retirees host the public at our manatee viewing area in Riviera Beach, Florida.
- We were the major sponsor of the Air and Waste Management

Association's international meeting in 2001, where we trained K-12 science teachers on the use of environmental resource guides and offered educational programs for children, students and adults in attendance.

As part of the process of permitting or relicensing some of our power plants, we've donated land to governments and implemented a number of innovative programs to aid local conservation and recreation activities.

- Our Everglades Mitigation Bank is returning more than 13,000 acres of wetlands to its natural condition. Located

between two national parks, the site is home to more than 38 species of wildlife, of which 12 are endangered and nine are threatened.

- At our Harris hydroelectric facility on Maine's Upper Kennebec River, we're putting 1,300 acres of land into conservation easements.

Recreational opportunities and "ecotourism" are valued by many of our neighbors. Recognizing that, we work in partnership with community groups to preserve and enhance these opportunities as we grow our business.

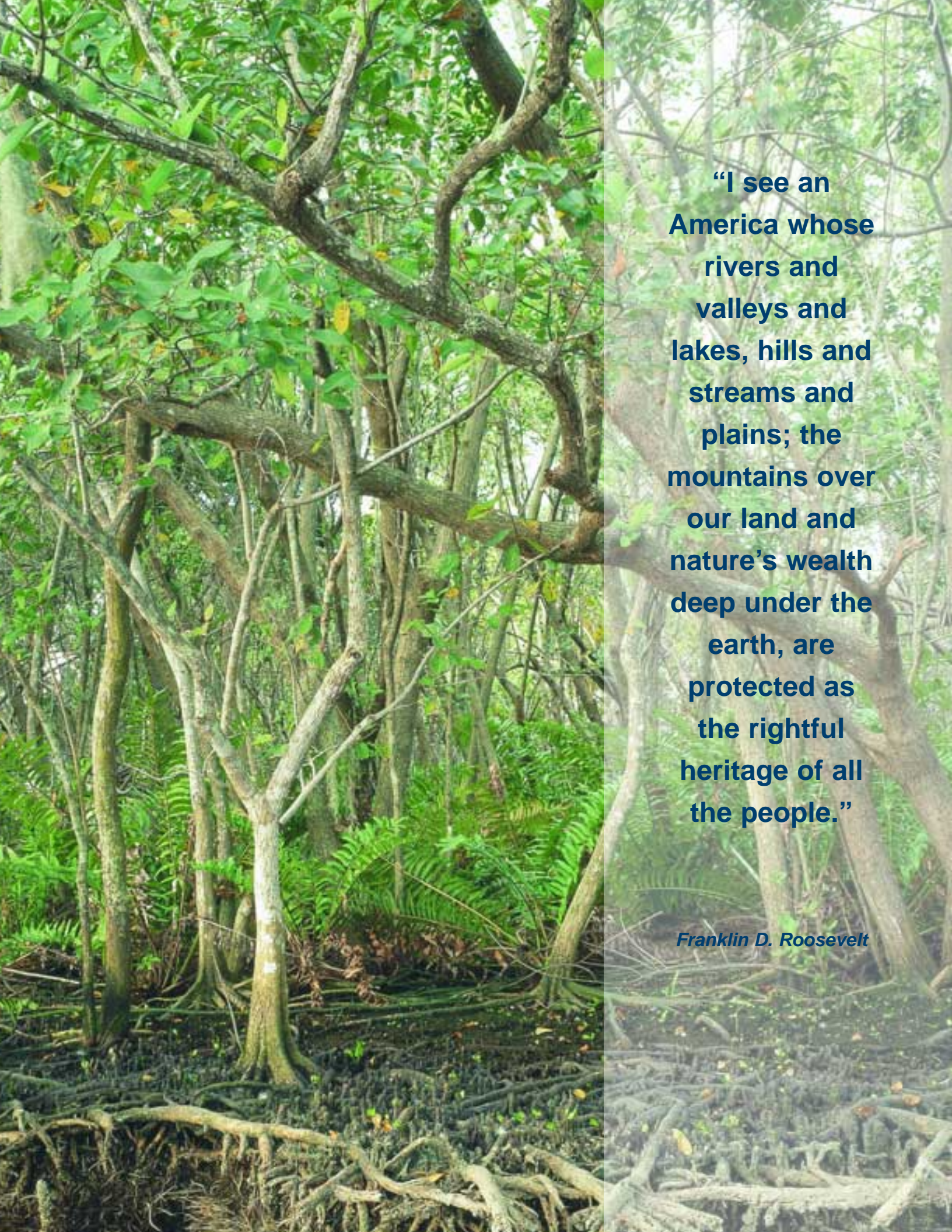
- In Maine, we ensure public access to more than 300 recreation sites along our

reservoirs and waterways. We support whitewater recreation, a multi-million dollar industry in the state. We also provide parking, trails and proper water flows to optimize fishing access and fish habitat on area rivers.

- The Barley Barber Swamp is a 400-acre natural cypress swamp voluntarily preserved by FPL at our Martin power plant in Florida. Trained guides lead visitors along a one-mile boardwalk that winds through this pristine ecosystem.

FPL Group would like to acknowledge Jim Valentine for many of the environmental photos in this report.



A photograph of a dense forest with many trees and visible roots on the ground. The trees have green leaves and some have thick, gnarled trunks. The ground is covered with fallen leaves and roots. The text is overlaid on the right side of the image.

**“I see an  
America whose  
rivers and  
valleys and  
lakes, hills and  
streams and  
plains; the  
mountains over  
our land and  
nature’s wealth  
deep under the  
earth, are  
protected as  
the rightful  
heritage of all  
the people.”**

*Franklin D. Roosevelt*



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