

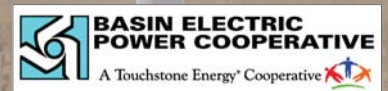


**Waiver of Procedures and Time Schedules
and
Applications to the North Dakota
Public Service Commission for
Certificate of Corridor Compatibility and Route
Permit for the Williston to Tioga
Transmission Project**

(Case Number PU-07-671)

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Application for Certificate of Corridor Compatibility and Route Permit
Basin Electric Power Cooperative

Prepared by:
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July 2009



**APPLICATION FOR
WAIVER OF PROCEDURES
AND TIME SCHEDULES**

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APPLICATION FOR WAIVER OF PROCEDURES AND TIME SCHEDULES

Section A: Description

A.1 Type

The Applicant proposes to construct approximately 61.1 miles of 230 kilovolt (kV) AC single circuit electrical transmission line. This transmission line project is known as the Williston to Tioga Transmission Project. The proposed transmission line would transfer power from the Western Area Power Administration (**Western**) substation near Williston, North Dakota, to a substation near Tioga, which is owned and operated by Montana-Dakota Utilities (**MDU**). The line will be built on single pole steel structures as described in Section A.3.

The purpose of the project is to increase the load-serving capacity and reliability of the interconnected transmission system in northwestern North Dakota, due primarily to expanding oil development and related increased electrical power usage in this area. The proposed transmission line would allow for an additional 130 megawatts (**MW**) of load in the area.

A.2 Product

Electrical energy will be transported over the proposed transmission line to the electrical grid system serving the rapidly increasing electrical load requirements in northwestern North Dakota. In addition to voltage level improvements, the proposed 230 kV line will also improve the reliability of service into the area.

A.3 Size and Design

The Williston to Tioga 230 kV transmission line, estimated to be 61.1 miles in length, will utilize self-supporting galvanized steel single pole transmission structures. Figure A-1 (attached) shows an elevation view of a typical tangent structure.

A.4 Location

Refer to Section B.3 Description of Line Route of the Application for a Route Permit.

A.5 Geographical Service Area

The general area to be served by the Williston to Tioga transmission line is an area in northwestern North Dakota which includes Williams and Mountrail counties. The increased reliability provided by the line will serve all southwestern North Dakota.

A.6 Time Schedule

The anticipated time schedule for the following major events is as shown:

| | <u>DATE</u> |
|--|----------------|
| a. Submittal of Application for Certificate of Corridor Compatibility and Route Permit | July 2009 |
| b. Certificate of Corridor Compatibility and Route Permit | February 2010 |
| c. Start right-of-way acquisition | July 2008 |
| d. Complete right-of-way acquisition | September 2009 |
| e. Start construction | February 2010 |
| f. Construction complete | February 2011 |
| g. Test operations | February 2011 |
| h. Energizing date – in-service date | February 2011 |

A.7 Future Plans

Basin Electric has no immediate plans for future expansion of the proposed transmission facility. However, should future load growth in the area dictate the construction of additional transmission facilities, Basin Electric will report said facilities in its Ten-Year Plan.

Section B: Need for Facility

B.1 Analysis of Need

Refer to Section C.1 of Application for Certificate of Corridor Compatibility for Williston to Tioga Transmission Project.

B.2 Alternative Methods

Refer to Section C.2 of Application for Certificate of Corridor Compatibility for Williston to Tioga Transmission Project.

B.3 Deviation from Ten-Year Plan

The description of the proposed Project corresponds with information provided in the most recent Ten-Year Plan, which was submitted to the PSC by Basin Electric. There are no deviations between the planned Project described in the Ten-Year Plan and the proposed Project described in this Application.

Section C: Cost

Construction costs for the Williston to Tioga Transmission Project are estimated to be \$25.5 million dollars.

Section D: Waiver Request

D.1 Provisions Requested to be Waived and Minimal Adverse Effect

(a) Pursuant to Section 49-22-07.2 NDCC, Basin Electric Power Cooperative requests permission to submit a consolidated Application for a Certificate of Corridor Compatibility and Application for a Route Permit and, therefore, requests that the Public Service Commission waive the provisions of Section 49-22-08 NDCC, Section 49-22-08.1 NDCC, Chapter 69-06-04 NDAC, and Chapter 69-06-05 NDAC which requires separate filings of said applications.

Basin Electric will comply with all the requirements in the law and regulations relating to the content of Applications for a Certificate of Corridor Compatibility and Route Permit. However, due to the urgent need for the proposed facility identified in Section C of the Application for a Certificate of Corridor Compatibility, we believe the reduction of time achieved by the processing of a consolidated application is warranted.

(b) Pursuant to Section 49-22-07.2 NDCC, Basin Electric also requests the Public Service Commission to hold a combined hearing on the Certificate of Corridor Compatibility and Route Permit, and to waive those provisions of Section 49-22-13 NDCC and Section 69-06-01-02 NDAC which may require separate hearings.

The reason for this request is also to reduce the time needed to obtain the Certificate of Corridor Compatibility and Route Permit.

(c) Basin Electric's methodology for identification of the preferred corridor and route as explained in Section D.2 of the Application for a Certificate of Corridor Compatibility and Section B.3 of the Application for a Route Permit operates to produce minimal adverse effects due to the careful examination of relevant criteria.

And as discussed in Section B.4 Mitigation Measures of the Application for a Route Permit, Basin Electric identifies possible impacts and describes mitigation measures that can be taken to produce minimal adverse effects.

D.2 Emergency Situation

Basin Electric is not, at this time, requesting immediate authority to construct the proposed facility. However, the considerable oil and gas development activity in northwestern North Dakota is causing an accelerated growth in requirements for electric power. The proposed Williston to Tioga 230 kV transmission line is necessary to complete the 230 kV loop from Tioga to Charlie Creek and to meet the projected loads. Without the facility, the existing Williston to Tioga 115 kV line would be subject to overload, resulting in non-compliance with utility practice and requirements, reduced substation equipment service life or failure outage to end users.

**WAIVER OF PROCEDURES AND TIME SCHEDULES
AND
APPLICATION TO
NORTH DAKOTA PUBLIC SERVICE COMMISSION
FOR
CERTIFICATE OF CORRIDOR COMPATIBILITY
FOR THE WILLISTON TO TIOGA TRANSMISSION PROJECT
(CASE NUMBER PU-07-671)**

by

BASIN ELECTRIC POWER COOPERATIVE

July 2009

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| Exhibit D-9 | Proposed Corridor Selection Criteria |

A. Project Description

A.1 Type

Electrical power transmission improvements are needed in northwestern North Dakota to meet increasing load demands. A systems study concluded that the transmission of additional power to the Tioga, North Dakota area was the most effective way of meeting future demands. As a result, Basin Electric Power Cooperative (BEPC) proposes to construct and operate a new 230-kilovolt (kV) transmission line to meet existing and future electric power requirements in northwestern North Dakota. The new transmission line would transfer power from the Western Area Power Administration (Western) Williston Interconnect Substation, near Williston, North Dakota, to a substation near Tioga, which is owned and operated by Montana-Dakota Utilities (MDU). The proposed transmission line, in addition to other system improvements in northwestern North Dakota, would allow for an additional 130 megawatts (MW) of load in northwestern North Dakota.

The proposed Project would be located in Williams and Mountrail counties in northwestern North Dakota. The Williston Interconnect Substation is located in Williams County, approximately 3.6 miles southwest of the City of Williston. The Tioga Substation also is located in Mountrail County, approximately 2 miles northeast of the City of Tioga. A 6-mile-wide corridor was identified from the Williston Interconnect Substation to the Tioga Substation in accordance with North Dakota Public Service Commission (PSC) requirements, as illustrated in **Exhibit A-1**.

The proposed 61.1-mile-long transmission line would be constructed using steel single-pole structures within a 125-foot-wide right-of-way (ROW). Minor modifications would be made to the existing Williston Interconnect Substation and Tioga Substation. Changes to the Williston Substation are part of an existing substation expansion being done by Western.

A.2 Product

Electricity would be transmitted via the proposed transmission line between the existing Williston and Tioga Substations.

A.3 Size and Design

Section A.3.4, Transmission Line Specifications, and Section A.3.5, Other Facilities, provide general information regarding the size and design of the proposed transmission line. Proposed construction procedures also are described in the following sections.

The proposed 230-kV, single-circuit transmission line would be constructed using steel single-pole self supporting structures within a 125-foot-wide ROW. Western would be responsible for modifying the 230-kV bay at Williston Interconnect Substation to accommodate interconnection of the new transmission line.

A.3.1 ROW and Construction Procedures

A.3.1.1 Permits, Pre-construction Surveys, and Geotechnical Analyses

Various studies must be completed and permits acquired before construction begins, including completion of the EA process, Western authorization, cultural resource (section 106 National Historic Preservation Act [NHPA]) clearance and biological surveys.

BEPC and/or its contractors would perform initial transmission line survey work, consisting of survey control, route centerline location, profile surveys, and access surveys prior to construction. These surveys would likely be conducted concurrently with other pre-construction tasks.

Geotechnical analyses would be conducted at transmission line angle points and other locations to determine engineering requirements for structures. A truck-mounted auger would be transported to each site to drill a small-diameter borehole. Cuttings from each borehole would be evaluated to determine soil characteristics. Geotechnical analyses would be conducted after harvest to minimize impacts to local agricultural activities. Land disturbance would be confined to a relatively small area needed for site access and equipment operations. Geotechnical locations would require an area totaling approximately 400 square feet (ft²) in addition to an access trail.

A.3.1.2 ROW Access and Construction Preparation

Crews would gain access from public roads and section line trails as well as within the transmission line ROW for constructing and maintaining the line. Access for line construction would be by truck travel within the ROW; structure sites located along section lines would be accessed directly from section line roads and trails, where possible. New graded surface access roads are not anticipated. Existing roads and trails would be left in comparable or better condition than what existed before construction. Gates would be installed where fences cross the ROW and locks would be installed at the landowner's request. Gates not in use would be closed but not locked, unless requested by the landowner.

Three temporary material staging and equipment laydown areas, each averaging approximately 4 acres, would be used. If additional areas are needed, appropriate biological and cultural resource surveys would be conducted before disturbance. Staging areas would be returned to their previous condition when work is completed.

Tree and brush removal in the ROW is anticipated to be minimal because the Project area consists largely of cultivated cropland and rangeland, and because woodlands and shelterbelts were avoided during the routing process. The ROW would only be cleared if the trees and/or shrubs present interfere with construction activities or the safe, reliable operation of the transmission line. Trees would be cut at ground level to provide access within the ROW and to allow vehicle access. Stumps and roots would remain in the ROW unless the landowner requests otherwise. Disposal of cut trees and brush would be consistent with the landowner's wishes and applicable State waste management rules. Trees would be replaced at a 2:1 ratio.

A.3.1.3 Transmission Structure Site Preparation

Transmission structure site clearing would be minimal. The Project area and locations along the proposed route are relatively flat and the need for structure site leveling is expected to be minimal. It is anticipated that at some structure locations, blading of small areas (up to 40 feet by 40 feet for crane and manlift landings) may be required to level the ground surface to allow the safe operation of the equipment. Blading would be confined to the ROW and accomplished using bulldozers or front-end loaders. Soil removed during leveling would be stockpiled and replaced following construction; special emphasis would be placed on salvaging topsoil to be used for reclamation. The ground would be re-graded to the approximate original contour and revegetated (rangeland) or tilled (cropland) when the work has been completed. Temporary disturbance to soils would be mitigated by returning the sites to grazing and farming.

A.3.1.4 Borehole Excavation

Crews would use a truck-mounted auger or tracked vehicle equipped with a power auger to drill holes for the structures at appropriate locations along the ROW. The total disturbance at each structure location would vary depending on terrain and equipment; however, all disturbances would be confined to the ROW.

Borings for the pole holes would have an average diameter of 5 feet and an average depth of 20 feet. The single-pole structure would be lowered by crane into boreholes and the annulus around the pole would be backfilled with crushed rock. Surplus material (expected to total approximately 15 cubic yards at each tangent structure site) would be spread around the bases of structures or hauled to an off-site location (i.e., area landfills) for disposal, in accordance with landowner wishes.

Approximately 32 structures would require reinforced concrete foundations; these require a 6-foot-diameter boring to an average depth of 20 feet. Large volumes of soil would be disposed of at local landfills. Landfills typically need additional fill as cover for waste material. Disposal of waste material, including concrete spoil, would be in compliance with applicable regulations and would not include placement in wetlands or aquatic sites. Site-specific borehole diameters, depth, and the use of reinforced concrete foundations would be determined during geotechnical engineering evaluations.

A.3.1.5 Structure Assembly and Erection

Structure components (i.e., structure segments, davit arms, hardware, insulators, and related materials) would be trucked to the structure work site locations and assembled. Davit arms, insulators, and other appurtenances would be attached to the poles while on the ground at each structure location, within the 125-foot-wide ROW. Erection crews would place the lower portion of the structure in the boreholes (directly imbedded) or on reinforced foundations (i.e., self-supporting angle point and dead-end structures) using cranes or large boom trucks. The structure would then be plumbed and the holes backfilled, as previously described. Both sections would then be bolted together. Approximately 12,500 square feet would be temporarily disturbed at each structure site due to borehole excavation, structure laydown, and assembly.

A.3.1.6 Conductor Stringing and Tensioning

Following structure construction, crews would install the conductors and an optical groundwire (OPGW) using conductor stringing sheave blocks and line pulling and tensioning equipment. The conductor and OPGW are kept under tension during the stringing process to keep the conductor clear of energized circuits, the ground, and obstacles that could damage the conductor and OPGW surfaces.

Pulling and tensioning sites are typically located at 10,000-foot intervals and at angle point structures. Sites along tangent structures are located within the construction ROW; those at angle points typically are located partially outside of the normal 125-foot-wide ROW. Each site typically requires two 37,500-ft² (0.9 acre) temporary use areas. Stringing equipment generally consists of wire pullers, tensioners, conductor reels, OPGW reels, and sheave blocks. About 10,000 feet of conductors and OPGW could be installed for each pull. After the conductors and OPGW are pulled for a section of line, they are tightened or sagged to the required design tension in compliance with the National Electrical Safety Code (NESC). The process would be repeated until the OPGW and conductors are pulled through all sheaves. Conductor stringing also would require access to each structure for securing the conductor to the insulators or OPGW to each structure, once final line sag is established.

For public safety and property protection, temporary wooden guard structures would be used to provide temporary support when stringing conductors and OPGW across existing power lines, roads, highways, railroads, and other linear obstacles. The structures would be removed when stringing is complete; the pole borings would be backfilled and the temporary support structure sites would be reclaimed. All temporary wooden guard structures would be installed within the transmission line ROW.

A.3.1.7 Structure Site Access and Traffic

Access would involve the use of existing roads where available, and temporary overland access trails, where necessary. No new access roads would be constructed for the Project. The use of temporary overland access trails between structure sites would not require new construction, but would result in temporary disturbance. Occasional access from section line trails could result in temporary disturbance along the ROW; however, such disturbance would be limited to a 12-foot-wide track (approximately) and only long enough to provide vehicle access directly to structure locations. Some additional access disturbance could occur if truck or vehicle turnarounds are needed; however, the use of structure work sites would be encouraged.

Existing access roads (typically paved or maintained with a gravel or aggregate base) would be used in their original condition to the extent possible, or with minor road blading or other improvements as agreed upon by the county or township. BEPC would be responsible for repairing any damage caused by construction equipment movement and would return existing roads to original or better condition following construction.

BEPC would not be responsible for maintaining roads following construction. BEPC would not be responsible for maintaining fences and gates, following construction and restoration; however, access gates that would be installed during construction would be left in place following construction.

Line segments that are parallel to section lines that do not have established roadways would utilize the 66-foot-wide public ROW to the extent practicable. A 33-foot-long, 12-foot-wide temporary access point would temporarily disturb 0.009 acre. If blading or other minor improvements are needed (in localized areas) to ensure the safe movement of heavy equipment, such improvements would remain in place following construction and such areas would be restored to their original contour.

BEPC would restore disturbed areas to pre-construction conditions, to the extent practicable, and would not be responsible for the long-term maintenance of such section line trails. Any fences, gates, or similar features that would be removed during construction would be replaced or rebuilt. Gates and fences that would be installed during construction would be left in place for future use.

A.3.1.8 Temporary Overland Access

Temporary overland access would be used in areas without existing roads. Access through cultivated fields would be, to the extent practicable, during the non-growing season. Landowners would be compensated for loss of crops caused by construction activities. Gates may be installed to facilitate access to some structures and the ROW. The gates would be left in place, following construction activities. Permanent access roads to the ROW or structures would not be maintained.

Temporary access routes would result in a 12-foot-wide temporary disturbance and compaction of vegetation and soils. Natural vegetation along these temporary access routes would recover quickly, primarily because grading would not be required. Temporary overland access routes would be subject to the same cultural resource and vegetation surveys as the other ROWs. Landowners would be compensated for access routes where public access does not exist.

A.3.2 Reclamation

Following construction, disturbed areas would be graded and/or re-sloped to their approximate original contours to minimize erosion and visual alteration. In grassland or pasture areas, disturbed areas would be reseeded with native species. Cultivated land would be tilled and returned to production. Fences and gates damaged as a result of the Project would be repaired.

Rangeland from which vegetation has been removed, destroyed, or damaged would be reclaimed and revegetated. Reclamation activities, weather permitting, would be ongoing throughout construction and would be undertaken as soon as construction activities are completed in a particular area. Drainage structures and similar improvements would be removed from areas to be reclaimed, where appropriate, and the area would be revegetated using a native seed mixture, as recommended by the County Agricultural Extension Service or the Natural Resources Conservation Service (NRCS).

Ruts and scars from overland travel would be leveled to break up compacted soils and aid in returning areas to approximate original contours. Cultivated areas disturbed by overland travel would be leveled and tilled to break up compacted soils (if necessary) and returned to production.

The optimal timing for revegetation success would be spring or fall to coincide with seasonal rains. Mulching or netting may be required to protect seeded areas from erosion. Follow-up inspections would be carried out during the next growing season. Areas that did not become revegetated would be reseeded again, as necessary.

The reclamation procedures described above would be applied to disturbed areas including temporary access, staging areas, the transmission line ROW, and other areas disturbed by Project activities.

A.3.3 Construction Waste Management

Typical waste materials generated from construction activities include miscellaneous lumber and shipping materials used to protect equipment during transportation, paper products, soda cans, food-related materials, and sanitary waste. Waste from construction materials and rubbish from all construction areas would be collected, hauled away, and disposed of in an approved landfill. Sanitary waste would be disposed of through arrangements with local municipal sanitary waste treatment facilities. Hazardous waste would not be stored or located near the ROW or in proximity to waterways or drainages at any time before, during, or after construction.

Material staging areas and vehicle maintenance and refueling areas would not be located near waterways. If any of the material staging areas include vehicle and equipment refueling, or storage of petroleum products in excess of 1,320 gallons, a Spill Prevention, Control, and Countermeasures (SPCC) Plan would be developed. The SPCC Plan would address: 1) operating procedures to prevent spills; 2) control measures to prevent a spill from reaching navigable waters; and 3) countermeasures to contain, clean up, and mitigate the effects of a spill that reaches navigable waters. Additionally, spill containment and clean up materials (e.g., absorbent material, shovels) would be available at every work site. The materials would be used to contain and clean up oil and hydraulic spills that may result from equipment leaks. Workers would be trained in procedures to follow to contain and clean up released materials.

A.3.4 Transmission Line Specifications

The single-pole transmission line structures would range in height from approximately 95 to 120 feet and average 110 feet, depending on span distances between structures and area topography. The span between structures would range from 700 feet to 950 feet and average approximately 800 feet, depending on topography; taller structures could be used for crossing existing distribution and transmission lines or where unusual terrain exists. The single-pole frame structures would be designed to support three conductors and an OPGW. The OPGW would provide lightning suppression and fiber optic communications between the Williston and Tioga Substations for systems control. Tangent structures would be free-standing and directly imbedded into the soil. Angle structures (used where the transmission line changes direction) and dead-end structures (used to provide longitudinal stability along the length of the line) would be steel with concrete foundations. Guy wires would not be used.

Project construction and design would meet the requirements of the NESC for the Heavy Loading District, BEPC design criteria, and other applicable local or national building codes. The Heavy Loading District refers to those areas (including North Dakota) that are subject to severe ice and wind loading. **Table A-1** describes the typical physical design characteristics for the proposed transmission line, and a typical single-pole structure is illustrated in **Exhibit A-2**.

Minimum conductor clearance is measured at the point of greatest conductor sag and closest proximity to the ground. The proposed transmission line would be constructed with clearances that exceed standards set by the NESC. Minimum conductor height would be 26 feet over agricultural land, 28 feet over rural roads, and 31 feet over paved highways.

Table A-1 Transmission Line Characteristics

| Design Component | Value |
|--|----------|
| Voltage (kV) | 230 |
| Conductor diameter (inches) | 1.345 |
| ROW width (feet) | 125 |
| Typical span distances between structures (feet) | 700-950 |
| Average span (feet) | 800 |
| Maximum and minimum structure height (feet) | 95-120 |
| Average height of structures (feet) | 110 |
| Average number of structures (per mile) | 6.6 |
| Temporary disturbance per structure (square feet) (approximately 125-foot x 100-foot area) | 12,500 |
| Permanent disturbance per structure (acre) (approximately 3-foot diameter per structure leg) | <0.0002 |
| Minimum conductor ground clearance to agricultural land at 100°C (feet) | 26 |
| Minimum conductor-ground clearance to rural roads at 100°C (feet) | 28 |
| Minimum conductor-ground clearance to paved highways at 100°C (feet) | 31 |
| Circuit configuration | Vertical |

A.3.5 Other Facilities

A Supervisory Control and Data Acquisition (SCADA) system would interconnect the Williston Interconnect Substation and the Tioga Substation. Hard-wire system communications would utilize fiber optics within the OPGW between the two substations and microwave communications equipment would be installed for SCADA redundancy and to facilitate voice and data communications by field personnel. Thus, minimal modifications at the substations would be required.

A.3.6 Operation, Maintenance, and Abandonment

The following operation and maintenance activities would be performed throughout the life of the Project.

- BEPC's preventive maintenance program for the transmission line includes aerial and ground inspections. Aerial inspections would be conducted at least two times each year. Ground patrols would be conducted annually for the first 3 or 4 years, and less frequently thereafter. Climbing inspections of structures would be conducted on a 5-year cycle with every fifth structure inspected each year. Inspections and patrols would involve the use of vehicles in areas where there is suitable vehicle access.
- Maintenance activities would include repairing damaged conductors, inspecting and repairing structures, replacing damaged and broken insulators, and tightening hardware.
- BEPC would maintain any gates it installs or uses for access.

- BEPC would trim trees that pose a clearance or safety problem to the operation of the transmission line. Specific requirements of the National Electric Reliability Council would be followed. This activity would be completed in accordance with the landowner easement.

If the transmission line were to be abandoned or rebuilt, decommissioning and removal of structures, conductor, and ancillary equipment would be in accordance with applicable regulations in place at the time.

Treatment of vegetation within the ROW would include the selective removal or trimming of trees to prevent their contact with the transmission line conductors. Some trees would have to be removed if they are classified as “danger trees” (trees that are 20 feet in height or taller, which upon falling, would come within 10 feet of the structure or conductors). Disposal of cut trees and brush would be in a manner acceptable to the landowner and in accordance with applicable State waste management rules. The need for tree removal is expected to be minimal as areas with trees were intentionally avoided during detailed routing.

A.3.7 Time Schedule

Exhibit A-3 illustrates the time schedule for important permitting and construction phases of the proposed Project. Transmission line construction would take place over a 1-year period and would generally follow a sequential set of activities performed by crews proceeding along the length of the line. Activities that would impact nesting migratory bird species would be scheduled to avoid the nesting period (typically April 15 through July 15) to the extent practicable. However, some activities would coincide with the nesting period. Surveys would be carried out during the nesting period to determine if species are present. If species are found to be present, activities would be rescheduled to avoid disturbance to nesting birds.

Table A-2 lists construction activities. The proposed transmission line would take an estimated 7 months to construct. Construction activities associated with the Project are estimated to begin early 2010. It is anticipated that the transmission line would be in service by late 2010. The sequential nature of construction would minimize activities at any given work site.

Table A-2 Conventional Personnel, Equipment, and Time Requirements for Construction

| Task | Number of Personnel | Equipment | Length of Time |
|---|---------------------|---|---------------------|
| Transmission Line Construction | | | |
| Structure site clearing and vegetation management | 4–6 | Pickups, all-terrain vehicles (ATVs) | 1 month |
| Gate installation | 3 | Flatbed and pickup trucks | 1 month |
| Structure assembly | 6–8 | Pickups, cranes, material trucks, rubber-tired crane, 4x4 pickups | 4 months |
| Hole excavation | 2–3 | Rotary drilling rigs, backhoes, pickups, rubber-tired digging equipment, ATVs, portable compressors | 4 months |
| Structure erection | 6–8 | Rubber-tired cranes, boom trucks, 4x4 pickups | 5 months |
| Ground wire and conductor stringing | 16–20 | Pickups, manlifts/boom trucks, hydraulic tensioning machines, reel trailers | 3 months |
| Cleanup | 4 | Pickups, dump trucks, flatbed trucks | Duration of Project |
| Concrete foundations | 10 | Excavators, concrete trucks, skid steer | 1–2 months |
| Equipment installation | 10 | Cranes and trucks | 3–4 months |

B. Studies

B.1 Environmental Reports/Application

Western is the federal lead agency for an EA that is being completed for the proposed Project and a federal power-marketing agency within the United States (U.S.) Department of Energy (DOE). Western sells and delivers federal electric power to municipalities, public utilities, federal and state agencies, and Native American tribes in 15 western and central states. As a federal agency, Western is required to comply with the National Environmental Policy Act (NEPA) (42 United States Code [USC] 4321 et seq.), and regulations set forth under Council on Environmental Quality (40 Code of Federal Regulations [CFR] 1500 – 1508) and DOE regulations 10 CFR Part 1021–1022.

BEPC is the Project applicant (also referred to as Project sponsor or Project proponent) and would be responsible for construction, operation, maintenance, and decommissioning of the proposed Project. BEPC is one of the largest electric generation and transmission cooperatives in the U.S. and provides power to more than 120-member rural electric systems in nine states. BEPC's northern service area within North Dakota, South Dakota, and Montana is illustrated in **Exhibit B-1**.

The NEPA requires federal agencies to make a series of evaluations and decisions that anticipate adverse effects on environmental resources and that a reasonable range of Project alternatives identify potential direct, indirect, and cumulative environmental impacts. If impacts cannot be fully avoided, mitigation measures are to be recommended to reduce the severity of impacts.

Based on Western's NEPA implementation policies, an EA would be required for the proposed Williston to Tioga Transmission Project to determine if the proposed Project could potentially cause significant environmental impacts. Letters were mailed to potentially affected landowners, Native American tribes, interested individuals, non-governmental organizations, interest groups, and agencies on March 5, 2008. Public scoping meetings were held in Williston and Tioga on March 17 and 18, 2008, respectively. Public input was used to refine transmission line alignments and to identify potential impacts and mitigation measures.

Specific regulations require Western to coordinate and consult with federal, state, and local agencies about the potential of the proposed Project and alternatives to affect sensitive resources. The coordination and consultation must occur in a timely manner and are required before any final decisions are made. Issues related to agency consultation may include biological resources, cultural resources, socioeconomics, land, and water management. Biological resource consultations are completed to address potential impacts to sensitive species or habitats, as required by Section 7 of the Endangered Species Act (ESA). Cultural resource consultations are completed to address potential impacts to important cultural or archaeological sites, as required under Section 106 of the NHPA. The federal, state, and local agencies that Western contacted are provided in **Appendix A**, Notification. **Appendix B**, Agency Correspondence, is a compilation of correspondence letters in response to the notification letters submitted by Western.

In compliance with NEPA, as amended, Western initiated government-to-government consultation for BEPC's proposed Project by sending letters and Project maps on March 8, 2008, to the following tribal groups: Eastern Shoshone Tribe, Northern Arapaho Tribe, Northern Cheyenne Tribe, Oglala Lakota Nation, Rosebud Sioux Tribe, Cheyenne River Sioux Tribe, Standing Rock Sioux, Crow Tribe, Fort Peck Tribes, and Three Affiliated Tribes. The letters were sent to inform the tribal groups of the proposed undertaking and to solicit comments concerning traditional cultural properties (TCPs) or places of cultural and religious importance. At this time, no TCPs or places of cultural and religious importance have been identified within the proposed corridor by the contacted tribal groups.

B.2 Affected Environment

B.2.1 Jurisdictions, Land Use, and Agricultural Practices

The proposed corridor is located in Williams and Mountrail counties in northwestern North Dakota and oriented to avoid exclusion and avoidance areas to the extent practicable, including population centers of Williston, Ray, and Tioga. Lands operated by the U.S. Fish and Wildlife Service (USFWS) Wetland Management Districts (WMD), including Lostwood WMD and Crosby WMD, were avoided. Resources that could not be fully avoided in the proposed corridor included rural residences and water resources.

Agriculture and livestock production dominates approximately 91 percent of land uses within the proposed corridor. Land uses within the proposed corridor were classified from U.S. Geological Services (USGS)-State of North Dakota data as open water, cropland and planted herbaceous perennials, pasture/rangeland, shrubland and barren land, wetland and riverine, woodlands, and developed lands (USGS 2004).

The proposed corridor includes 199,468.5 acres of land, of which 90.8 percent are classified as cropland, pasture, and planted herbaceous perennials. The land use composition of the proposed corridor is provided in **Table B-1**.

Table B-1 Land Use Categories within the Proposed Corridor

| Land Use Category | Acres | Percent |
|----------------------|------------------|--------------|
| Cultivated crops | 127,794.3 | 64.1 |
| Pasture/hay | 719.1 | 0.4 |
| Grassland/herbaceous | 52,398.3 | 26.3 |
| Shrub/scrub | 3,131.9 | 1.6 |
| Woodlands | 442.2 | 0.2 |
| Wetlands/riverine | 3,524.8 | 1.8 |
| Open water | 543.7 | 0.3 |
| Developed | 10,832.0 | 5.4 |
| Barren land | 82.2 | 0.0 |
| Total | 199,468.5 | 100.0 |

B.2.2 Physiography, Topography, Soils, Geology, and Minerals

The proposed corridor includes gently rolling terrain that is crossed by well-defined streams and drainages. Elevation within the proposed corridor ranges from 1,877 feet above mean sea level (amsl) in the vicinity of Williston to 2,244 feet amsl near Tioga. Land within the central portion of the proposed corridor is largely drained by the Little Muddy Creek and its tributaries, which flow in a southerly direction to the Missouri River and Lake Sakakawea.

B.2.2.1 Physiography

The proposed transmission line is located in the Great Plains physiographic province (Fenneman 1928). In western North Dakota, the Great Plains is divided into two major sections, the Glaciated Missouri Plateau and the Unglaciated Missouri Plateau. The Missouri Plateau is essentially a dissected plateau characterized by badlands, buttes and mesas, and exhumed mountain ranges such as the Black Hills. The proposed corridor is in the Glaciated Missouri Plateau. The glaciated area is generally of low relief compared to the unglaciated area, which has more variety of landforms (Trimble 1980). The Glaciated Missouri Plateau is covered by

glacial deposits, but the boundary between the glaciated and non-glaciated sections is not distinct because the glacial deposits thin gradually.

B.2.2.2 Topography

The western part of the study area is located in bottomlands of the Missouri River, while much of the area is located on fairly level uplands. In the eastern part of the study area near Tioga, North Dakota, the topography consists of undulating hills (Freers 1970). Project area elevation ranges from 1,877 feet amsl in the Williston area to 2,244 feet amsl near Tioga.

B.2.2.3 Geology

The surficial deposits are primarily composed of Quaternary alluvium and colluvium and glacial till (Freers 1970). The alluvium occurs in the Muddy Creek alluvial valley. Glacial material consists of a variety of moraine deposits including ground moraines, dead ice moraines, and lake deposits. The surficial material is largely composed of sand, gravel, and clay.

The bedrock geology consists of Tertiary Bullion Creek and Sentinel Butte Formations of the Fort Union Group (Bluemle 1988). These formations are largely composed of claystone, siltstone, sandstone, and lignite. There are very few exposures of bedrock in the proposed corridor, it being mostly covered by glacially derived surficial deposits (Freers 1970). The bedrock is mainly exposed along the Missouri River south of the proposed corridor.

The proposed corridor is located in the Williston Basin, a major structural basin that covers northeastern Montana, most of North Dakota, and northwestern South Dakota (Peterson and McCary 1987). The Williston Basin also extends north into Saskatchewan and Manitoba in southern Canada. The basin contains about 15,000 feet of Paleozoic through Tertiary sedimentary rock. The center of the basin is located south of the proposed corridor in McKenzie County and the rocks dip gently to the south. The major structural feature in the proposed corridor is the Nessen Anticline, a north-south trending structure located in eastern Williams County, but actually extends for 75 miles south from the Canadian border to eastern McKenzie County (Gerhard et al. 1987). North-south trending fault zones paralleling the Nessen Anticline have been mapped in the deeper bedrock in Williams County, but do not extend up to the surface.

B.2.2.4 Mineral Resources

The major energy mineral resources in the proposed corridor are oil, natural gas, and lignite (Freers 1970). Important non-fuel mineral resources are sand and gravel, clay, salt (halite), and scoria. The Williston Basin is a major oil and gas producing basin. The first commercial oil well in North Dakota was drilled in Williams County on the Nessen Anticline in 1951, about 7 miles south of Tioga (Freers 1970). In the U.S. portion of the basin, total production since 1951 to the end of 2007 was approximately 2.5 billion barrels of oil and 470 billion cubic feet of gas (Burke 2006; Montana Board of Oil and Gas 2007; North Dakota Industrial Commission 2007; South Dakota Oil and Gas Section 2008). Oil production decline in the 1990s has been offset in recent years by technological advances that have resulted in increased production from the Bakken Formation, which has an estimated mean technically recoverable resource of 3.7 billion barrels of oil and 1.9 trillion cubic feet of gas (USGS 2008a). **Table B-2** lists the well fields and number of wells that are within and immediately adjacent to the proposed corridor.

The proposed Project is located in the Fort Union Coal region (Averitt 1972). Coal in the Fort Union Formation is generally lignite in the proposed corridor. The Fort Union Group in Williams County contains at least six important lignite beds that have been mined (Freers 1970). Lignite was mined in Williams County before modern surface mining methods were employed; lignite was mined by room-and-pillar underground methods. Because the overburden was thin (often less than 50 feet), underground voids would collapse to the surface creating sinkhole-type subsidence, fissures, and unstable ground conditions. Several abandoned lignite mines are present in the study area and an active underground mine reclamation is underway west of Williston, North Dakota (North Dakota Abandoned Mine Lands Reclamation Division 2006; Dodd 2008a). The abandoned lignite mine sites of record are listed on **Table B-3** and are located within the proposed corridor.

Table B-2 Oil and Gas Well Summary^{1,2}

| Field Name | Number of Wells | Well Type | Status |
|-----------------|-----------------|---|--|
| Beaver Lodge | 21 | Oil and Gas, Salt Water Disposal, Water Injection | Active, Plugged and Abandoned, Inactive, and Permit now Canceled |
| Cow Creek | 2 | Oil and Gas | Active |
| East Fork | 1 | Oil and Gas | Plugged and Abandoned |
| Pleasant Valley | 3 | Oil and Gas | Dry Hole, Plugged and Abandoned, and Inactive |
| Ray | 1 | Gas Condensate | Active |
| Tioga | 1 | Oil and Gas | Plugged and Abandoned |
| Wildcat | 7 | Oil and Gas | Dry Hole, Permit now Canceled |

¹ Source: North Dakota Industrial Commission, Oil and Gas Division (2008).

² Due to the large number of wells within the proposed corridor, only wells within 0.25 mile of the proposed route were included in this table.

Table B-3 Abandoned Lignite Mines within the Proposed Corridor¹

| Name | Location | Dates of Operation |
|----------|---------------------------|--------------------|
| Eby | T154N, R101W, SW ¼ 5 | Not known |
| Peterson | T154N, R101W, SW ¼ 5 | 1921-1926 |
| Head | T154N, R101W, SE ¼ 7 | 1910-1916(?) |
| Union | T154N, R101W, SW ¼ 8 | 1920s |
| Nichols | T154N, R101W, SW ¼ NE ¼ 8 | 1920s |

¹ Source: North Dakota Abandoned Mine Lands Reclamation Division (2006).

The mines listed were all operated and abandoned over 70 years ago. The abandoned mine database (North Dakota Abandoned Mine Lands Reclamation Division 2006) indicates that the exact locations and extent of abandoned mine workings were not determined with certainty, but are approximate locations based on the best historical information available. Sinkholes have developed in areas located in Sections 5 and 7, Township 154 North (T154N), Range 101 West (R101W), and the North Dakota Mined Land Reclamation Division (Dodd 2008b) has documented the precise locations and, in some cases, dimensions of the sinkholes. The information is provided in **Table B-4**.

Aggregate (i.e., sand and gravel) production is from localized deposits in floodplains or glacial deposits. Approximately 59 gravel pits are located within the proposed corridor (Freers 1970; National Atlas 2008).

Table B-4 Sinkhole Data

| Section, Township, Range | Latitude/Longitude | Length (feet) | Width (feet) | Diameter (feet) | Depth (feet) |
|--------------------------|---------------------------|---------------|--------------|-----------------|--------------|
| 5, T154N, R101W | 48.18342/103.71127 | 25 | 18 | ND | 8 |
| | near previous coordinates | ND | ND | 6 | 3 |
| | 48.18453/103.71169 | ND | ND | 30 | 6 |
| | near previous coordinates | ND | ND | 15 | 4 |
| 7, T154N, R101W | 48.17616/103.71737 | 20 | 15 | ND | 6 |
| | 48.17629/103.71711 | 12 | 4 | ND | 4 |
| | 48.17573/103.7177 | ND | ND | 12 | 4 |
| | 48.17584 103.71559 | ND | ND | 6 | 3 |

ND = No Data Available.

Source: Dodd (2008b).

Clay deposits suitable for ceramic production are present in the Fort Union Group formations, but none are being mined currently. Another commodity is “scoria” or “clinker” that occurs when lignite beds burn and bake the shale and claystone strata next to the coal. Scoria is used for road surfacing and oil well location surfacing material (Freers 1970). No scoria pits are located in the proposed corridor.

B.2.2.5 Seismicity

There are three major phenomena associated with seismic hazards: faults, seismicity, and ground motion. The following describes the potential for seismic hazard occurrence in the proposed corridor.

Faults are dislocations whereby blocks of earth material on opposite sides of the faults have moved in relation to one another. Rapid slippage of blocks of earth past each other can cause energy to be released, resulting in an earthquake. As described in section B.2.2.3, there is evidence of fault offset in older strata underlying the surficial cover, but no evidence that would lead to a conclusion of movement on the faults in the last 10,000 years. No active faults have been identified in the proposed corridor (Crone and Wheeler 2000). An active fault is one in which movement can be demonstrated to have taken place within the last 10,000 years (USGS 2008b).

Seismicity concerns the intensity, frequency, and location of earthquakes in a given area. Northwestern North Dakota has historically little earthquake activity (USGS 2008c). From 1990 to 2006, almost no seismic events were recorded North Dakota.

Ground motion hazards result when the energy from an earthquake is propagated through the ground. The USGS ground motion hazard mapping indicates that potential ground motion hazard in the proposed corridor is low. The hazard map used estimates peak ground acceleration of 4 to 6 percent of gravity with a 2 percent probability of exceedance in 50 years (Frankel et al. 1997; Peterson et al. 2008).

B.2.2.6 Landslides

Landslide is a term used for various processes involving the movement of earth material down slopes (USGS 2004). Landslides can occur in a number of different ways in different geological settings. Large masses of earth can become unstable and by gravity begin to move downhill. The instability can be caused by a combination of steep slopes, periods of high precipitation, undermining of support by natural processes

(stream erosion), or unintentional undercutting or undermining the strength of unstable materials in the construction of roads and structures.

Landslides are present in the proposed corridor and are mainly found in badlands next to Lake Sakakawea and in areas adjacent to drainages (Murphy 2004a,b). Landslides occur when headward erosion creates instability where unconsolidated glacial deposits overlie the Fort Union Group formations. Landslides are not present in the upland areas dominated by thick layers of glacial deposits. Landslides have been identified in the proposed corridor near Sand Creek and its tributaries in Section 6, Township 154 North (T154N), Range 101 West (R101W) (Murphy 2004a). In addition, landslides have been identified on slopes along Camp Creek in Section 36, T156N, R101W, and in areas of Section 16, T155N, R101W.

B.2.2.7 Subsidence

As described in section B.2.2.4, there are potential subsidence hazards as a result of underground mining of lignite.

B.2.2.8 Paleontological Resources

Paleontological resources are potentially present in the bedrock in the proposed corridor. The Rocks of the Fort Union Group have a high potential for fossils including plants, invertebrates, and vertebrates (mammals and reptiles) (Bureau of Land Management 2006). However, the proposed corridor is situated on surficial deposits where there is low potential for finding important fossils, especially the glacial deposits, since glacial processes often are not conducive to the preservation of fossils.

B.2.2.9 Soils

Prime and unique farmland and farmland of statewide importance occur within the proposed corridor. Prime farmland is characterized as the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops available for these uses (the land could be cropland, pastureland, rangeland, forest land, or other land, but not urban or built-up land or water areas). It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops in an economic manner when treated and managed, including water management, according to acceptable farming methods. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable levels of acidity or alkalinity, an acceptable content of salt and sodium, and few or no rocks. They have soils that are permeable to water and air. Prime farmland is neither excessively erodible nor saturated with water for a long period of time, and it either does not flood frequently, or is protected from flooding (NRCS 2007).

Specific technical criteria were established by Congress to identify prime farmland soils. In general, criteria reflect adequate natural moisture content; specific soil temperature range; pH between 4.5 and 8.4 in the rooting zone; low susceptibility to flooding; low risk to wind and water erosion; minimum permeability rates; and low rock fragment content (NRCS 2007).

Unique farmland is defined by the NRCS as land other than prime farmland that is used for the production of specific high-value food and fiber crops. It has the special combination of soil qualities, location, growing season, and moisture supply needed for the economic production of sustained high yields of a specific high-quality crop when treated and managed by acceptable farming methods.

Unique farmland is used for a specific high-value food or fiber crop; has an adequate supply of available moisture for the specific crop because of stored moisture, precipitation, or irrigation; and has a combination of soil qualities, growing season, temperature, humidity, air drainage, elevation, aspect, and other factors, such as nearness to markets, that favors the production of a specific food or fiber crop (NRCS 2007).

Farmland of statewide importance is determined by the state agencies. Some areas other than areas of prime and unique farmland are of statewide importance in the production of food, feed, fiber, forage, and oilseed crops. The criteria used in defining and delineating these areas are determined by the appropriate state

agency or agencies. Generally, additional farmland of statewide importance includes areas that nearly meet the criteria for prime farmland and that economically produce high yields of crops when treated and managed by acceptable farming methods. Some areas can produce as high a yield as prime farmland if conditions are favorable. In some states, additional farmland of statewide importance may include tracts of land that have been designated for agriculture by state law (NRCS 2007).

Prime and unique farmland and farmland of statewide importance were compiled from Soil Survey Geographic databases. Data indicate that prime farmland soils occupy approximately 8.2 percent of the proposed corridor and farmlands of statewide importance comprise approximately 52.7 percent of the proposed corridor. Prime and unique farmland and farmland of statewide importance are included in **Table B-5**.

Table B-5 Important Soils within the Proposed Corridor

| Soil Types | Acres | Percent |
|----------------------------------|----------------|--------------|
| Prime and unique farmland | 16,392 | 8.2 |
| Farmland of statewide importance | 105,124 | 52.7 |
| Other lands | 77,953 | 39.1 |
| Total | 199,469 | 100.0 |

B.2.3 Hydrology and Drainage

Although surface waters would be avoided to the extent practicable, secondary impacts could result from sediment loading to receiving streams. Direct impacts to drainages and waterways would be avoided because they would be either avoided or spanned during detailed engineering.

The U.S. Congress passed the National Flood Insurance Act of 1968 in response to increasing losses from flood hazards nationwide, which resulted in establishing the National Flood Insurance Program (NFIP). The Act was subsequently expanded by the Flood Disaster Protection Act of 1973, in which floodplain areas and flood risk zones within the U.S. were identified as part of the Act.

The NFIP identified floodplain areas through flood insurance studies, consisting of hydrologic and hydraulic studies of flood risks, which are administered by the Federal Emergency Management Agency (FEMA). FEMA prepares Flood Insurance Rate Maps that depict the spatial extent of flood hazard areas within Special Flood Hazard Areas (SFHAs). Flood hazard areas within the proposed corridor are illustrated in **Exhibits D-7** through **D-9** and largely associated with the Little Muddy River and its tributaries, north of Williston. Although SFHAs have been designated to describe the potential for flooding events, those applicable to the proposed corridor are limited to those described in **Table B-6**.

Table B-6 Special Flood Hazard Zones Applicable to the Proposed Corridor

| Zone Name | Zone | Description |
|-------------------|------|---|
| Zone X (500-year) | X500 | An area inundated by 500-year flooding; an area inundated by 100-year flooding with average depths of less than 1 foot or with drainage areas less than 1-square-mile; or an area protected by levees from 100-year-flooding. |
| Zone AE | AE | An area inundated by 100-year flooding, for which Base Flood Elevations (BFEs) have been determined. |
| Zone A | A | An area inundated by 100-year flooding, for which no BFEs have been determined. |

B.2.4 Vegetation Resources

Vegetation within the proposed corridor was characterized from a literature review of the North Dakota Game and Fish Department (NDGFD) Comprehensive Wildlife Conservation Strategy (Hagen et al. 2005) and by Geographic Information System (GIS) analysis of land use and land cover. The proposed Project is located within the Missouri Coteau Mixed-grass Prairie region and the Missouri River System/Breaks region of North Dakota. The Missouri Coteau region was historically dominated by mixed-grass prairie and the Missouri River Breaks with woody draws and shortgrass prairie uplands. The topography of the area is rolling hills becoming steeper breaks and draws towards the Missouri River (Hagen et al. 2005). Based on field surveys completed in September 2008, cropland and native prairie dominate the proposed corridor; planted grasslands, deciduous shrublands, wetlands, and other vegetation types are scattered throughout the proposed corridor. Open water and waterbodies, developed land, and areas with barren lands do not support vegetation. Barren and developed lands consist of areas that are devoid of vegetation due to construction-related disturbances and urban development. Vegetation cover types that occur within the proposed corridor are listed in **Table B-7**.

Table B-7 Vegetation Cover Types within the Proposed Corridor

| Vegetation Types | Acres | Percent |
|---------------------------------|------------------|--------------|
| Cultivated cropland | 127,794.3 | 64.1 |
| Pasture/hay | 719.1 | 0.4 |
| Grassland/herbaceous perennials | 52,398.3 | 26.3 |
| Shrubland | 3,131.9 | 1.6 |
| Woodlands | 442.2 | 0.2 |
| Wetlands | 4,068.5 | 2.0 |
| Other lands | 10,914.2 | 5.5 |
| Total | 199,468.5 | 100.0 |

Source: Strong 2004 (North Dakota GAP Analysis Land Cover Database).

B.2.4.1 Grassland and Planted Herbaceous Perennials

Pasture/Rangeland

Agricultural activities within the proposed corridor have largely eliminated the presence of native prairie communities. The remnants of native prairie are mostly utilized for cattle grazing. Grasslands within the proposed corridor include:

- **Mixed-Grass Prairie Community:** The mixed-grass prairie of North Dakota is a combination of the tallgrass species of eastern North Dakota and the shortgrass species found to the west. It is comprised of warm- and cool-season grasses and sedges. Common grasses include prairie junegrass (*Koeleria macrantha*), western wheatgrass (*Elymus smithii*), green needlegrass (*Nassella viridula*), needleandthread (*Hesperostipa comata*), blue grama (*Bouteloua gracilis*), little bluestem (*Schizachyrium scoparium*), and needleleaf sedge (*Carex duriuscula*) (Hagen et al. 2005). Other grass species include Canada wild-rye (*Elymus canadensis*), spike oats (*Helictotrichon hookeri*), mat muhly (*Muhlenburgia richardsonis*), spikemoss (*Selaginella* spp.), plains reedgrass (*Calamagrostis montanensis*), and buffalograss (*Buchloe dactyloides*). Forbs included in the mixed-grass prairie community include purple coneflower (*Echinacea* spp.), field sagewort (*Artemisia campestris*), snowberry (*Symphoricarpos albus*), yarrow (*Achillea* spp.), goldenrod (*Solidago* spp.), wavyleaf thistle (*Cirsium undulatum*), Missouri milkvetch (*Astragalus missouriensis*), Indian breadroot (*Pediomelum* spp.), purple prairie clover (*Dalea purpurea*), prairie sagewort (*Artemisia frigida*), pasque flower

(*Pulsatilla* spp.), western wallflower (*Erysimum asperum*), prairie smoke (*Geum triflorum*), gaura (*Guara* spp.), and harebell (*Asyneuma* spp.) (Hagen et al. 2005).

- Shortgrass Prairie Community: The shortgrass prairie is mostly found on the uplands of the Missouri Breaks region within the proposed corridor. It is comprised of warm-season species that can survive the low average rainfalls of southwestern North Dakota. Common grass species include blue grama, buffalograss, needleandthread, needleleaf sedge, and threadleaf sedge (*Carex filifolia*). These species mature at six to 12 inches in height. Forbs include white wild onion (*Allium textile*), death camas (*Zigadenus* spp.), buffalo-bean (*Thermopsis* spp.), purple loco (*Oxytropis lambertii*), silverleaf (*Astragalus* spp.), field sagewort, snowberry, prickly pear (*Opuntia polyacantha*), moss phlox (*Phlox subulata*), white beardtongue (*Penstemon* spp.), and fringed sage (Hagen et al. 2005).
- Planted Grassland (i.e., herbaceous perennials): These areas are croplands that have been replanted to perennial grasses and/or legumes. This class also includes native grasslands that have been invaded by smooth brome (*Bromus inermis*) or leafy spurge (*Euphorbia esula*). Commonly planted species include smooth brome, crested wheatgrass (*Agropyron cristatum*), intermediate wheatgrass (*Thinopyrum intermedium*), tall wheatgrass (*Thinopyrum ponticum*), big bluestem (*Andropogon gerardii*), alfalfa (*Medicago sativa*), and sweet clover (*Melilotus* spp.). These lands are generally used for hay or forage production. Planted grasslands also can be enrolled in the Conservation Reserve Program (CRP) that restricts their use for hay/forage (Hagen et al. 2005).

B.2.4.2 Shrubland

Deciduous shrublands are a small component of the proposed corridor and usually confined to breaks and draws. The dominant shrub species include silver buffaloberry (*Shepherdia argentea*) and chokecherry (*Prunus virginiana*).

B.2.4.3 Cultivated Cropland

This community is comprised mostly of wheat production, although sunflowers, lentils, dry edible beans, and peas are raised in the proposed corridor.

B.2.4.4 Woodlands

Woodland habitats are found in only a few locations in North Dakota, and they do not cover large contiguous areas (Hagen et al. 2005). Isolated areas of woodland habitat occur within the proposed corridor. Dominant species in woodlands include green ash (*Fraxinus pennsylvanica*), chokecherry, roses (*Rosa* sp.), and snowberry. The proposed corridor also includes windbreaks (i.e., shelterbelts) adjacent to cropland and farmsteads. The dominant species in these wind breaks is Siberian elm (*Ulmus pumila*).

B.2.4.5 Wetland and Riverine

Wetland and riverine habitats are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of wetland vegetation typically adapted for life in saturated soil conditions (Environmental Laboratory 1987). Wetlands are classified depending on how long water and vegetation are present. These range from temporary wetlands that typically hold water for only a few weeks, to permanent wetlands that hold water year round. Wetland types within the proposed corridor include palustrine and riverine wetlands. Dominant vegetation of wetland areas includes fine-textured grasses, sedges, and rushes (Hagen et al. 2005).

- Palustrine Wetlands: Palustrine wetlands include all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens. They can be grouped into vegetated wetlands traditionally called by such names as marsh, swamp, bog, fen, and prairie, which are found throughout the U.S. It also includes the small, shallow, permanent or intermittent water bodies often called ponds (Cowardin et al. 1979). Palustrine wetlands are classified as either seasonal, semi-permanent, or permanent subcategories. Seasonal wetlands are described as having surface water present for extended periods in spring and early summer, but usually disappear as early as midsummer

(Hagen et al. 2005). Semi-permanent wetlands have water present year-round in most years; permanent wetlands will contain water throughout the year, in all years (Hagen et al. 2005).

- Riverine Wetlands: Riverine wetlands include wetlands contained within a channel, with two exceptions: 1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens; and 2) habitats with water containing ocean-derived salts. Water is usually, but not always, flowing in the riverine system. Upland islands or palustrine wetlands may occur in the channel but they are not included in the riverine system. The lower perennial subsystem includes waterbodies where some water flows throughout the year and the gradient is low and water velocity is slow. The intermittent subsystem includes channels where the water flows for only part of the year (Cowardin et al. 1979). Wetland types that occur within the proposed corridor are listed in **Table B-8**.

Table B-8 Wetland Types within the Proposed Corridor

| Wetland Types | Acres | Number |
|-----------------------------------|----------------|--------------|
| Freshwater pond | 266.1 | 268 |
| Freshwater emergent wetland | 2,361.0 | 3,039 |
| Freshwater forested/shrub wetland | 2.1 | 7 |
| Lake | 65.0 | 3 |
| Riverine | 86.2 | 18 |
| Other | 1.7 | 5 |
| Total | 2,782.1 | 3,340 |

¹ Wetland acreage differs from acreages provided in **Table B-1** and **Table B-7** due to different data sources.

Source: NWI maps.

B.2.4.6 Sensitive Ecological Communities

Sensitive ecological communities for the study area were identified by the North Dakota Natural Heritage Inventory (NDNHI) 2008. These terrestrial communities consist of interrelated assemblages of plants, animals, other living organisms, geological substrates, and soils that are shaped by natural processes. These communities are either rare/endangered, ecologically significant, or unique to the area. These communities are not protected by state statutes. Several sensitive ecological communities were identified by the NDNHI as present in the vicinity but not within the proposed corridor. However, biological surveys conducted in September 2008 identified three of these communities to be within the proposed corridor. These communities are summarized below.

Western Three-square Meadow

The community is found along perennial streams, marshes, ponds, and overflows with permanently saturated soils. Dominant species of the community include common threesquare (*Schoenoplectus pungens* var. *longispicatus*), broadleaf cattail (*Typha latifolia*), arctic rush (*Juncus arcticus*), cordgrass (*Spartina* spp.), common rush (*Juncus effusus*), and spotted water hemlock (*Cicuta maculata*) (Jones et al. 2006). The community is globally secure (G5 Rank) but is critically imperiled within North Dakota (S1 Rank) (Jones et al. 2006; Duttenhefner 2008).

Needleandthread Mixed Grass Prairie

The community is found on level to rolling uplands with loam to sandy loam soils across the northern Great Plains. Dominant species of the community include needleandthread (*Hesperostipa comata*), blue grama

(*Bouteloua gracilis*), threadleaf sedge (*Carex filifolia*), prairie junegrass (*Koeleria macrantha*), western wheatgrass (*Pascopyrum smithii*), prairie sagewort (*Artemisia frigida*), broom snakeweed (*Gutierrezia sarothrae*), prairie rose (*Rosa arkansana*), spiny phlox (*Phlox hoodii*), hairy false goldenaster (*Heterotheca villosa*), scarlet beeblossom (*Gaura coccinea*), and dotted blazing star (*Liatris punctata*) (Drake 2006). The community is globally secure (G5 Rank) but is imperiled within North Dakota (S2 Rank) (Drake 2006; Duttenhefner 2008).

Green Ash Upland Woodland

This community occurs on slopes of ravines, open valleys, and along streams. The dominant species of this community include green ash (*Fraxinus pennsylvanica*), boxelder (*Acer negundo*), chokecherry (*Prunus virginiana*), western snowberry (*Symphoricarpos occidentalis*), currant (*Ribes* sp.), rose (*Rosa* sp.), smooth brome (*Bromus inermis*) (Faber-Langendoen 2001). This community is globally imperiled/vulnerable (G2G3 Rank) and it is vulnerable within North Dakota (S3 Rank) (Duttenhefner 2008; Faber-Langendoen 2001).

B.2.4.7 Noxious Weeds

Several noxious weed species are known to cause ecological and commercial damage in North Dakota. If not controlled, noxious weeds can infest areas, resulting in the loss of native vegetation and crops. The state- and county-prohibited or restricted noxious weeds are listed in **Table B-9**. Canada thistle, field bindweed, leafy spurge, and yellow toadflax were observed within the Proposed Corridor during field surveys conducted in September 2008.

Table B-9 Noxious Weeds Known to Occur in North Dakota

| Common Name | Scientific Name |
|--------------------|--|
| Russian knapweed | <i>Acroptilon repens</i> |
| Absinth wormwood | <i>Artemisia absinthium</i> |
| Musk thistle | <i>Carduus nutans</i> |
| Yellow starthistle | <i>Centaurea solstitialis</i> |
| Spotted knapweed | <i>Centaurea stoebe</i> ssp. <i>micranthos</i> |
| Canada thistle | <i>Cirsium arvense</i> |
| Field bindweed | <i>Convolvulus arvensis</i> |
| Leafy spurge | <i>Euphorbia esula</i> |
| Dalmatian toadflax | <i>Linaria dalmatica</i> ssp. <i>dalmatica</i> |
| Purple loosestrife | <i>Lythrum salicaria</i> |
| Saltcedar | <i>Tamarix ramosissima</i> |
| Yellow toadflax | <i>Linaria vulgaris</i> |
| Dodder | <i>Cuscuta</i> sp. |
| Broomrape | <i>Orobanche</i> sp. |

Source: North Dakota Department of Agriculture 2008.

B.2.5 Wildlife and Fisheries

Wildlife use within the proposed corridor was characterized from a literature review of the North Dakota Game and Fish Department’s (NDGFD’s) Comprehensive Wildlife Conservation Strategy (Hagen et al. 2005), as well

as both 2008 spring and fall field investigations. Additionally, agency correspondence and species information was collected from the USFWS, NDGFD, and the NDNHI (USFWS 2008a,b; NDGFD 2008; NDNHI 2008).

The predominant wildlife habitats along the proposed corridor consist of agricultural land, grasslands (tall and mixed-grass prairie), shrublands, woodlands (mixed conifer and deciduous), and wetlands (woody and emergent herbaceous). These vegetation types support a diversity of wildlife species and are discussed in section B.2.4, Vegetation Resources. This section focuses on species of high economic and/or recreational importance and those that are considered sensitive to human disturbance.

B.2.5.1 Big Game

Big game species within the proposed corridor include white-tailed deer (*Odocoileus virginianus*), with possible occurrences of mule deer (*Odocoileus hemionus*), and pronghorn (*Antilocapra americana*). No seasonal big game ranges were identified by the NDGFD (NDGFD 2008).

B.2.5.2 Small Game

Small game species that occur within the proposed corridor include native and non-native furbearers, upland game birds, and waterfowl. Common furbearers within the proposed corridor include red fox (*Vulpes vulpes*), raccoon (*Procyon lotor*), badger (*Taxidea taxus*), striped skunk (*Mephitis mephitis*), and coyote (*Canis latrans*).

Representative upland game birds in the proposed corridor include ring-necked pheasant (*Phasianus colchicus*) (an introduced species), sharp-tailed grouse (*Tympanuchus phasianellus*), gray partridge (*Perdix perdix*), and wild turkey (*Meleagris gallopavo*). Representative waterfowl species include mallard (*Anas platyrhynchos*), blue-winged teal (*Anas discors*), northern shoveler (*Anas clypeata*), and gadwall (*Anas strepera*).

B.2.5.3 Nongame Species

A diverse number of nongame species (e.g., small mammals, raptors, passerines, amphibians, and reptiles) occupy a variety of trophic levels and habitat types within the proposed corridor. Common wildlife species include small mammals such as bats, voles, squirrels, gophers, and mice. These small mammals provide a substantial prey base for predators in the area including, larger mammals (coyote and badger), raptors (eagles, hawks, accipiters, owls), and reptiles.

Migratory birds are protected by the Migratory Bird Treaty Act (MBTA) (16 USC 703-711) and Executive Order (EO) 13186 (66 Federal Register 3853), which makes it unlawful to take, kill, or possess migratory birds. EO 13186 was enacted to, among other things, ensure that environmental analyses of Federal actions evaluate impacts of actions and agency plans on migratory birds. Federally listed and other sensitive bird species are discussed in section B.2.6.

Migratory birds are considered integral to natural communities and act as environmental indicators based on their sensitivity to environmental changes caused by human activities. Examples of migratory bird species that occur within the proposed corridor include the mourning dove (*Zenaidura macroura*), killdeer (*Charadrius vociferus*), common nighthawk (*Chordeiles minor*), western kingbird (*Tyrannus verticalis*), eastern kingbird (*Tyrannus tyrannus*), horned lark (*Eremophila alpestris*), eastern bluebird (*Sialia sialis*), mountain bluebird (*Sialia currucoides*), common yellowthroat (*Geothlypis trichas*), clay-colored sparrow (*Spizella pallida*), vesper sparrow (*Pooecetes gramineus*), lark sparrow (*Chondestes grammacus*), savannah sparrow (*Passerculus sandwichensis*), western meadowlark (*Sturnella neglecta*), and brown-headed cowbird (*Molothrus ater*).

Raptor species that occupy habitats within the proposed corridor are those associated with tall- and mixed-grass prairie, shrubland, woodlands, wetlands, and cropland. Those species include eagles (bald and golden eagles), hawks (e.g., red-tailed and ferruginous hawks), falcons (American kestrel and prairie falcon), owls (burrowing owl, great horned owl, and short-eared owl), northern harrier, and other birds of prey including the turkey vulture (Peterson 1990). Protected raptor species that have been identified for the proposed corridor

include bald eagle, ferruginous hawk, northern harrier, Swainson's hawk, short-eared owl, and burrowing owl (**Appendix C**, Special Status Species). These species all are designated as North Dakota Species of Conservation Priority.

B.2.5.4 Fisheries Resources

The proposed corridor includes several occasional intermittent and ephemeral streams. One perennial water, the Little Muddy River, is crossed in Williams County. Federal and state wildlife agencies have not expressed concerns for any fish species or sensitive aquatic habitat within any of the waterbodies within the proposed corridor. In addition, no waterbodies within the proposed corridor contain species managed by the National Marine Fisheries Service, or support essential fish habitat (EFH) as defined under the Magnuson-Stevens Fishery Conservation and Management Act.

B.2.6 Special Status Species

Special status species are those in which state and/or federal agencies provide protection by law, regulation, or policy. Federally listed and federally proposed for listing species with designated critical habitat are protected under the ESA. For this analysis, special status species also include those species that have been designated as species of conservation priority by the NDGFD.

The State of North Dakota categorizes wildlife species into three levels of conservation priority (Hagen et al. 2005). The following categories were developed to describe the conservation needs for North Dakota species of conservation priority:

- Level I: species with a high level of priority due to the declining status here or across the range or high rate of occurrence in North Dakota, constituting the core of the species breeding range but are at-risk range-wide.
- Level II: species with a moderate level of priority or species with a high level of priority but a substantial level of non-state wildlife grants funding.
- Level III: species with a moderate level of priority but are believed to be peripheral or non-breeding in North Dakota.

Special status species analysis focused on wildlife and plant species and habitats that may occur within the proposed corridor. The process considered federal laws and state statutes. The ESA is administered by the USFWS and provides broad national protection for fish, wildlife, and plants that are listed as endangered, threatened, or proposed for listing. The ESA outlines procedures for federal agencies to follow when a listed species or designated habitat may be affected by an action they authorize, fund, or permit. Species considered North Dakota species of conservation priority also receive some protection. The MBTA also is administered by the USFWS. The MBTA is a federal law enabling the U.S. to fulfill its international, bilateral conventions for conserving migratory bird populations and their habitats. The MBTA makes it unlawful to take, kill, or possess migratory birds, nests, eggs, or parts of birds without a permit. Additionally, the Bald and Golden Eagle Protection Act (BGEPA), also administered by the USFWS, provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds. Revised regulations providing mechanism to authorize take under the BGEPA went into effect June 19, 2008.

Methods for establishing a baseline of status, occurrence and associated habitat of wildlife that may occur within the proposed corridor include reviewing published literature, natural heritage database information, internet websites, agency correspondence, and field surveys. Biologists with the USFWS, NDGFD, and NDNHI were contacted for information about the status of wildlife species, habitat, special wildlife features, and habitats in the proposed corridor (USFWS 2008a,b; NDGFD 2008; NDNHI 2008). Baseline biological surveys within the proposed corridor were conducted in September 2008.

The analysis for special status species focused on those species that could occur within the proposed corridor. Special status species originally considered for the proposed corridor are presented in **Appendix C**, Special Status Species. The evaluation determined that some of these species would not occur in the proposed corridor. Comments on these species are provided in **Appendix C** and are not discussed further.

A total of 64 special status wildlife species were identified by the USFWS, the State of North Dakota, and the NDNHI as occurring within the 6-mile-wide corridor (USFWS 2008a,b; Hagen et al. 2005; NDNHI 2008). These species, their habitat associations, and their occurrence within the proposed corridor are summarized in **Appendix C**, Special Status Species. Occurrence for each species was based on habitat requirements and known distribution. Based on these evaluations, 24 species have been eliminated from detailed analysis, of which 3 of these species are federally listed species (threatened and endangered). The federally listed species that were eliminated from detailed analysis include the gray wolf (*Canis lupus*), interior least tern (*Sterna antillarum*), and pallid sturgeon (*Scaphirynchus albus*). The gray wolf was eliminated because it is highly unlikely to be within the proposed corridor and would only be present as a migratory occurrence. Interior least tern was eliminated because nesting habitat is not present. Pallid sturgeon was eliminated because the species requires large fast-flowing rivers, which are not present within the proposed corridor. The Dakota skipper (*Hesperia dacadae*), a federal candidate species, was also eliminated from detailed analysis. The non-listed species eliminated from detailed analysis include American white pelican (*Pelecanus erythrorhynchos*), arctic shrew (*Sorex arcticus*), bald eagle (*Haliaeetus leucocephalus*), Franklin's gull (*Larus pipixcan*), greater prairie chicken (*Tympanuchus cupido*), long-eared myotis (*Myotis evotis*), long-legged myotis (*Myotis volans*), peregrine falcon (*Falco peregrinus*), pygmy shrew (*Sorex hoyi*), horned grebe (*Podiceps auritus*), red-headed woodpecker (*Melanerpes erythrocephalus*), Richardson's ground squirrel (*Spermophilus richardsonii*), sagebrush vole (*Lemmyscus curtatus*), swift fox (*Vulpes velox*), and western small-footed myotis (*Myotis ciliolabrum*), and eight species of fish. Of the remaining 40 species retained for analysis, two are listed species; whooping crane (*Grus americana*), and piping plover (*Charadrius melodus*). Special status wildlife species that have not been eliminated from analysis are discussed below and in **Appendix C**. No designated critical habitat is located within the proposed corridor.

B.2.6.1 Federally Listed Species

Whooping Crane

The whooping crane is a federally endangered species and a North Dakota Level III species of conservation priority. Collision with power lines is the greatest source of mortality for fledged whooping cranes that migrate between nesting and wintering habitat (USFWS 2006). Designated critical habitat, nesting habitat, and breeding rookeries are not present in the vicinity of the proposed corridor. However, the proposed corridor is located within the yearly migratory route for the Aransas-Wood Buffalo Breeding Population (AWBP). Species records show migration routes through Williams and Mountrail counties (USFWS 2008a,b). Whooping cranes may migrate through the proposed corridor in the spring (April to mid-May) and in the fall (mid-September to October). Suitable stop-over habitat for migrating whooping cranes includes wetlands and cropland ponds for roosting and/or feeding. Individual cranes typically spend only a few days at most at a given site during migration before moving on.

Piping Plover

The piping plover is a federally threatened species and a North Dakota Level II species of conservation priority. The piping plover is generally characterized as using exposed, sparsely vegetated shores and islands of shallow, alkali lakes and impoundments for breeding (Hagen et al. 2005). Salt-encrusted, alkali, or subsaline semipermanent lakes, ponds, and rivers with wide shorelines of gravel, sand, or pebbles are preferred (Hagen et al. 2005). Piping plovers forage on fly larvae, beetles, crustaceans, mollusks, and other small animals near the shoreline or sometimes by the nest. It is expected that the piping plover would only use the proposed corridor for migration and foraging purposes, and are not likely to breed and nest within the small and limited waterbodies located in the vicinity of this Project.

B.2.6.2 North Dakota Species of Conservation Priority

Grassland Associated Species

Baird's sparrow (*Ammodramus bairdii*), black-billed cuckoo (*Coccyzus erythrophthalmus*), bobolink (*Dolichonyx oryzivorus*), chestnut-collared longspur (*Calcarius ornatus*), dickcissel (*Spiza americana*), grasshopper sparrow (*Ammodramus savannarum*), lark bunting (*Calamospiza melanocorys*), LeConte's sparrow (*Ammodramus leconteii*), loggerhead shrike (*Lanius ludovicianus*), marbled godwit (*Limosa fedoa*), Sprague's pipit (*Anthus spragueii*), and upland sandpiper (*Bartramia longicauda*) are migratory bird species that are listed as North Dakota species of conservation priority and may occur within the proposed corridor. These migratory bird species are associated with grassland habitats.

Perching Species

Red-tailed hawk (*Buteo jamaicensis*), Ferruginous hawk (*Buteo regalis*), northern harrier (*Circus cyaneus*), short-eared owl (*Asio flammeus*), and Swainson's hawk (*Buteo swainsoni*) are migratory birds and raptor species that are also North Dakota species of conservation priority that may occur within the proposed corridor and are associated with grassland habitats. Several raptor species were observed foraging within the proposed corridor during September 2008 field surveys, including Swainson's hawk, northern harrier, and red-tailed hawk.

Lekking Species

Sharp-tailed grouse are found in mixed-grasslands with patches of small trees or shrubs. During the breeding season male sharp-tailed grouse congregate on specific areas known as leks in the early morning to impress nearby females. Leks are usually located within wet meadows, ridges, and knolls, or recently burned areas. No lek sites for sharp-tailed grouse have been identified by the NDGFD or the NDNHI in the vicinity of the proposed corridor. During the September 2008 surveys, numerous sharp-tailed grouse were observed.

Less Mobile and Burrowing Species

Plains spadefoot (*Spea bombifrons*), smooth green snake (*Liochlorophis vernalis*), short horned lizard (*Phrynosoma douglassi*) and western hognose snake (*Heterodon nasicus*) are also North Dakota species of conservation priority which inhabit dry, open grasslands with sandy or loose soils and, occasionally rock crevices. Other habitat factors include proximity to water and small mammal burrows (Hagen et al. 2005). Plains spadefoot, short horned lizard, and western hognose snake utilize burrows during portions of their life history. Smooth green snake utilize may utilize hibernacula and have been documented hibernating within ant mounds. These species were not detected during September 2008 surveys.

Burrowing owl (*Athene cunicularia*), is a ground nesting owl which nests in abandoned mammal burrows which they enlarge and excavate (Hagen et al. 2005). One burrowing owl was also observed during September 2008 surveys (see **Exhibit D-1**).

Wetland and Riparian Associated Species

American avocet (*Recurvirostra americana*), American bittern (*Botaurus lentiginosus*), black tern (*Chlidonias niger*), canvasback (*Aythya valisineria*), Franklin's gull (*Larus pipixcan*), Nelson's sharp-tailed sparrow (*Ammodramus nelsoni*), northern pintail (*Anus acuta*), redhead (*Aythya americana*), sedge wren (*Cistothorus platensis*), willet (*Catoptrophorus semipalmatus*), Wilson's phalarope (*Phalaropus tricolor*), and yellow rail (*Corurnicops noveboracensis*) are migratory bird species that are North Dakota species of conservation priority and may occur within the proposed corridor. These migratory bird species are associated with wetlands, wetland complexes, and waterbody habitats.

The Canadian toad (*Bufo hemiophrys*) and common snapping turtle (*Chelydra serpentina*) also are a North Dakota species of conservation priority. These species prefer permanent lakes, ponds, rivers, and wetlands (Hagen et al. 2005).

The September 2008 and June 2009 field surveys found a limited amount of habitat that would support these species including one perennial water, the Little Muddy River, and a limited number of ponds or wetlands with permanent water. Additionally, occasional intermittent and ephemeral streams were also observed.

B.2.6.3 Special Status Fish

A total of nine special status fish species were identified by the USFWS, the State of North Dakota, and the NDNHI as occurring within the proposed corridor (USFWS 2008a,b; Hagen et al. 2005; NDNHI 2008). These species, their habitat associations, and their occurrence within the proposed corridor are summarized in **Appendix C**, Special Status Species. Based on evaluations in **Appendix C**, all nine fish species have been eliminated from detailed analysis, of which one is a federally listed endangered species, the pallid sturgeon (*Scaphirhynchus albus*). The non-listed species eliminated from further analysis include blue sucker (*Cycleptus elongates*), finescale dace (*Phoxinus meogaeus*), flathead catfish (*Pylodictis olivaris*), flathead chub (*Platygobio gracilis*), northern redbelly dace (*Phoxinus eos*), paddlefish (*Polyodon spathula*), sicklefin chub (*Macrhybopsis meeki*), and sturgeon chub (*Macrhybopsis gelida*).

The September 2008 and June 2009 field surveys did not detect habitat that would support these species. Only one perennial water, the Little Muddy River, occurs within the proposed corridor. These species are not known to occur in this river.

B.2.6.4 Special Status Plants

A total of three special status plant species were identified by the USFWS, the State of North Dakota, and the NDNHI as occurring within the proposed corridor (USFWS 2008a,b; Hagen et al. 2005; NDNHI 2008). These species, their habitat associations, and their occurrence within the proposed corridor are summarized in **Appendix C**, Special Status Species. Based on evaluations, in **Appendix C**, all three plant species have been eliminated from detailed analysis, none of which is a federally listed species. The non-listed species eliminated from further analysis include Dakota buckwheat (*Eriogonum visherii*), heart-leaved buttercup (*Ranunculus cardiophyllus*), and jointed-spike sedge (*Carex athrostachya*). Species-specific surveys for these plant species were not required by the NDGFD (NDGFD 2008).

All three species were identified as having potential to occur within the proposed corridor but were eliminated from detailed analysis as the habitat characteristics necessary to support these species were not detected during September 2008 survey.

B.2.7 Archaeological and Historic Resources

Cultural resources are protected by a series of federal laws enacted to protect these resources from damage or loss due to federal undertakings, or private undertakings operating under federal license, federal funding, or on federally managed lands. The public's recognition that these non-renewable resources are important and should be protected began in the 20th Century and continues to the present. Three of the most important laws are the NHPA of 1966, as amended; the American Indian Religious Freedom Act of 1978; and the Archaeological Resource Protection Act of 1979. EO 11593 also provides necessary guidance on protection and enhancement of cultural resources. New legislation and emphases that have come to the forefront over the past 20 years include the Native American Graves Protection and Repatriation Act; EO 13007, the consideration of historic and traditional landscapes; and the increased awareness of and consultation for traditional cultural properties (Parker and King 1989).

Class I Cultural Resources Survey Results

From February 27 to June 20, 2008, Metcalf Archaeological Consultants, Inc. (Metcalf) conducted a Class I records and files search through the State Historical Society of North Dakota to identify previously conducted cultural resources inventories and previously documented cultural resources within the study area. Additionally, Metcalf reviewed historic General Land Office (GLO) records to determine if remains of trails, transportation routes, homesteads, or other historic resources may be present in the study area.

The files search revealed 148 sites in the proposed corridor (Metcalf 2008). Sixty-seven of these sites are prehistoric, including 62 sites with stone circles and/or cairns, one site recorded as a mound, and four low-density material scatters. A small number of the stone circle/cairn sites also have associated material scatters. Thirteen of the 148 sites are historic, including seven material scatters with depressions indicative of foundation remains and six with structural foundation remnants and/or small depressions. One multi-component site containing stone circles and a historic material scatter also was identified in the proposed corridor. The remaining 67 sites are architectural sites. These include farmsteads, houses, bridges, churches, municipal buildings, a utility line, and a number of agricultural outbuildings. Most of the architectural sites are in or near the Town of Ray.

Summary of General Land Office Review for the Proposed Corridor

On April 7, 2008, Metcalf reviewed GLO maps of the proposed corridor. The townships, ranges, and sections that lie within the proposed corridor were entered into the GLO database and the results were examined for any evidence of trails, transportation routes, homesteads, or other historic resources. The Great Northern Railroad, trails, several buildings, and modern highways, pipelines, and road systems were identified within the proposed corridor. Most of the identified trails subsequently have been modified or removed as a result of modern highway construction or other forms of infrastructure.

B.2.8 Native American Setting

Northwestern North Dakota and surrounding areas traditionally have been used by Native Americans since pre-recorded time. Present-day tribes with ties to the area include:

- Eastern Shoshone Tribe – Fort Washakie, Wyoming;
- Northern Arapaho Tribe – Fort Washakie, Wyoming;
- Northern Cheyenne Tribe – Lame Deer, Montana;
- Oglala Lakota Nation – Pine Ridge, South Dakota;
- Rosebud Sioux Tribe – Rosebud, South Dakota;
- Cheyenne River Sioux Tribe – Eagle Butte, South Dakota;
- Standing Rock Sioux – Fort Yates, North Dakota;
- Crow Tribe – Crow Agency, Montana;
- Fort Peck Tribes – Poplar, Minnesota; and
- Three Affiliated Tribes – New Town, North Dakota.

Western sent Nation-to-Nation consultation letters to these 10 tribes on August 1, 2008. The letter described the proposed Project and provided the tribes with the opportunity to comment on the Project and identify sites or places that might be of religious or cultural significance to the tribes. To date, only the Rosebud Sioux Tribe has responded to the letter. The Tribe has no concerns with the Project; however, they requested copies of the Class I and Class III cultural resources reports.

B.2.9 Paleontological Resources

Paleontological resources that are located on state lands are protected under North Dakota's Paleontological Resource Protection Act (North Dakota Century Code [NDCC] 54-17.3), which gives the North Dakota Industrial Commission, acting through the Office of the State Geologist, the responsibility to protect paleontological resources that are located on land owned by the state, or its political subdivisions (North Dakota Geological Survey 2007). Resources on private land are not protected under this Act, and are considered property of the landowner.

B.2.10 Transportation

Regional transportation facilities, largely consisting of highways and rural roads, would be used to transport construction and maintenance workers, equipment, and materials to transmission line sites. Construction of the proposed Project would require crossing numerous local roads, highways and the Burlington Northern-Santa Fe Railroad.

The proposed corridor would be located west of the Williston - Sloulin Field International Airport. Sloulin Field provides international service to commercial carriers and general aviation. The main runway is 6,650 feet long and 100 feet wide. Currently, the proposed corridor contains the Tioga Municipal Airport. This airport serves general aviation and has a 4,501-foot-long, 75-foot-wide main runway.

Major highways in the proposed corridor include U.S. Highway 2/U.S. Highway 85 that extends north from Williston; U.S. Highway 2 that extends east-west through Ray, North Dakota; and ND Highway 40 that is oriented north-south from U.S. Highway 2 to Tioga. Other roads and highways in the proposed corridor are oriented in a north-south, east-west grid along section lines.

B.2.11 Socioeconomics

Socioeconomic analyses address population, demography, economy, and employment.

Population and Demography

The proposed Project is located in Williams and Mountrail counties in rural northwestern North Dakota. Williams County is approximately 2,148 square miles with a population of 19,761 residents (U.S. Census Bureau 2000). The eastern portion of the proposed corridor, which includes the Tioga Substation and a small portion of the proposed route, extend east into Mountrail County within an area of approximately 1,941 square miles and a population 6,631 residents (U.S. Census Bureau 2000).

Racial composition of residents within the two counties is predominantly white; approximately 93 percent in Williams County and 66 percent in Mountrail County. **Table B-10** provides demographic information for the towns located within the proposed corridor.

Table B-10 Population and Demography within the Proposed Corridor

| Town | County | Population ¹ | Median Household Income ² | % Below Poverty Level | |
|-----------|----------|-------------------------|--------------------------------------|-----------------------|-------------|
| | | | | Families | Individuals |
| Williston | Williams | 12,512 | 29,962 | 11.3 | 13.4 |
| Ray | Williams | 534 | 31,563 | 2.6 | 3.7 |
| Tioga | Williams | 1,125 | 29,740 | 3.5 | 7.0 |

¹ U.S. Census Bureau, American Fact Finder 2000.

² U.S. Census Bureau, American Fact Finder, Census 2000, Income 1999.

Economy and Employment

Agriculture is the primary industry, with wheat being the most common crop produced, followed by lentils, barley, oats, dry edible beans and peas, and sugar beets (U.S. Department of Agriculture 2008). Livestock production is the second largest industry, primarily producing beef cattle, and hogs. Service industries and retail trade support residents in the area towns.

The oil and gas industry is a major economic contributor to the region since the discovery of oil in the Williston Basin in 1951 (Williston 2008). Since 1951, total production from the Williston Basin has exceeded 2.5 billion barrels (Williston 2008). While oil and gas production is concentrated in western North Dakota, the secondary effects (refining and transporting) affects and significantly benefits the entire state's economy.

During the hunting season, the hunting industry provides numerous recreational activities. Recreation in the area includes big game and small game hunting on private and state owned and managed lands. Big game hunting includes whitetail deer and antelope; small game hunting includes pheasant, Hungarian partridge, and sharptail grouse (Williston Convention and Visitors Bureau 2008).

Additional recreational activities include fishing, bird watching, and canoeing (Williston Convention and Visitors Bureau 2008). Fishing in nearby Lake Sakakawea for walleye and northern pike attract many visitors to the area. Bird watching enthusiasts come to the area for the 365 bird species in the region. Canoeing is a popular recreational activity on the Yellowstone River, Missouri River, and Lake Sakakawea.

B.2.12 Public Health and Safety

Construction, operation, and maintenance of the proposed Project could result in short- and long-term impacts to public health and safety. Potential health and safety concerns associated with construction include highway and roadway safety associated with the transport of structures, structure hardware, conductor, and personnel and solid waste management. Those associated with operations include electric shock, electric and magnetic fields, stray voltage, and induced voltage. Worker safety issues are associated with Project construction, operation, and maintenance activities.

B.2.13 Environmental Justice

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, was signed on February 11, 1994. EO 12898 directs federal agencies to review proposals and identify, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations to the greatest extent practicable and permitted by law. As such, the proposed Project must be evaluated in terms of an adverse effect that:

- Is predominantly borne by a minority population and/or low-income population; or
- Will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low income population.

Racial composition of residents within the two counties that constitute the Project area is predominantly white; 93 percent in Williams County and 66 percent in Mountrail County. Approximately 30 percent of residents in Mountrail County are Native Americans who live on the Fort Berthold Reservation, which covers the southern portion of the county. The nearest community to the proposed Project in Mountrail County is Tioga, where the racial composition is 97 percent Caucasian.

B.2.14 Visual Resources

Visual resources within the proposed corridor are what many individuals would describe as aesthetically pleasing. Scenic quality is based on evaluating the overall character and diversity of landform, vegetation, water, color, and cultural features of a landscape. Additionally, visual resources are evaluated based on viewer sensitivity, which is described as the degree of concern for change in the landscape's visual character. Sensitive viewers include residents and viewers from churches, parks, recreational areas, and roadways. The level of viewer sensitivity is associated with the duration of the view. For example, residents' views of a landscape would be long-term and characterized as a highly sensitive viewer; whereas, a motorist's view of the landscape would be short-term in duration and characterized as a low- to moderate-sensitive viewer.

The western part of the study area is located in bottomlands of the Missouri River, while much of the area is located on fairly level uplands. In the eastern part of the study area near Tioga, North Dakota, the topography consists of undulating hills (Freers 1970). Elevations along the proposed corridor vary from just less than 2,000 feet amsl at the Missouri River to 2,400 feet amsl at Tioga, North Dakota. Visual resources in the area include large expanses of cropland and pastureland, interspersed with homesteads, surrounded by shelter belts. Much of the landscape has been modified and used for agriculture. Colors range from varying shades of greens, soft yellows, and browns, depending on the time of year. The broad horizons create a broad spectrum of colors from bright to deep blues during daylight hours and golds, oranges, and reds at dusk to the west, and dawn to the east.

Major highways in the proposed corridor include U.S. Highway 2/U.S. Highway 85 that extends north from Williston; U.S. Highway 2 that extends east-west through Ray, North Dakota; and ND Highway 40 that is oriented north-south from U.S. Highway 2 to Tioga. Other roads and highways in the proposed corridor are oriented in a north-south, east-west grid along section lines.

B.2.15 Noise

Ambient noise levels within the proposed corridor are minimal, broken only by the sound of wind and occasional vehicle traffic and farm machinery. Sensitive receptors within the area are largely limited to scattered area residents.

B.2.16 Air Quality

Air quality parameters typically include consideration of criteria pollutants and prevention of significant deterioration impact levels of nitrogen dioxide, particulate matter, carbon monoxide, and sulfur dioxide.

The North Dakota Department of Health, Division of Air Quality has determined that the concentrations of the criteria pollutants in the proposed corridor are currently lower than the allowable limits established by the National and State Ambient Air Quality Standards (AAQS). Thus, the area is considered to be in attainment of the AAQS for all pollutants.

C. Need for Facility

C.1 Analysis of Need

BEPC's Transmission Services Division completed a comprehensive transmission system study in September 2008 that addressed load forecasts in portions of northwestern North Dakota and northeastern Montana. The study analyzed impacts of the latest load forecast for this region that has been affected by rapid increases in oil and gas extraction and delivery. The load forecast for this area is illustrated in **Exhibit C-1**.

The study showed that the existing system will have insufficient capacity to accommodate projected loads by 2011. Furthermore, Western's Williston to Charlie Creek 115-kV line is in poor physical condition and is currently being rebuilt to 230-kV service.

The existing Tioga 230/115-kV transformer limits the power imports from Saskatchewan to 165-MW. The increased 115-kV network load has increased loading on the Tioga 230/115-kV transformer to the extent the 165-MW Saskatchewan import can no longer be accommodated. Also, the loss of the Tioga 230/115-kV transformer causes low voltage on the 115-kV system. Therefore, a parallel transformer is needed to mitigate the existing overload and provide a backup for loss of the existing transformer. This Project also is underway.

The proposed Williston to Tioga 230-kV transmission line is necessary to complete the 230-kV loop from Tioga to Charlie Creek and to meet the projected loads. Without the facility, the existing Williston-Tioga 115-kV line would be subject to overload, resulting in non-compliance with utility practice and requirements, reduced substation equipment service life, or failure outage to end users.

C.2 Alternatives

Demand side management is a non-structural method that is often called upon to aid in meeting power supply shortfalls. The North Dakota Department of Commerce is mandated to implement the State Energy Program promoting energy conservation and efficiency and reducing energy consumption growth rates. Implementation of additional demand side management energy conservation efforts would fail to meet near-term and future energy needs in southwestern North Dakota.

C.3 Deviation from Ten-Year Plan

The description of the proposed Project corresponds with information provided in the most recent Ten-Year Plan, which was submitted to the PSC by BEPC. There were no deviations between the planned Project described in the Ten-Year Plan and the proposed Project described in this application.

D. Location

D.1 Study Area

North Dakota Administrative Code, Section 69-06-04-02 1 b. requires that the width of the corridor for the proposed transmission line be at least 10 percent of its length, but not less than 1 mile and not greater than 6 miles, unless approved by the PSC. Therefore, the proposed Project is using a 6-mile-wide corridor. Due to geographic constraints, a single 6-mile-wide corridor was routed from the Williston area to the Tioga area as illustrated in **Exhibit A-1**.

Factors provided in Section 49-22-09 NDCC that are to be considered in evaluating application and designation of sites, corridors, and routes are listed below. The PSC shall be guided by, but is not limited to, the following considerations, where applicable, to aid in the evaluation and designation of sites, corridors, and routes:

1. *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.*

A Class I file search of recorded cultural resource sites within the proposed corridor was completed using data from the Division of Archaeology and Historic Preservation, State Historical Society of North Dakota. The NDNHI also provided database information regarding threatened, endangered, and state sensitive plant species. In addition, an EA is currently being completed by Western for the proposed Project.

2. *The effects of new energy conversion and transmission technologies and systems designed to minimize adverse environmental effects.*

BEPC would use self-supporting electric transmission line structures without the use of guy wires for support. Steel single-pole structures would be used instead of steel H-frame structures, which would result in less permanent disturbance. Also, there would be no need for construction of new substations as the proposed Project would utilize the existing Williston Interconnect Substation and Tioga Substation.

3. *The potential for beneficial uses of waste energy from a proposed energy conversion facility.*

Not applicable.

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

To the extent practicable, all effects from the construction and operation of a transmission line within the proposed corridor would be mitigated. No other permanent direct or indirect adverse effects are anticipated.

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

No alternatives to the proposed corridor location have been identified at this time. Alternative corridors may be identified during the public hearing process.

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

Minimal amounts (<0.2 acre) of land at the structure locations would be taken permanently out of production. No irreversible or irretrievable commitments of natural resources would occur from Project construction and operation. All areas of natural vegetation within the ROW would be reclaimed with agency-recommended or landowner-approved seed mixtures; wetlands and woodlands would be avoided to the extent practicable.

7. *The direct or indirect economic impacts of the proposed facility.*

Economic impacts would be positive. Ad valorem taxes would be paid annually, which help the economy. North Dakota sales or use tax would be paid on all materials purchased. During construction, workers would increase the level of business activity in the area.

8. *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.*

Several oil fields are located within the proposed corridor. However, exact locations of future oil field developments are not known at this time.

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

The proposed corridor does include several historic sites, structures, and archaeological sites. Due to the geologic substrate with the proposed corridor, it is unlikely that paleontology resources would be encountered. It is anticipated that the proposed route would avoid these sites.

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

The proposed corridor includes wetlands and wooded areas in localized areas. A total of 64 special status wildlife species and three special status plant species potentially occur within the proposed corridor. However, impacts to these species are not anticipated to these species with the implementation of best management practices and mitigation measures.

11. *Problems raised by federal agencies, other state agencies, and local entities.*

To date, no problems have been identified. Federal and state agencies were contacted during the data collection phase of the proposed Project. These agencies have provided input and identified concerns that have been addressed in this document.

D.2 Proposed Corridor Location and Selection Criteria

The proposed transmission line must originate at the existing Williston Interconnect Substation and terminate at the existing Tioga Substation. No alternative corridors were selected. Alternative corridors would not be feasible based on the proposed Project's need and design.

The criteria identified and illustrated in this section and **Exhibits D-1** through **D-9** are difficult to list in order of importance in terms of relative value as they are closely interrelated. They were of equal value and importance in the corridor selection process. The exclusion, avoidance, and selection criteria are discussed in the following sections.

The PSC requires a two-step process consisting of identifying and selecting corridors and routes within corridors. Corridor widths are to be 10 percent of the total corridor length, with a maximum width not to exceed 6 miles.

Transmission line routing criteria have been developed using PSC guidelines for Energy Conversion and Transmission Siting (North Dakota Century Code, Title 49). Additional criteria have been included, when appropriate. The criteria are applicable to the identification of potential alternative corridors and potential alternative routes. Routing criteria were updated and refined to reflect issues and concerns expressed by federal, state, and local agencies, the applicant, and the public.

The PSC classifies routing constraints as exclusion areas, avoidance areas, selection criteria, and policy criteria. The criteria are summarized in the following sections.

D.2.1 Exclusion Areas

Exclusion areas are defined as geographical areas that are to be completely avoided during transmission line routing. Buffer zones of reasonable distance are to be applied to each exclusion area; natural screening may be considered in determining the extent of the buffer zone. **Exhibits D-1** through **D-3** illustrate exclusion areas that occur within and immediately adjacent to the proposed corridor. Exclusion areas include:

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

None are located within the proposed corridor.

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

Based on the review of cultural resources information obtained from the State Historical Society of North Dakota, cultural resource sites occur within the proposed corridor.

3. *County parks and recreational areas; municipal parks; and parks owned or administered by other governmental subdivisions.*

Three parks have been identified as occurring within or near the town of Williston on the south end of the proposed corridor. Harmon Park and East Lawn Park located in Williston, and Twin Lakes Park located north of Williston and occur approximately 1 mile (or greater) east of the proposed corridor (**Exhibit D-1**). There are several golf courses (Ray Golf Course, Tioga Golf Course, Williston Municipal Golf Course, Eagle Ridge Golf Course) that also occur within and adjacent to the proposed corridor. No other parks or recreational areas occur within or adjacent to the proposed corridor.

4. *Areas that are critical to the life stages of threatened or endangered animal or plant species.*

Although federally listed species, such as the whooping crane and piping plover may occur within the proposed corridor, critical habitat for these species does not occur within the proposed corridor.

5. *Areas where animal or plant species that are unique or rare to the state would be irreversibly damaged.*

Although state sensitive animal and plant species occur within the proposed corridor, none of these species would be irreversibly damaged by construction activities. **Exhibits D-1** through **D-3** illustrate general locations of state sensitive species populations present within and adjacent to the proposed corridor.

D.2.2 Avoidance Areas

Avoidance areas are defined as geographical areas that are to be completely avoided during transmission line routing, 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 PSC 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. Buffer zones of a reasonable distance shall be included, unless a distance is specified in the criteria. Natural screening may be considered in determining the width of the buffer zone.

Exhibits D-4 through **D-6** illustrate the avoidance areas that occur within the proposed corridor. Avoidance areas include:

1. *Designated or registered national: historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; and grasslands.*

The proposed corridor was selected to avoid lands operated by the USFWS Wetland Management Districts (WMD) within the proposed corridor including Lostwood WMD and Crosby WMD, which maintains the Tioga Waterfowl Production Area located west of the Town of Tioga. Additionally, the proposed corridor avoids the majority of lands managed by the U.S. Army Corps of Engineers (USACE) as wildlife and grassland areas. These areas include the Williston Grassland Area, Little Muddy Wildlife Area, and the Williston Grassland Area (see **Exhibit D-4**). USACE lands that are included within the proposed corridor include a small portion of the Williston Wildlife Area located south of the Town of Williston (see **Exhibit D-4**). There are no wild, scenic, or recreational rivers within the proposed corridor.

2. *Designated or registered state: wild, scenic, or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands.*

The proposed corridor was selected to avoid designated or registered state wild, scenic, or recreational rivers; game refuges; game management areas (i.e., Lewis and Clark Wildlife Management Area, White Earth Wildlife Management Area); management areas; forests; forest management lands; and grasslands.

3. *Historic resources that are not specifically designated as exclusion or avoidance areas.*

None are located within the proposed corridor.

4. *Areas that are geologically unstable.*

No faults are known to occur within the proposed corridor. However, due to underground lignite mining, sinkhole-type subsidence, fissures, and unstable ground conditions do exist within the proposed corridor.

5. *Areas within 500 feet of a residence, school, or place of business (also to include community centers, healthcare facilities, and daycare facilities).*

Residences, other structures, active and abandoned schools, and businesses are located within the proposed corridor. The majority of the residences and other structures are scattered throughout the proposed corridor. The highest density of residences and businesses are located in the towns of Williston, Ray, and Tioga. Several schools occur within the proposed corridor, of which the majority occur in rural portions of the proposed corridor.

6. *Reservoirs and municipal water supplies.*

The proposed corridor includes a total of eight wells used for municipal water supplies. The majority of these wells are located near the Town of Ray.

7. *Water sources for organized rural water districts.*

None are located within the proposed route.

8. *Irrigated land.*

The proposed corridor includes all or parts of eight center-pivot irrigation fields.

9. *Areas of recreational significance that are not designated as exclusion areas.*

None are present within the proposed corridor.

D.2.3 Selection Criteria

In selecting its proposed corridor, a corridor or route shall be designated only when it is demonstrated to the PSC by the applicant that any significant adverse effects that would result from the location, construction, and maintenance of the facility as they relate to the following, would be at an acceptable minimum, or that those effects would be managed and maintained at an acceptable minimum. Selection criteria within the proposed corridor are illustrated in **Exhibits D-7** through **D-9**. Selection criteria include:

1. *Agricultural production.*

Land within the proposed corridor is predominantly used for agricultural production, which could not be avoided during the corridor identification process.

2. *Family farms and ranches.*

Family farms and ranches could not be avoided during the corridor identification process. Rural residences and buildings would be avoided during the routing process.

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

Any areas for future irrigation would be identified along the proposed route via landowner discussions and avoided to the extent practicable.

4. *Surface drainage patterns and groundwater flow patterns.*

Section B.2.3, Hydrology and Drainage, provides a general description of the hydrology and surface drainage within the proposed corridor. Perennial, ephemeral, and intermittent creeks and wetlands occur within the proposed corridor. These areas would be identified along the proposed route and avoided to the extent practicable.

5. *Noise-sensitive land uses.*

Section B.2.15, Noise, provides information regarding existing noise levels and potential sensitive receptors within the proposed corridor.

6. *The visual effect on the adjacent area.*

Section B.2.14, Visual Resources, provides information regarding the visual landscape and potential sensitive receptors within the proposed corridor.

7. *Extractive and storage resources.*

The eastern portion of the proposed corridor includes several oil and natural gas fields, along with three natural gas plants. Transmission line development is not expected to have any impact on these resources.

8. *Wetlands, woodlands, and wooded areas.*

Wetlands, woodlands, and wooded areas, including shelterbelts, occur in localized areas within the proposed corridor. These areas would be avoided wherever feasible by the proposed route.

9. *Radio and television reception, and other communication or electronic control facilities.*

Several radio, television, and other communication facilities occur within the proposed corridor. However, the operation of the proposed Project would not affect either communication transmission or reception.

10. *Human health and safety.*

Not applicable to the corridor selection process. Potential impacts to human health and safety have been addressed in the Route Permit Application.

11. *Animal health and safety.*

Not applicable to the corridor selection process. Potential impacts to animal health and safety have been addressed in the Route Permit Application.

12. *Plant life.*

Not applicable to the corridor selection process. Potential impacts to plant life have been addressed in the Route Permit Application.

D.2.4 Policy Criteria

The PSC may give preference to an applicant that would maximize benefits that result from the adoption of the following policies and practices, and in a proper case, may require the adoption of such policies and practices. The PSC also may give preference to an applicant that would maximize interstate benefits. Policy criteria include:

1. *Location and design.*

The proposed corridor was selected to avoid sensitive resources to the extent possible.

2. *Training and utilization of available labor in North Dakota for the general and specialized skills required.*

Not applicable.

3. *Economics of construction and operation.*

Not applicable.

4. *Use of citizen coordinating committees.*

Not applicable.

5. *A commitment of a portion of the transmitted product for use in North Dakota.*

Power would be purchased by Mountrail-Williams Electric Cooperative, Western, and MDU, which are local energy suppliers. The proposed transmission line would serve the increasing electrical load needed for oil and gas activity in North Dakota.

6. *Labor relations.*

Union and non-union construction contractors would bid on the proposed Project. The construction contract would be awarded to the lowest qualified bidder. Transmission line construction would require special skills and equipment. The construction contractor would be encouraged to use local labor when possible.

7. *The coordination of facilities.*

The existing Williston Interconnect Substation would be used to interconnect with the Tioga Substation.

8. *Monitoring of impacts.*

Not applicable.

9. *Utilization of existing and proposed ROWs and corridors.*

The proposed corridor was selected to maximize the potential use of existing highways, roads, and section lines.

10. *Other existing or proposed transmission facilities.*

Not applicable.

D.2.5 Design and Construction Limitations

In order to serve the intended functions of transmitting electricity from the Williston Interconnect Substation to the northwestern North Dakota area, the proposed transmission line must originate at the Williston Interconnect Substation and terminate at the Tioga Substation. Areas of construction limitations including exclusion areas, avoidance areas, selection criteria, and policy criteria are described in sections D.2.1 through D.2.4 and illustrated in **Exhibits D-1** through **D-9**.

D.2.6 Economic Considerations

BEPC is committed to constructing the proposed transmission line as economically as possible while strictly adhering to the PSC's criteria. The anticipated construction cost for installation of the proposed transmission line towers within the proposed corridor is \$24.3 million; annual operation costs are estimated at approximately \$23,673 per year for the proposed transmission line.

D.3 Mitigative Measures

Construction specifications would be designed to minimize potential impacts associated with the proposed transmission line. Certain impacts may not be entirely avoidable, but could be mitigated to reduce the severity and longevity. Specific mitigation measures for the proposed Project have been provided in **Appendix D**.

D.4 List of Preparers and Qualifications

This application for a Certificate of Corridor Compatibility was prepared by AECOM Inc., dba AECOM Environment (AECOM) (formerly ENSR Corporation), BEPC, and Metcalf. The qualifications of the individuals who participated in the preparation and review of this application are provided in **Table D-1**.

Table D-1 Qualifications of Application Preparers

| Company and Person | Responsibilities | Education and Experience |
|--|--|---|
| AECOM Environment - Fort Collins, Colorado | | |
| Jon Alstad | Corridor Compatibility Application Manager | M.S. Range Science B.S. Animal Science A.A. Liberal Arts 20 Years Experience |
| George High | Project Manager | B.S. Biology 34 Years Experience |
| Peggy Roberts | Assistant Project Manager, Public Involvement Specialist | B.J. Journalism/PR M.S. Public Communications (in progress) 17 Years Experience |
| Erik Bray | Wildlife and Fisheries | B.S. Wildlife Management and Biology 10 Years Experience |
| Jessica Rubado | Special Status Species | B.S. Fisheries and Wildlife Science 9 Years Experience |
| Terra Mascarenas | Soils | B.S. Soil Science (Environmental Concentration) 11 Years Experience |
| Rachel Ridenour | Vegetation and Special Status Plant Species | B.S. Natural Resource Management 1 Year Experience |
| Kim Munson | Cultural Resources | M.A. Anthropology B.A. Anthropology 13 Years Experience |
| Bill Berg | Geology, Mineral Resources, and Paleontology | M.S. Geology 30 Years Experience |
| Billy Williams | GIS | B.S. Forestry Science 1 Year Experience |
| Matt Brekke | Technical Support | B.S. Wildlife Biology 2 Years Experience |
| Susan Coughenour | Technical Editor | Two Years General Studies 25 Years Experience |
| Basin Electric Power Cooperative – Bismarck, North Dakota | | |
| Duey Marthaller | Project Manager | M.S. Civil Engineering B.S. Civil Engineering 29 Years Experience Registered Professional Engineer |

Table D-1 Qualifications of Application Preparers

| Company and Person | Responsibilities | Education and Experience |
|---|--------------------------|--|
| Kevin Solie | Environmental Analyst | M.S. Geology B.S. Geology B.S. Geological Engineering 17 Years Experience Engineer in Training |
| Mike Murray | Right-of-Way | A.A. Business Administration Various Courses through International ROW Association SR/WA (Senior ROW designation) 8 Years Experience |
| Valeree King | Right-of-Way | Interstate Business College – Legal Writing and Descriptions Various Courses through International ROW Association 16 Years Experience |
| Don Hellman | Right-of-Way | 2 yr degree Electrical tech Associate Arts and Science degree Various courses through International ROW Association 36 Years experience working for Utility Companies with the last 16 years in ROW |
| Duffy Heinle | Right-of-Way | A.A. Criminal Justice A.S. Polygraph Sciences B.A. College Studies 1 Year Experience |
| Veda Christman | Right-of-Way | B.S. Business Administration Various courses through International ROW Association 10 Years Experience |
| Jason Brekke | GIS Analyst | BS Geography 7 Years Experience |
| Curt Pearson | Corporate Communications | B.S. Business Administration M.B.A. Cert. Cooperative Communicator 30 Years Experience |
| Metcalf Archaeological Consultants – Eagle, Colorado | | |
| Patrick O'Brien | Cultural Resources | M.A. Anthropology B.A. Anthropology 17 Years Experience |

D.5 Maps

Detailed maps (i.e., **Exhibits**) of the proposed corridor have been provided in the **Exhibits** section.

D.6 Permits, Licenses, Approvals, and Consultation Requirements

Permits, consultations, and approvals would be required from various federal and state agencies, which would include:

- North Dakota Public Service Commission – Certificate of Corridor Compatibility and Route Permit;
- Western – System Interconnection Authorization, compliance with the National Environmental Policy Act and Native American Consultation;
- USFWS – Compliance with the ESA (section 7 consultation), compliance with the MBTA;
- State of North Dakota Historic Preservation Office – Compliance with the NHPA (section 106 consultation);
- Federal Aviation Administration – Aeronautical study with a determination of hazards and requirements for painting and/or lighting;
- Federal Communications Commission – Agency may require registration and lighting of tower less than 200 feet tall;
- North Dakota Department of Transportation – Permit to construct and operate a transmission line across or within highway ROWs;
- Burlington Northern-Santa Fe Railroad – Authorization to construct and operate a transmission line across railroad ROWs;
- NDGFD – Consultation to identify any state-listed species of concern that could potentially be affected by the proposed Project; and
- Williams County – Acquire Zoning Permit.

D.7 References

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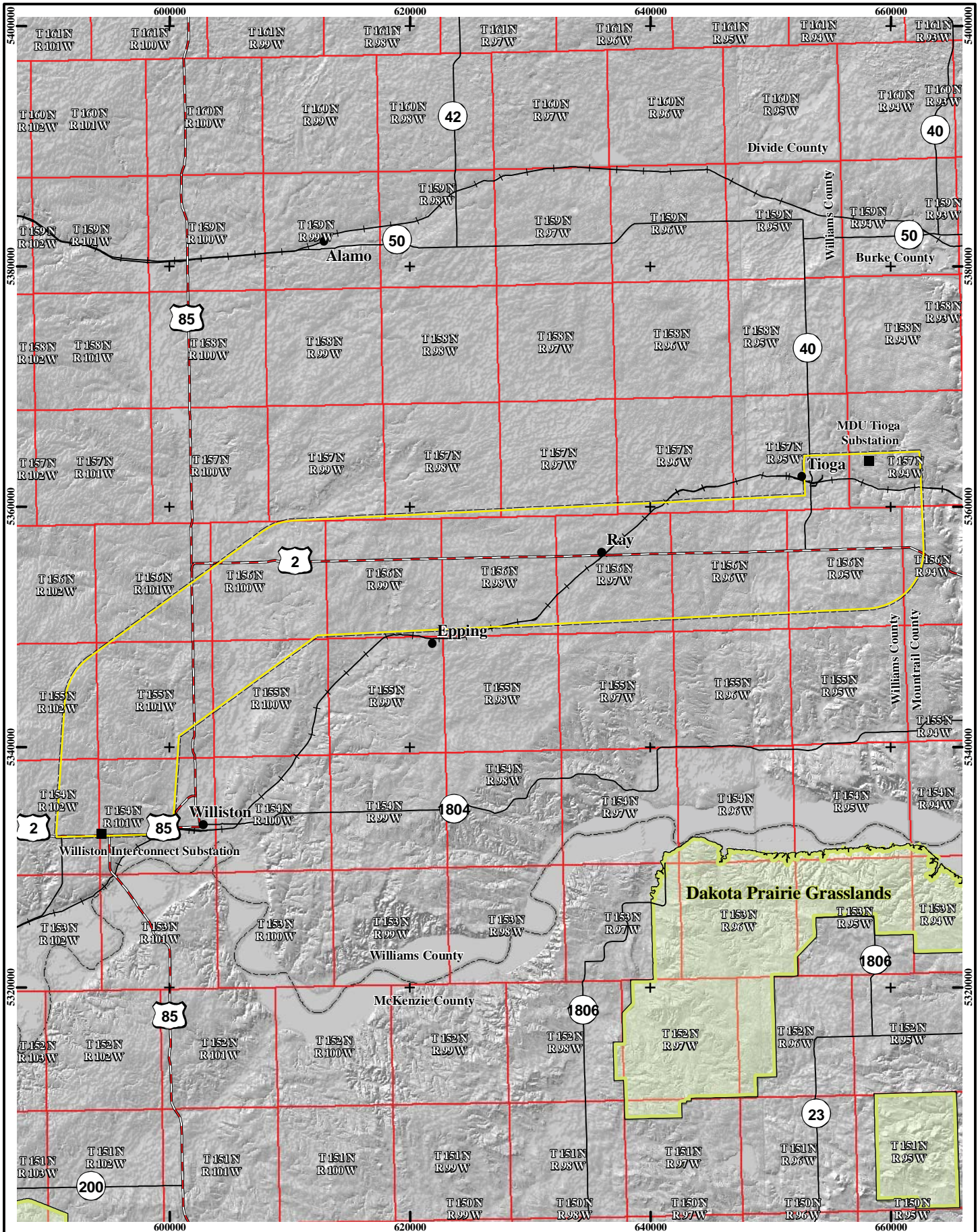
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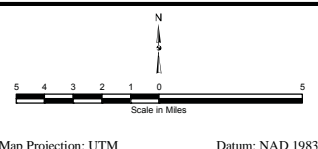
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Exhibits



LEGEND

| | |
|-------------------|-------------------------|
| PROPOSED CORRIDOR | U.S. NATIONAL GRASSLAND |
| SUBSTATIONS | TOWNSHIP |
| CITY OR TOWN | RAILROAD |



Williston to Tioga Transmission Project

**Exhibit A-1 Williston - Tioga
 Proposed Corridor**

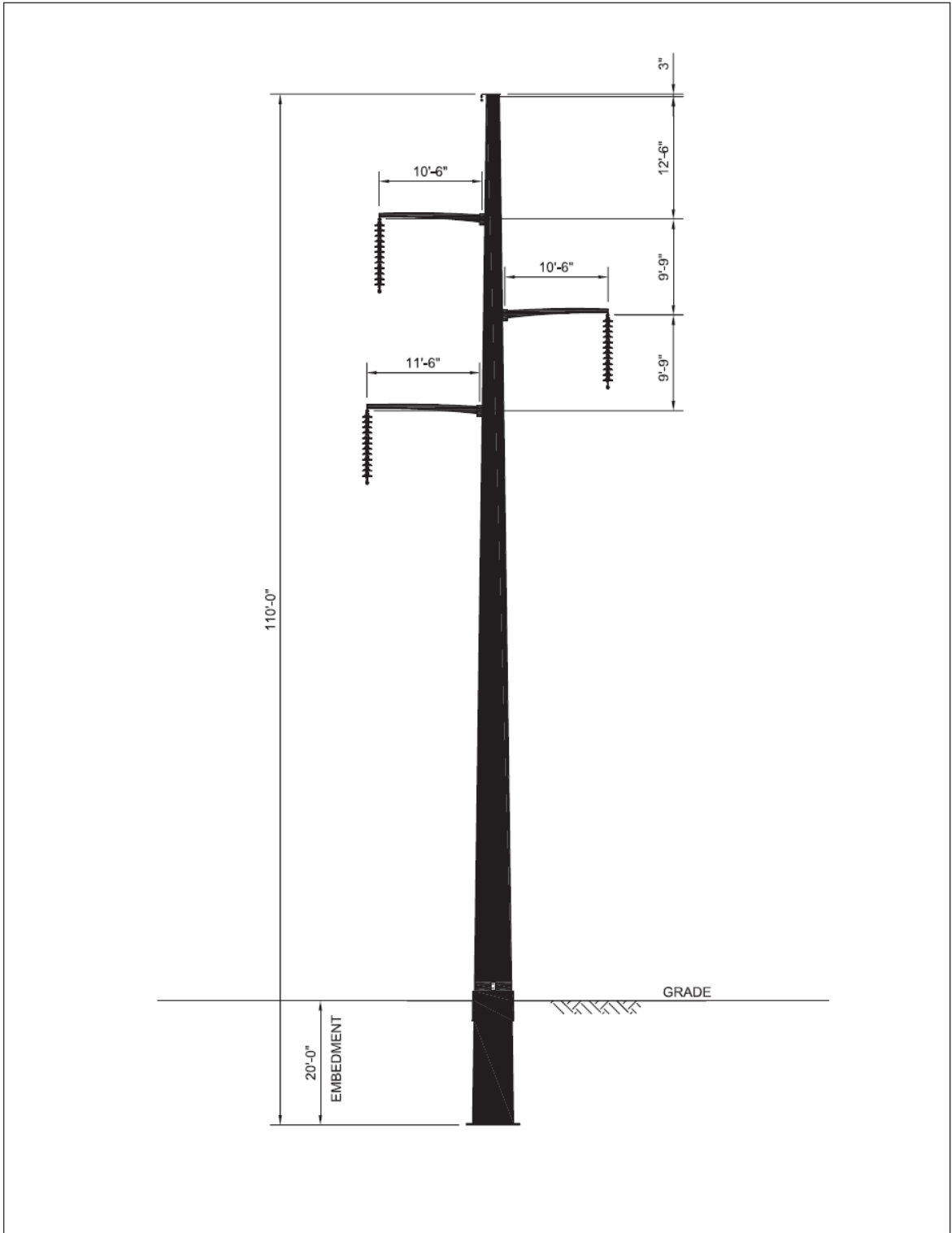
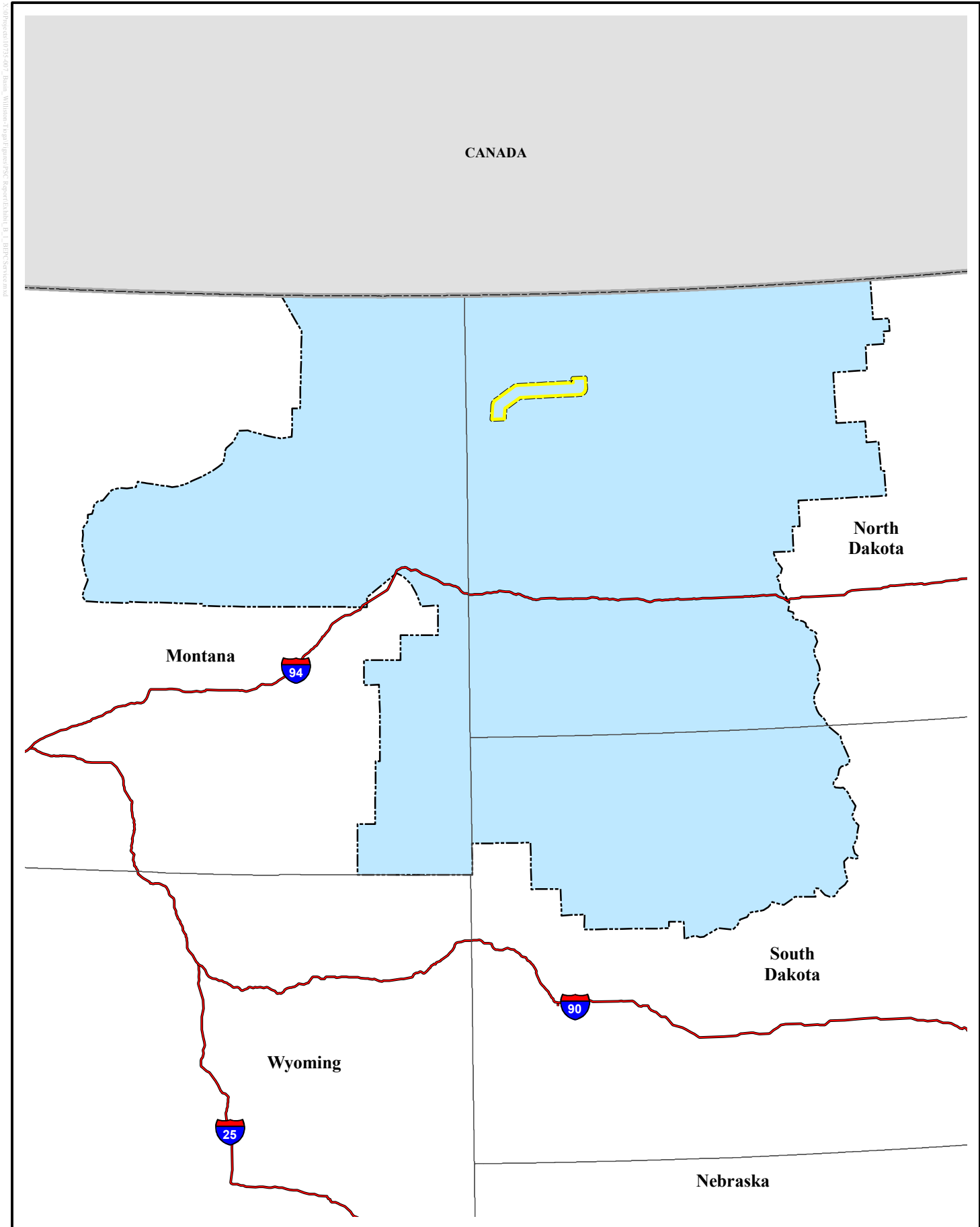


Exhibit A-2 Typical Single-Pole Structure



Exhibit A-3. Proposed Time Schedule for Permitting and Construction

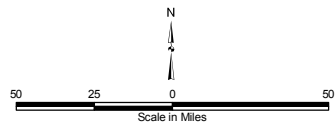
| ID | Task Name | Start | Finish | 2009 | | | | | | | | | | | | 2010 | | | | | | | | | | | | 2011 | | | | | | | | | | | |
|----|---|--------------------|---------------------|------|---|---|---|---|---|---|---|---|---|---|---|------|---|---|---|---|---|---|---|---|---|---|---|------|---|---|---|---|---|---|---|--|--|--|--|
| | | | | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | | | | |
| 1 | PSC Corridor Compatibility and Route Permit Applications | Mon 8/4/08 | Wed 12/16/09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Prepare Corridor and Route Permit Applications | Mon 8/4/08 | Fri 6/26/09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Submit Corridor and Route Permit Applications to PSC | Wed 7/8/09 | Wed 7/8/09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | PSC Issues Notice for Hearings | Wed 8/26/09 | Wed 8/26/09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Prepare for PSC Public Hearings | Thu 8/27/09 | Wed 10/14/09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Public Hearings (2) | Thu 10/15/09 | Wed 10/21/09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | PSC Issues Certificate of Corridor Compatibility and Route Permit | Wed 12/16/09 | Wed 12/16/09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Transmission Line Construction | Thu 4/15/10 | Fri 12/10/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Vegetation Management and Structure Site Clearing | Thu 4/15/10 | Tue 6/15/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Gate Installation | Thu 4/15/10 | Tue 6/15/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Structure Assembly | Mon 5/17/10 | Thu 7/1/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Hole Excavation | Mon 5/17/10 | Fri 8/13/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | Structure Erection | Mon 5/17/10 | Fri 8/13/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | Concrete Foundations | Mon 5/17/10 | Thu 7/15/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Ground Wire and Conductor Stringing | Thu 7/1/10 | Fri 10/15/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | Cleanup | Mon 10/18/10 | Fri 12/10/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | Landscape Rehabilitation | Mon 10/18/10 | Fri 12/10/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | Project Construction Complete | Mon 12/13/10 | Mon 12/13/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | Project In-Service | Fri 12/31/10 | Fri 12/31/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | |
|---|------|-----------|---------|
| Project: Project schedule-072109 Date: Tue 7/21/09 | Task | Milestone | Summary |
|---|------|-----------|---------|



LEGEND

-  INTERSTATE HIGHWAY
-  PROPOSED CORRIDOR
-  COOPERATIVE BOUNDARY



Williston to Tioga Transmission Project



Exhibit B-1
BEPC Northern Service Area

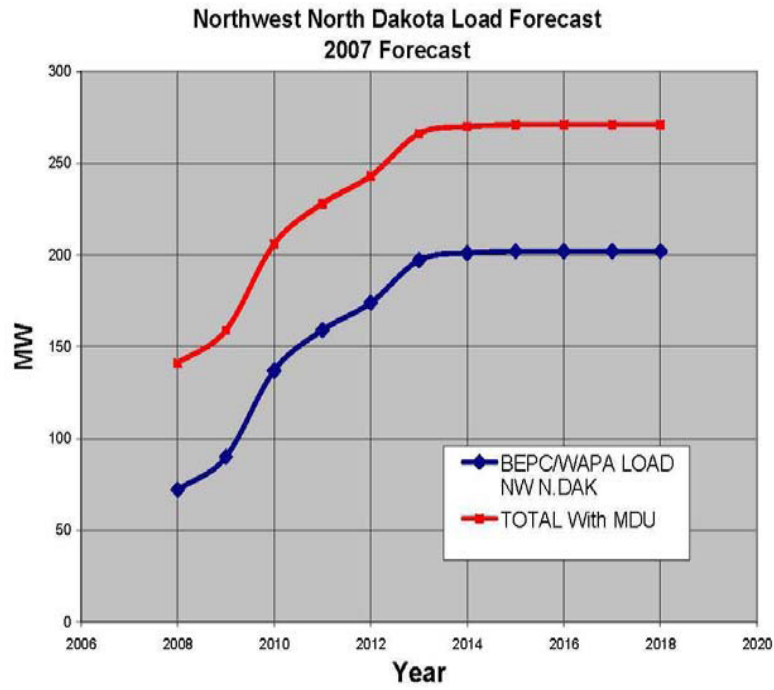
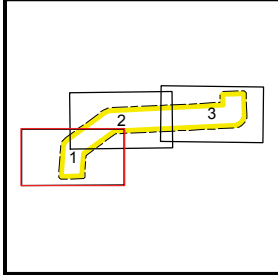
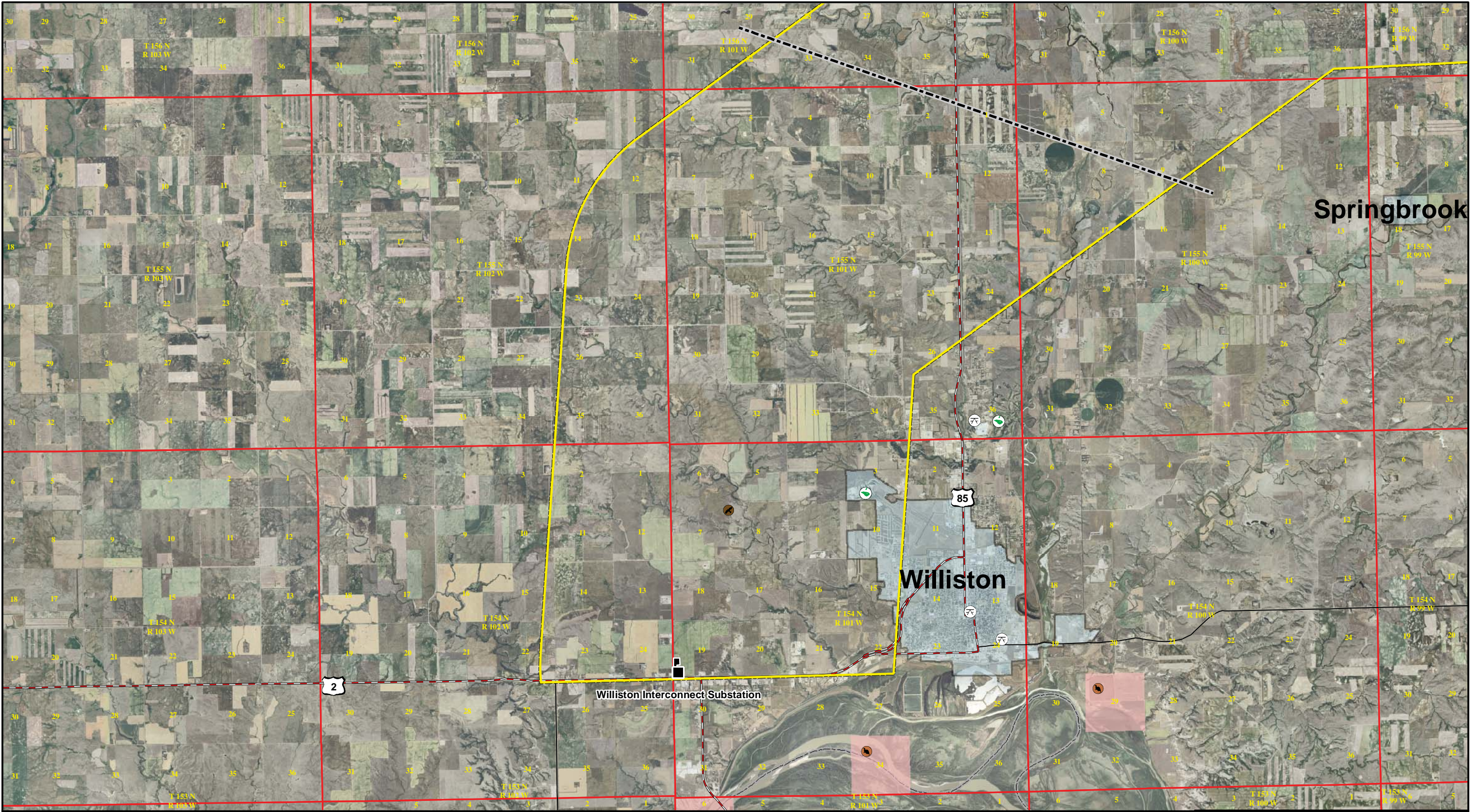
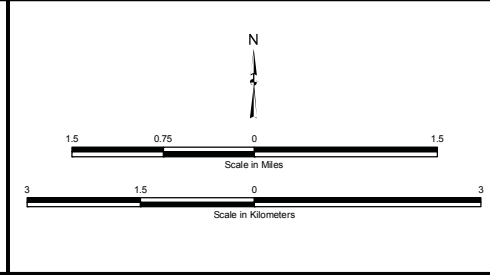


Exhibit C-1 Northwest North Dakota Load Forecast



LEGEND

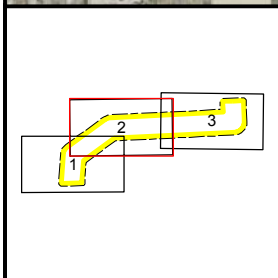
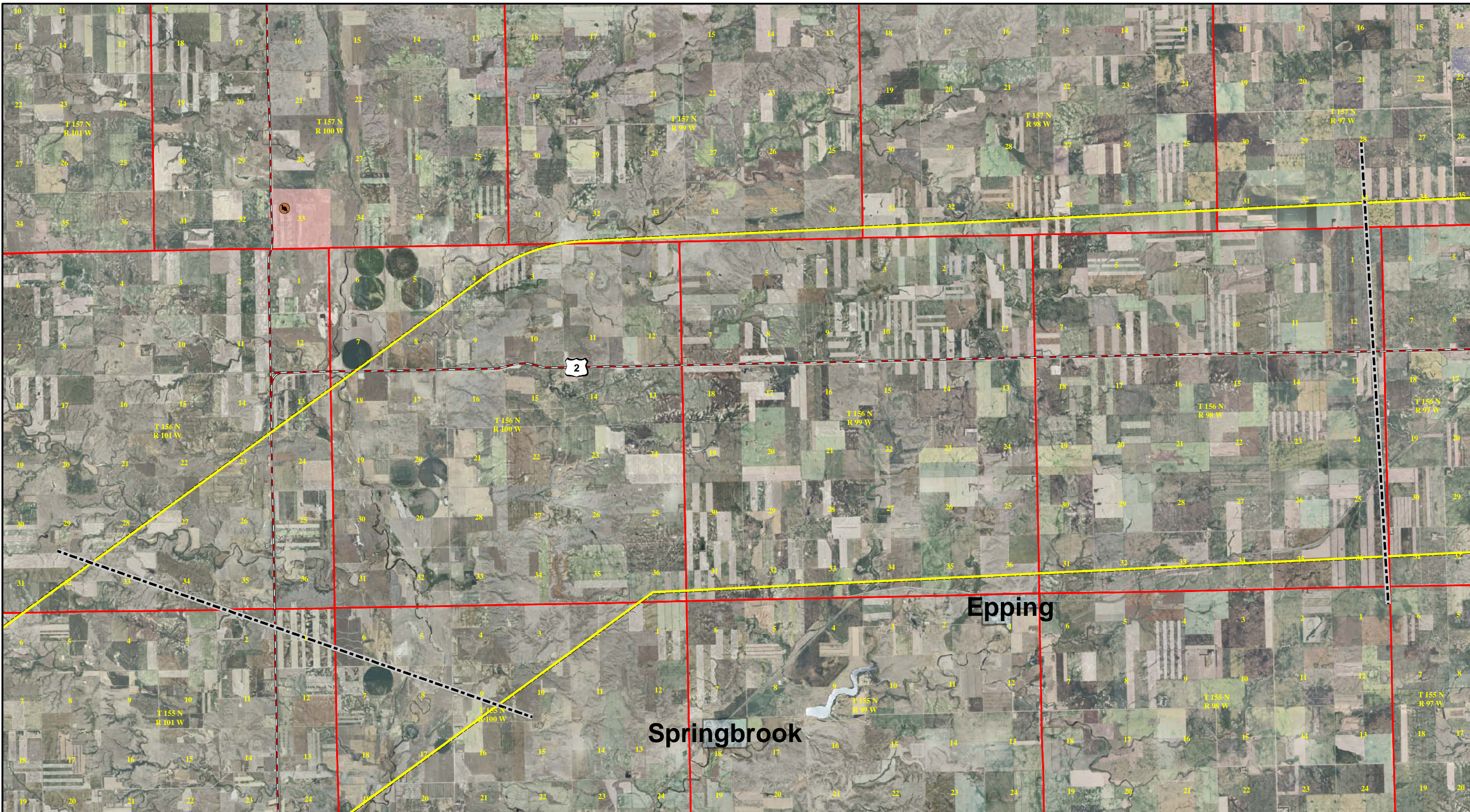
| | | | |
|-------------------|-------------|---------------------------|--|
| PROPOSED CORRIDOR | SUBSTATIONS | BURROWING OWL | EXCLUSION AREAS (SECTION WITH NORTH DAKOTA NATURAL HERITAGE SPECIES OBSERVATION) |
| MATCH LINE | PARK | RARE ECOLOGICAL COMMUNITY | RARE ANIMAL OBSERVATION |
| TOWNSHIP | GOLF COURSE | RARE PLANT OBSERVATION | |
| CITY/TOWN | | | |



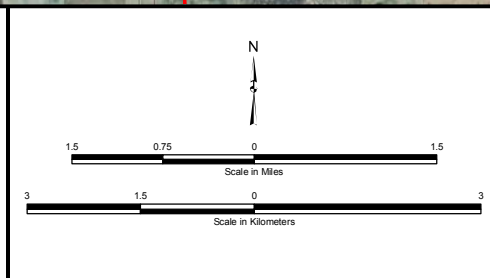
Williston to Tioga Transmission Project

**Exhibit D-1
Proposed Corridor
Exclusion Areas**

Sources: Wildlife/Ecology- NDNHI 2008, Parks- GNIS



| LEGEND | | |
|-------------------|-----------------|--|
| PROPOSED CORRIDOR | EXCLUSION AREAS | EXCLUSION AREAS (SECTION WITH NORTH DAKOTA NATURAL HERITAGE SPECIES OBSERVATION) |
| SUBSTATIONS | BURROWING OWL | RARE ECOLOGICAL COMMUNITY |
| MATCH LINE | PARK | RARE ANIMAL OBSERVATION |
| TOWNSHIP | GOLF COURSE | RARE PLANT OBSERVATION |
| CITY/TOWN | | |



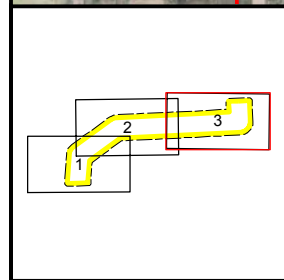
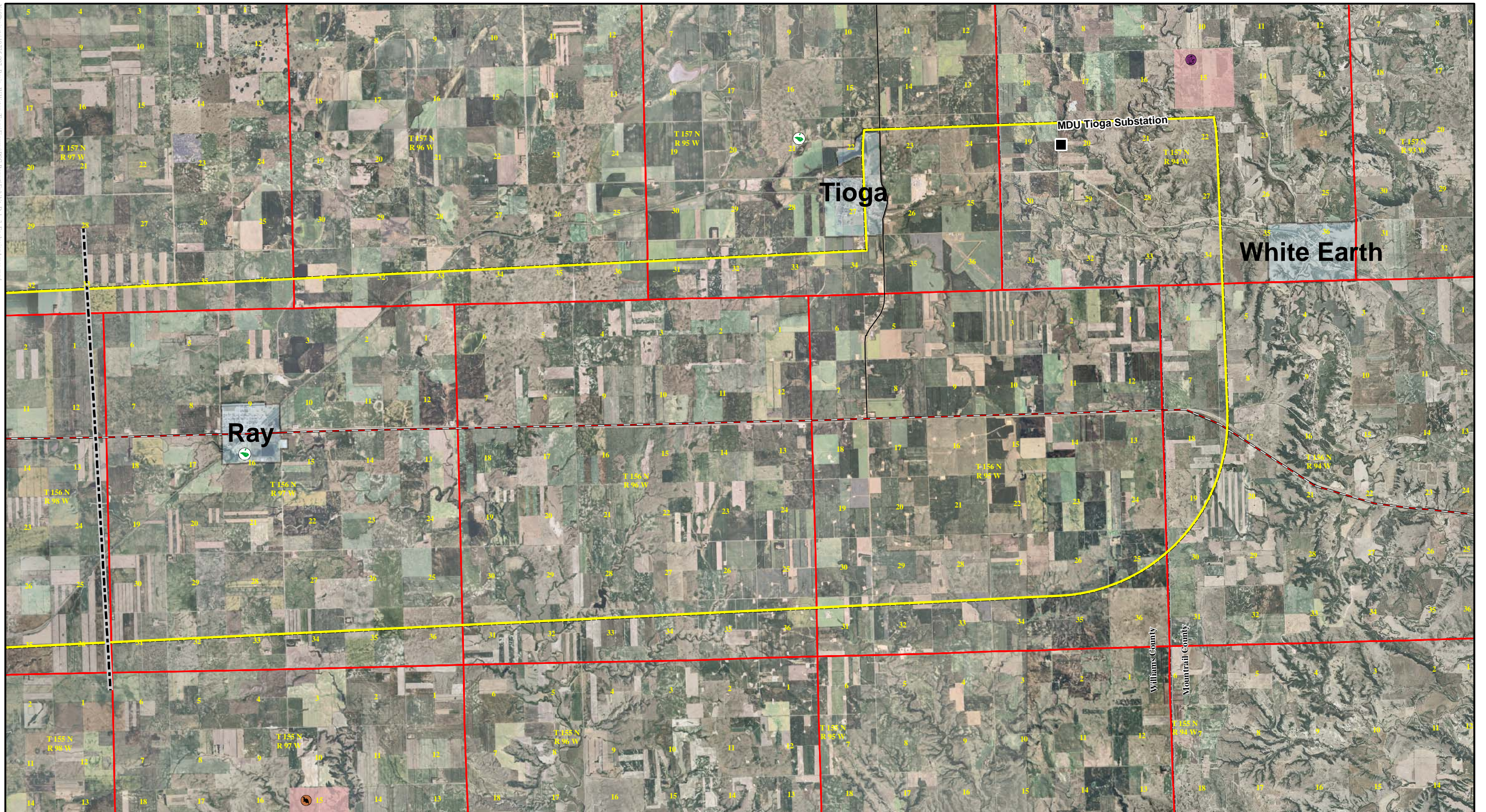
Williston to Tioga Transmission Project

BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy Cooperative

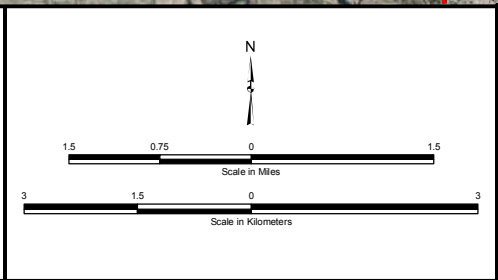
WESTERN AREA POWER ADMINISTRATION

**Exhibit D-2
Proposed Corridor
Exclusion Areas**

Sources: Wildlife/Ecology- NDNHI 2008, Parks- GNIS



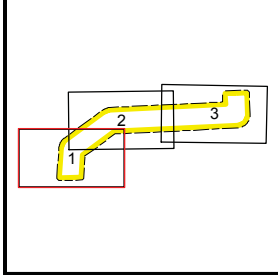
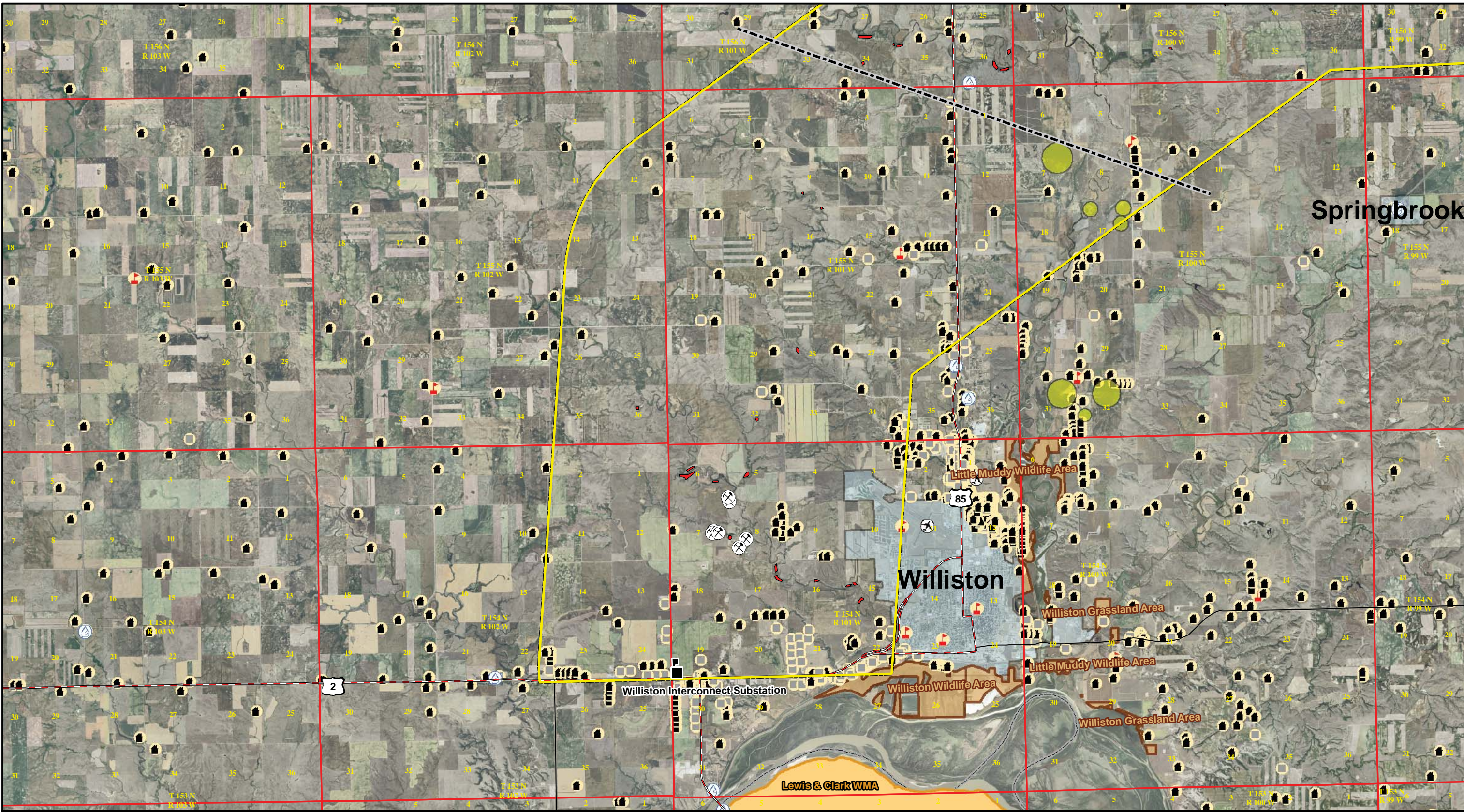
| | | |
|--|---|---|
| <ul style="list-style-type: none"> PROPOSED CORRIDOR SUBSTATIONS MATCH LINE TOWNSHIP CITY/TOWN | <p>EXCLUSION AREAS</p> <ul style="list-style-type: none"> BURROWING OWL PARK GOLF COURSE | <p>LEGEND</p> <p>EXCLUSION AREAS (SECTION WITH NORTH DAKOTA NATURAL HERITAGE SPECIES OBSERVATION)</p> <ul style="list-style-type: none"> RARE ECOLOGICAL COMMUNITY RARE ANIMAL OBSERVATION RARE PLANT OBSERVATION |
|--|---|---|



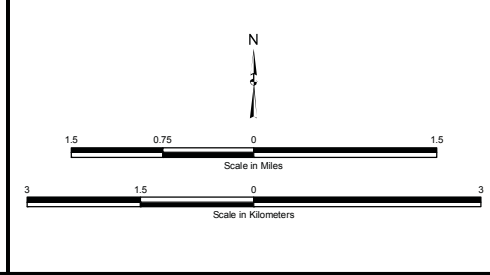
Williston to Tioga Transmission Project

**Exhibit D-3
Proposed Corridor
Exclusion Areas**

Sources: Wildlife/Ecology- NDNHI 2008, Parks- GNIS



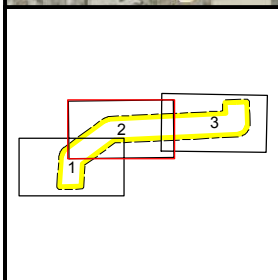
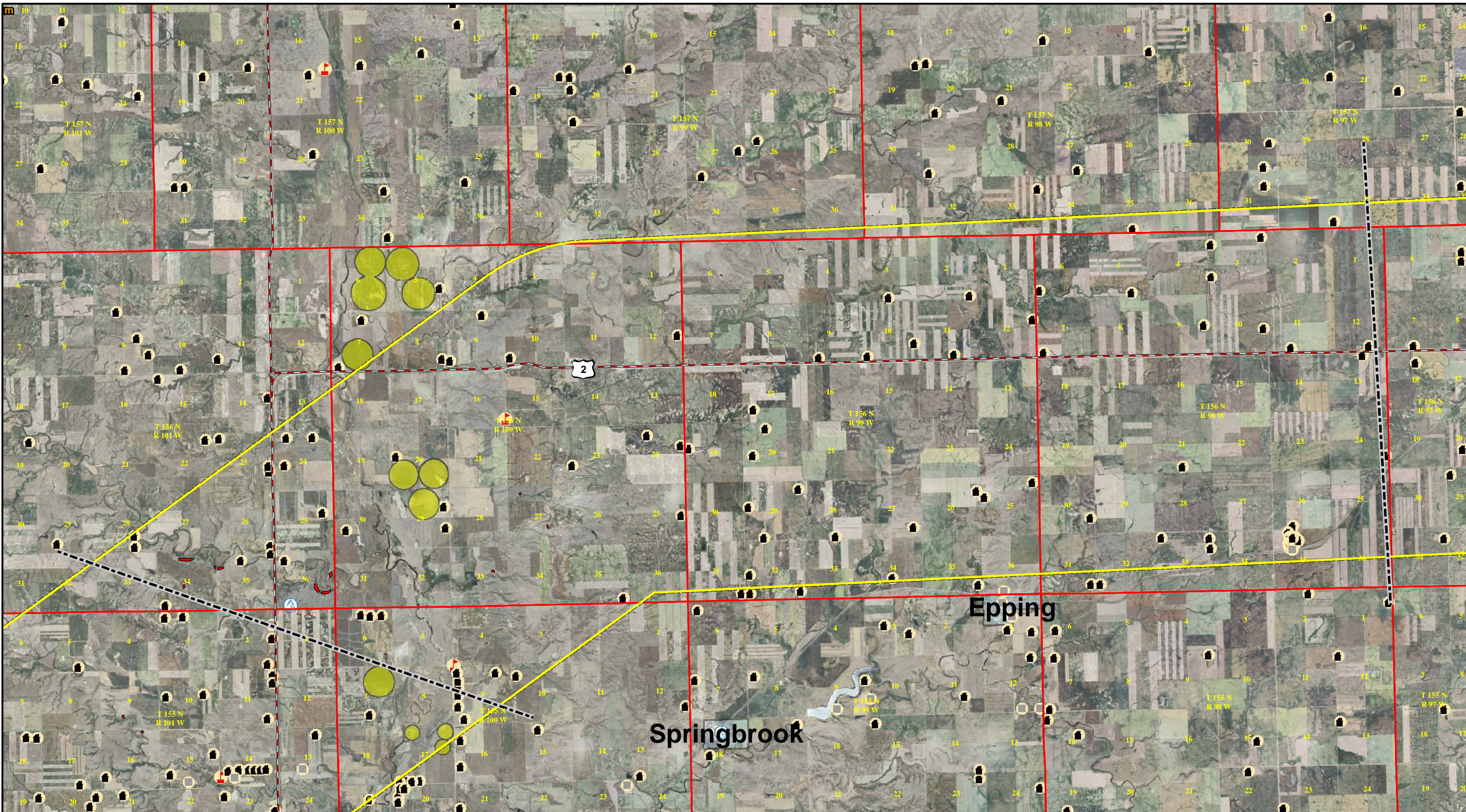
| LEGEND | |
|---------------------------------|--|
| SUBSTATIONS | MUNICIPAL WATER WELLS |
| PROPOSED CORRIDOR | ABANDONED MINES |
| MATCH LINE | AIRPORT |
| TOWNSHIP | RESIDENCE OR OTHER STRUCTURE WITH 500 FT. BUFFER |
| CITY/TOWN | PLACE OF BUSINESS WITH 500 FT. BUFFER |
| SCHOOL WITH 500 FT. BUFFER | LANDSLIDE AREAS |
| IRRIGATED AREAS | USACE WILDLIFE/GRASSLAND MANAGEMENT AREAS |
| STATE WILDLIFE MANAGEMENT AREAS | USFWS WATERFOWL PRODUCTION AREAS |



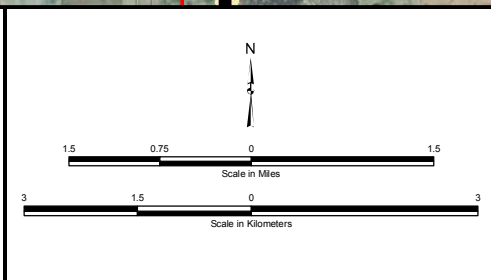
Williston to Tioga Transmission Project

Exhibit D-4
Proposed Corridor
Avoidance Areas

Sources: Schools - USGS, GNIS; Residential/Business - NDDatahub; Geology - NDGS, 2004; Wildlife - NDGF, NDDatahub, USFWS; Water Supply - North Dakota State Water Commission



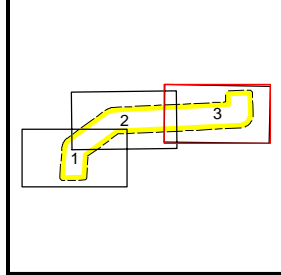
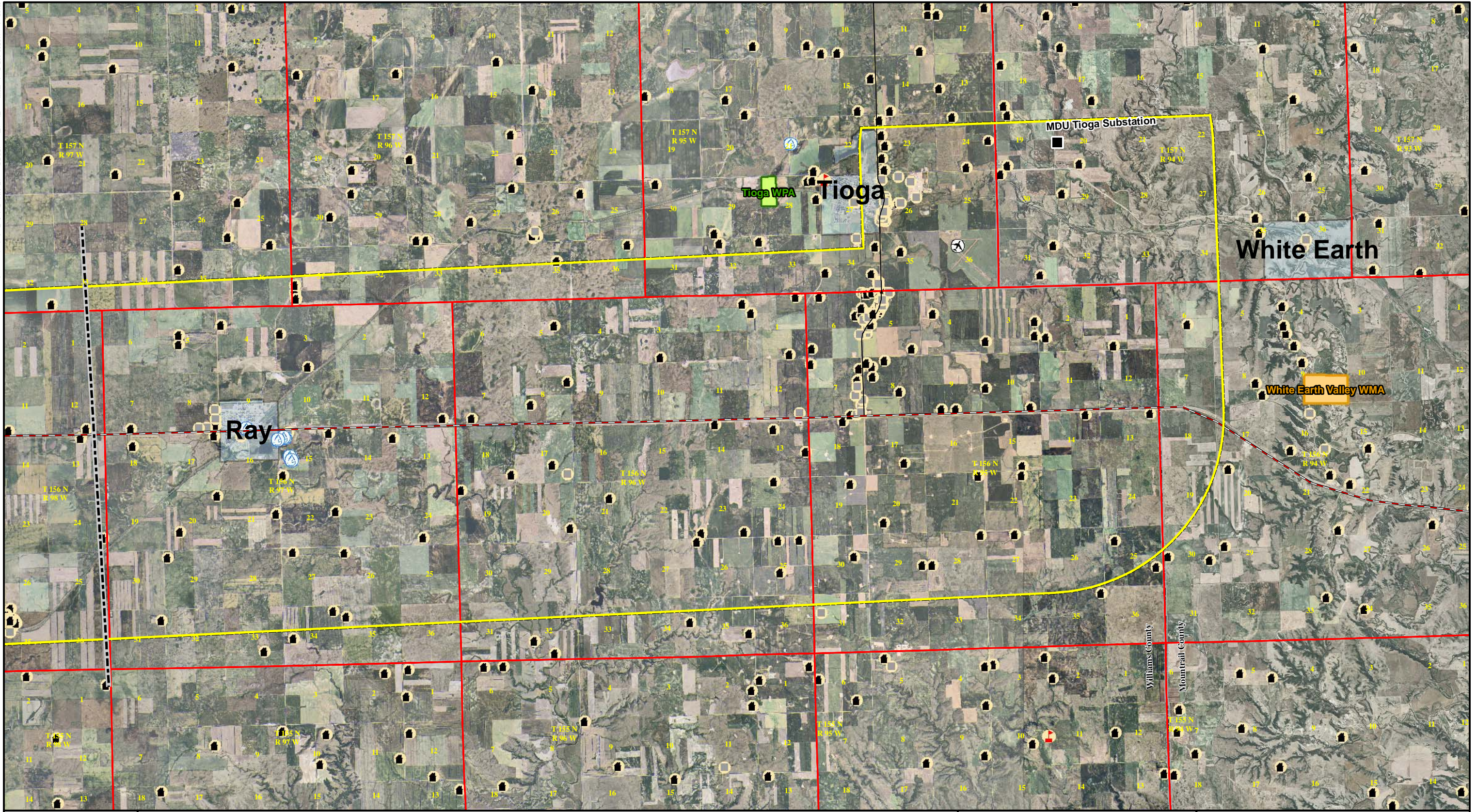
| LEGEND | |
|---------------------------------|--|
| SUBSTATIONS | MUNICIPAL WATER WELLS |
| PROPOSED CORRIDOR | ABANDONED MINES |
| MATCH LINE | AIRPORT |
| TOWNSHIP | RESIDENCE OR OTHER STRUCTURE WITH 500 FT. BUFFER |
| CITY/TOWN | PLACE OF BUSINESS WITH 500 FT. BUFFER |
| SCHOOL WITH 500 FT. BUFFER | LANDSLIDE AREAS |
| IRRIGATED AREAS | USACE WILDLIFE/GRASSLAND MANAGEMENT AREAS |
| STATE WILDLIFE MANAGEMENT AREAS | USFWS WATERFOWL PRODUCTION AREAS |



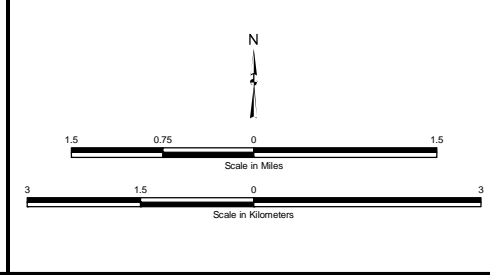
Williston to Tioga Transmission Project

**Exhibit D-5
Proposed Corridor
Avoidance Areas**

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| LEGEND | | | |
|--------|--|--|---|
| | SUBSTATIONS | | SCHOOL WITH 500 FT. BUFFER |
| | PROPOSED CORRIDOR | | LANDSLIDE AREAS |
| | MATCH LINE | | IRRIGATED AREAS |
| | TOWNSHIP | | USACE WILDLIFE/GRASSLAND MANAGEMENT AREAS |
| | CITY/TOWN | | STATE WILDLIFE MANAGEMENT AREAS |
| | MUNICIPAL WATER WELLS | | USFWS WATERFOWL PRODUCTION AREAS |
| | ABANDONED MINES | | |
| | AIRPORT | | |
| | RESIDENCE OR OTHER STRUCTURE WITH 500 FT. BUFFER | | |
| | PLACE OF BUSINESS WITH 500 FT. BUFFER | | |

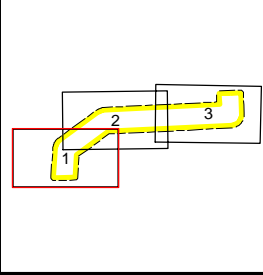
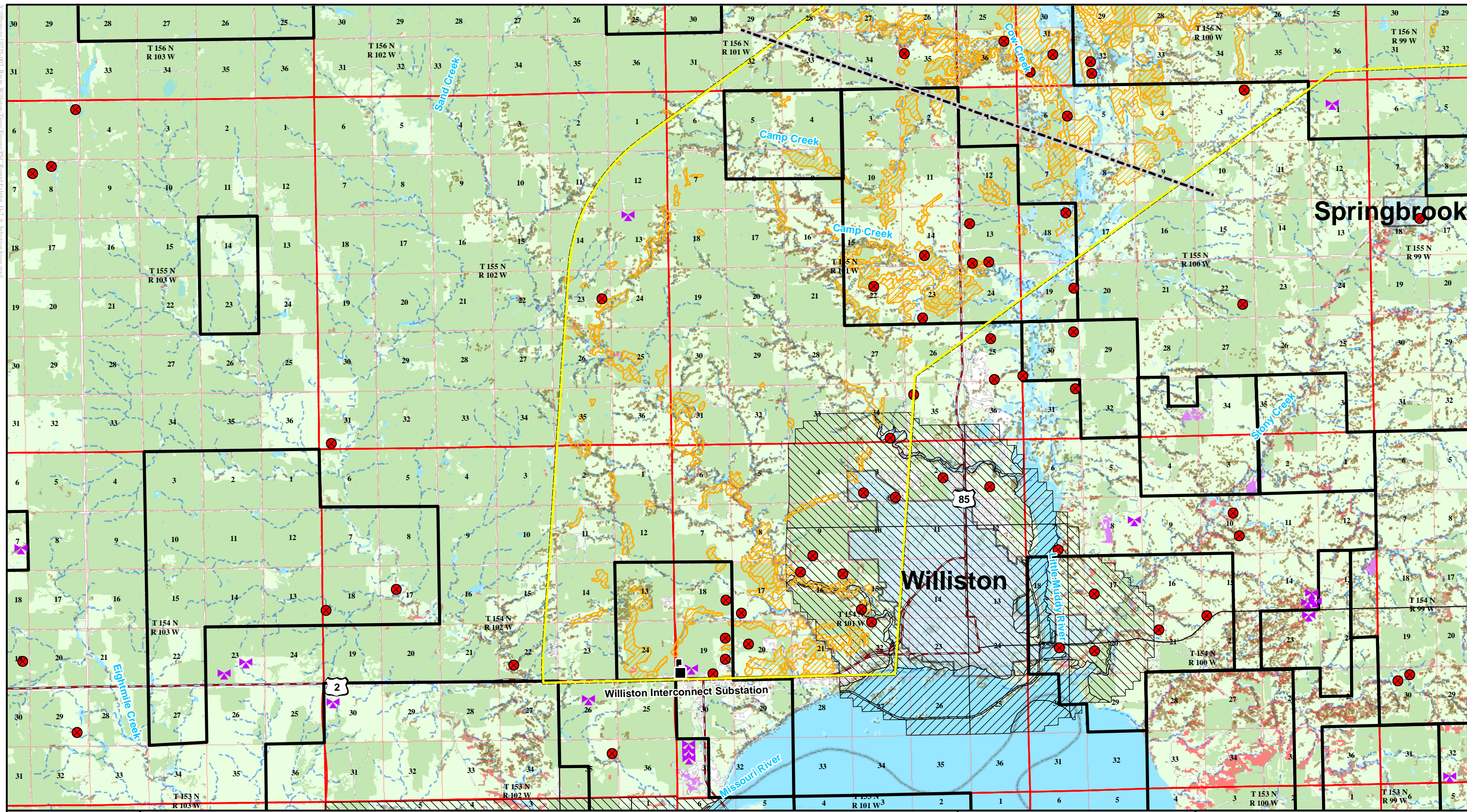


Williston to Tioga Transmission Project

**Exhibit D-6
Proposed Corridor
Avoidance Areas**

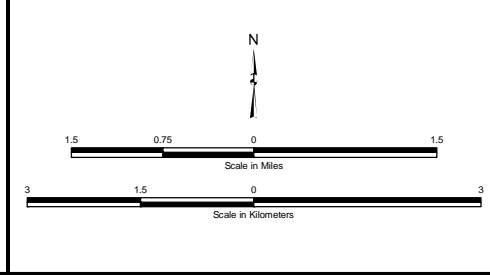
Sources: Schools - USGS, GNIS; Residential/Business - NDDatahub; Geology - NDGS, 2004; Wildlife - NDGF, NDDatahub, USFWS; Water Supply - North Dakota State Water Commission

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LEGEND

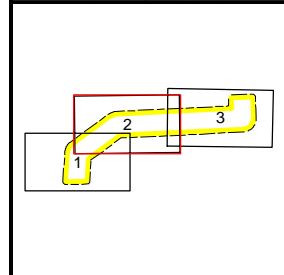
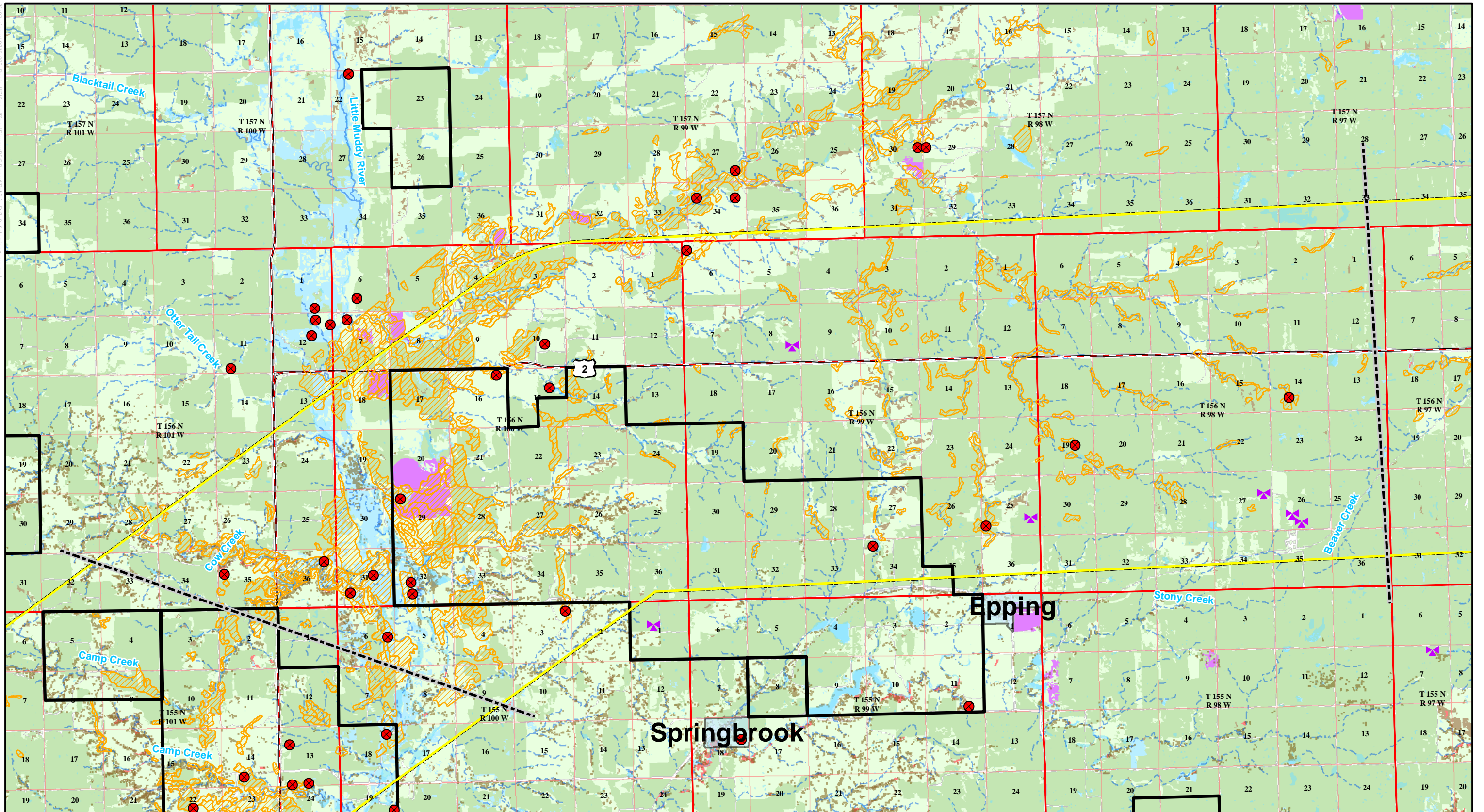
| | | | |
|-------------------|------------------------|---------------------------------|------------|
| PROPOSED CORRIDOR | Barren/Developed | INTERMITTENT STREAMS | FEMA ZONES |
| SUBSTATIONS | Cultivated Crops | PERENNIAL STREAMS | A |
| MATCH LINE | Woodland | HIGH IRRIGATION POTENTIAL | AE |
| TOWNSHIP | Shrubland | SECTIONS CONTAINING A GAS PLANT | X |
| CITY/TOWN | Grassland/Herbaceous | OIL FIELD BOUNDARY | X500 |
| | Pasture/Hay | GRAVEL PIT | |
| | Pond, Lake, or Wetland | MICROWAVE OR RADIO TOWER | |



Williston to Tioga Transmission Project

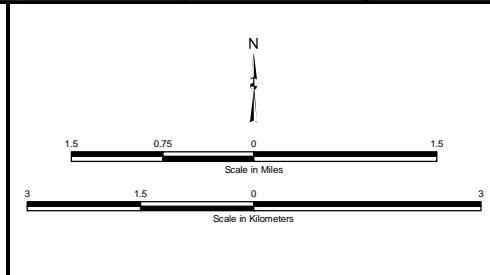
**Exhibit D-7
Proposed Corridor
Selection Criteria**

Sources: Landclass - NLCD 2001; Streams/Wetland - NWI, NHD; Oil/Gas - NDIC Oil and Gas Division 2008; Floodzones - FemaQ3 Data; Gravel Pits/Radio Towers - NDDatahub



LEGEND

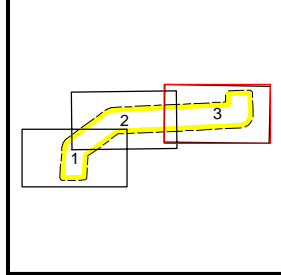
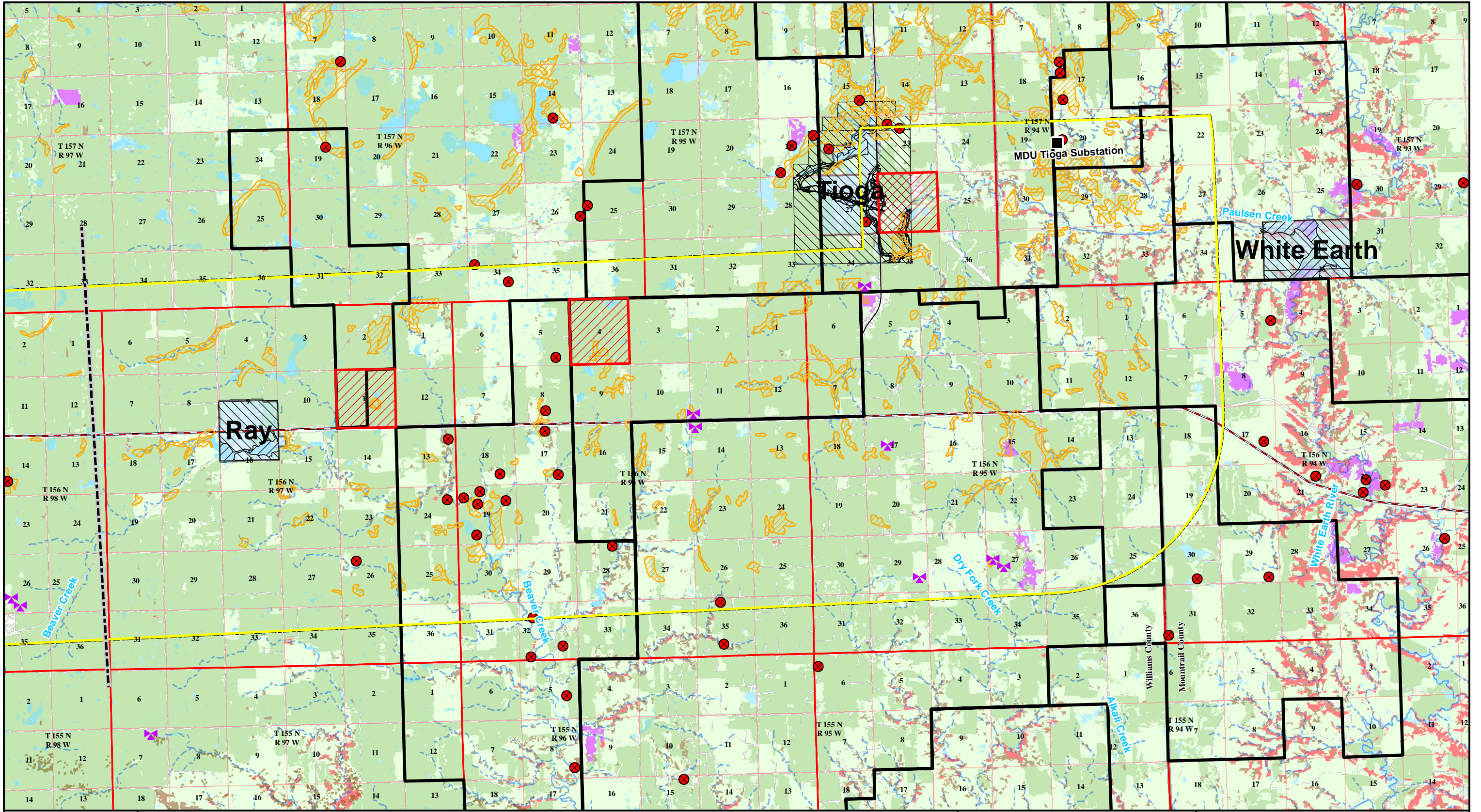
| | | | |
|-------------------|------------------------|---------------------------------|------------|
| PROPOSED CORRIDOR | Barren/Developed | INTERMITTENT STREAMS | FEMA ZONES |
| SUBSTATIONS | Cultivated Crops | PERENNIAL STREAMS | AE |
| MATCH LINE | Woodland | HIGH IRRIGATION POTENTIAL | X |
| TOWNSHIP | Shrubland | SECTIONS CONTAINING A GAS PLANT | X500 |
| CITY/TOWN | Grassland/Herbaceous | OIL FIELD BOUNDARY | |
| | Pasture/Hay | GRAVEL PIT | |
| | Pond, Lake, or Wetland | MICROWAVE OR RADIO TOWER | |



Williston to Tioga Transmission Project

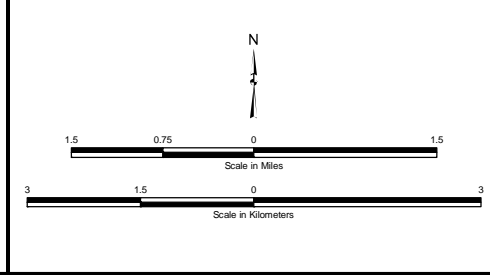
Exhibit D-8
Proposed Corridor
Selection Criteria

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LEGEND

| | | | |
|-------------------|------------------------|---------------------------------|------------|
| PROPOSED CORRIDOR | Barren/Developed | INTERMITTENT STREAMS | FEMA ZONES |
| SUBSTATIONS | Cultivated Crops | PERENNIAL STREAMS | A |
| MATCH LINE | Woodland | HIGH IRRIGATION POTENTIAL | AE |
| TOWNSHIP | Shrubland | SECTIONS CONTAINING A GAS PLANT | X |
| CITY/TOWN | Grassland/Herbaceous | OIL FIELD BOUNDARY | X500 |
| | Pasture/Hay | GRAVEL PIT | |
| | Pond, Lake, or Wetland | MICROWAVE OR RADIO TOWER | |



Williston to Tioga Transmission Project

Exhibit D-9
Proposed Corridor
Selection Criteria

Sources: Landclass - NLCD 2001; Streams/Wetland - NWI, NHD; Oil/Gas - NDIC Oil and Gas Division 2008; Floodzones - FemaQ3 Data; Gravel Pits/Radio Towers - NDDatahub

Appendix A

Notification

**Williston to Tioga Transmission Project
Notification List**

Federal Agencies

U.S. Fish and Wildlife Services
Field Supervisor for Ecological Services
3425 Miriam Avenue
Bismarck, ND 58501-7926

U.S. Army Corps of Engineers
Omaha District
Col. David Press
District Commander
106 South 15th Street
Omaha, NE 68102-1618

Federal Emergency Management Agency
Regional Environmental Officer
Department of Homeland Security
P.O. Box 25267
Denver, CO 80225-0267

Federal Aviation Administration
Great Lakes Region
O'Hare Lake Office Center
2300 East Devon Avenue
Des Plaines, IL 60018

Federal Highway Administration
1471 Interstate Loop
Bismarck, ND 58503-0567

US Environmental Protection Agency
NEPA Program – 8EPR-N Mail Code
999 18th Street, Suite 300
Denver, CO 80202-2466

State Agencies

North Dakota NRCS State Office
220 East Rosser Avenue
Federal Building
Room 270
Bismarck, ND 58501

North Dakota State
Farm Service Agency
1025 28th Street S
Fargo, ND 58103-2372

North Dakota Department of Agriculture
600 E. Boulevard Ave., Dept. 602
Bismarck, ND 58505-0020

North Dakota Forest Service
Molberg Center
307 First Street East
Bottineau, ND 58318

North Dakota Game and Fish Department
100 N. Bismarck Expressway
Bismarck, ND 58505-0830

North Dakota State Historical Board
612 East Boulevard Avenue
Bismarck, ND 58505-0830

North Dakota Indian Affairs Commission
600 East Boulevard Avenue
1st Floor Judicial Wing
Room 3117
Bismarck, ND 58505

North Dakota State Land Department
1707 North 9th Street
P.O. Box 5523
Bismarck, ND 58506-5523

North Dakota Department of Commerce
Division of Community Services
Century Center
1600 East Century Avenue, Suite 2
Bismarck, ND 58503

North Dakota Department of Transportation
608 East Boulevard Avenue
Bismarck, ND 58505

North Dakota Public Service Commission
600 East Boulevard Ave., Dept. 408
Bismarck, ND 58505

North Dakota Transmission Authority
State Capitol, 14th Floor
600 E. Boulevard Ave., Dept. 405
Bismarck, ND 58505

North Dakota Department of Health
Environmental Health Section
918 East Divide Avenue
Bismarck, ND 58501

North Dakota Parks and Recreation Department
1835 Bismarck Parkway
Bismarck, ND 58504

Elected Officials

The Honorable Earl Pomeroy
North Dakota Congressional Delegation
Room 328
Federal Building
220 East Rosser Avenue
Bismarck, ND 58501

The Honorable Byron Dorgan
North Dakota Congressional Delegation
312 Federal Building
P.O. Box 2579
Bismarck, ND 58502

The Honorable Kent Conrad
North Dakota Congressional Delegation
Federal Building
Room 228
220 East Rosser Avenue
Bismarck, ND 58501

Senator John M. Andrist
North Dakota State Legislature
P.O. Box E
Crosby, ND 58730-0660

Representative Bob Skarphol
North Dakota State Legislature
P.O. Box 725
Tioga, ND 58852-0725

Representative Dorvan Solberg
North Dakota State Legislature
11395 66th Street NW
Ray, ND 58849-9473

County

Mountrail County Farm Service Agency
21 1st Street SE
Standley, ND 58784

Williams County Farm Service Agency
1106 West 2nd Street
Williston, ND 58801

Martin Hanson
Williams County Commissioners
P.O. Box 2047
Courthouse
205 East Broadway
Williston, ND 58802-2047

Raymond Schmidt
Williams County Commissioners
P.O. Box 2047
Courthouse
205 East Broadway
Williston, ND 58802-2047

David Montgomery
Williams County Commissioners
P.O. Box 2047
Courthouse
205 East Broadway
Williston, ND 58802-2047

Dan Kalil
Williams County Commissioners
P.O. Box 2047
Courthouse
205 East Broadway
Williston, ND 58802-2047

Don Arnson
Williams County Commissioners
P.O. Box 2047
Courthouse
205 East Broadway
Williston, ND 58802-2047

Greg Boschee
Mountrail County Commissioners
101 North Main Street
P.O. Box 69
Stanley, ND 58784-0069

Arlo Borud
Mountrail County Commissioners
101 North Main Street
P.O. Box 69
Stanley, ND 58784-0069

David Hynek
Mountrail County Commissioners
101 North Main Street
P.O. Box 69
Stanley, ND 58784-0069

Municipalities

John Kautzman
City of Williston
P.O. Box 1306
Williston, ND 58802

Jamie Eraas
City of Tioga
1st Street NE
P.O. Box 218
Tioga, ND 58852-0218

Tribes

Ivan Posey, Chairman
Shoshone Business Council
P.O. Box 538
Fort Washakie, WY 82514

Arlen Shoyo
Shoshone Business Council
P.O. Box 538
Fort Washakie, WY 82514

Reba Theran
Shoshone Business Council
P.O. Box 538
Fort Washakie, WY 82514

Richard Brannan, Chairman
Arapahoe Business Council
P.O. Box 396
Fort Washakie, WY 82514

JoAnn White
Tribal Historic Preservation Officer
Northern Arapahoe Tribe
Fort Washakie, WY 82514

Eugene Little Coyote, President
Northern Cheyenne Tribal Council
P.O. Box 128
Lame Deer, MT 59043

Conrad Fisher
Tribal Historic Preservation Officer
Northern Cheyenne Tribe
P.O. Box 128
Lame Deer, MT 59043

Steven Brady
Traditional Spokesperson
Northern Cheyenne Tribe
P.O. Box 542
Lame Deer, MT 59043

Cecelia Firethunder
President
Oglala Sioux Tribal Council
P.O. Box H
Pine Ridge, SD 57570

Rodney Bordeaux, President
Rosebud Sioux Tribal Council
P.O. Box 430
Redbud, SD 57570

Russell Eagle Bear, THPO
Rosebud Sioux Tribe of Indians
P.O. Box 809
Rosebud, SD 57570

Herold Frazier, Chairman
Cheyenne River Sioux Tribal Council
P.O. Box 590
Eagle Butte, SD 57625

Albert Lebeau, THPO
Cheyenne River Sioux Tribe
P.O. Box 590
Eagle Butte, SD 57625

Ron His-Horse-is-Thunder
Chairman
Standing Rock Sioux Tribal Council
P.O. Box D
Fort Yates, ND 58538

Tim Mentz, THPO
Standing Rock Sioux Tribe
P.O. Box D
Fort Yates, ND 58538

Carle Venne, Chairman
Crow Tribal Council
P.O. Box 159
Crow Agency, MT 59022

Darrin Oil Coyote
Cultural Director
Crow Tribal Administration
P.O. Box 159
Crow Agency, MT 59022

John Morales, Chairman
Fort Peck Tribes
P.O. Box 836
Poplar, MT 59255

Curley Youpee, THPO
Fort Peck Tribes
P.O. Box 836
Poplar, MT 59255

Marcus D. Wells
Chairman
Three Affiliated Tribes Business Council
404 Frontage Road
New Town, ND 58763

Organizations

Ducks Unlimited
3502 Franklin Avenue
Bismarck, ND 58501

The Nature Conservancy
P.O. Box 1156
Bismarck, ND 58502-1156

Sierra Club, Dacotah Chapter
311 E. Thayer Ave.
Suite 113
Bismarck, ND 58501

Potentially Affected Landowners

1,000 + Individuals

Appendix B

Agency Correspondence



Department of Energy
Western Area Power Administration
Upper Great Plains Customer Service Region
P.O. Box 35800
Billings, MT 59107-5800

March 5, 2008

SUBJECT: Williston – Tioga 230-kV Transmission Line Project

Dear Interested Party:

Basin Electric Power Cooperative (Basin Electric) is proposing to construct a 230-kV transmission line from Western Area Power Administration's (Western) Williston Substation west of Williston, North Dakota, to the Tioga Substation east of Tioga, North Dakota. The proposed project, known as the Williston – Tioga 230-kV Transmission Line Project (Project) is needed to increase the load serving capacity in northwestern North Dakota.

Basin Electric has requested an interconnection with Western's transmission system at the Williston Substation. This interconnection request triggers a Federal National Environmental Policy Act (NEPA) review. Before Western can approve the construction and interconnection of the proposed Project, the potential environmental impacts must be assessed.

Western intends to prepare an Environmental Assessment (EA) for this project in accordance with NEPA. The EA will provide Western with a framework to analyze and judge the magnitude of expected environmental impacts from the construction and operation of the proposed Project. If Western finds that there are no significant environmental impacts, a "Finding of No Significant Impact" will be issued for the proposed Project. If the EA process identifies unmitigated significant impacts, an Environmental Impact Statement (EIS) process will be initiated to take a more detailed look at the impacts and alternative approaches to the proposed Project.

The proposed Project corridor would begin at Western's Williston Substation and proceed northeast approximately 47 miles to the Tioga Substation. The proposed transmission line would be constructed with steel H-frame structures. A fiber optic ground wire would be installed as one of two ground wires for Basin Electric's mobile radio communications in this remote area. Width of the right-of-way for the transmission line would be 125 feet.

Public involvement is an important and integral part of Western's NEPA process. Scoping involves actively acquiring input from interested Federal, State, tribal and local agencies, and the public. Information gained during scoping assists Western in identifying potential environmental issues, alternatives, and mitigation measures associated with constructing and operating the proposed Project. Scoping also helps narrow the scope of issues so the analysis of environmental impacts can focus on areas of highest interest and concern.

There will be a Western scoping period to ensure that interested members of the public; potentially affected landowners and lessees; and Federal, State, local, and tribal agencies have an opportunity to provide input on the scope of the EA and the alternatives that will be addressed in the EA. In conjunction with the scoping period Western will also hold public open-house scoping meetings near

the proposed Project area. At the scoping meetings Western staff will provide information about the proposed Project, answer questions, and take verbal and written comments from interested parties. Western wants you to comment on the proposed Project, offer suggestions to improve the proposal, and even suggest alternative actions. Western is also asking you to identify any issues of concern about potential environmental impacts.

Open-house public scoping meetings will be held at the following locations:

March 17, 2008
El Rancho Motor Hotel
1323 2nd Avenue West
Williston, North Dakota

March 18, 2008
Jungle Restaurant (former American Legion)
121 South Main Street
Tioga, North Dakota

You may attend any time between 4 p.m. and 7 p.m. You will have the opportunity to view proposed Project information and NEPA process displays. The open-house scoping meeting will be very informal, with Western and Basin Electric representatives available for discussion. Written comments may be left with Western's representative at the scoping meeting or provided by fax, e-mail, or the U.S. Postal Service to Mr. Rod O'Sullivan at the following address:

Rod O'Sullivan, Environmental Protection Specialist
Upper Great Plains Region
Western Area Power Administration
P.O. Box 35800
Billings, MT 59107-5800
Phone: (406) 247-7385
Fax: (406) 247-7408
E-mail: OSullivan@wapa.gov

Comments on the Project scope and alternatives should be received by April 18, 2008, to ensure consideration in defining the scope for the EA. Comments on other aspects of the proposed Project will be accepted and considered throughout the NEPA process. If you wish to be added to the Project mailing list and/or receive a copy of the Draft EA, please return the enclosed response sheet.

Western looks forward to your participation in the EA process. If you have any questions, concerns, or comments, please contact Mr. Rod O'Sullivan.

Sincerely,



Nicholas J. Stas
Environmental Manager

Enclosure

Fold 2

Rod O'Sullivan
Western Area Power Administration
P.O. Box 35800
Billings, MT 59107-5800

Fold 1

Williston to Tioga Transmission Project mailing list

To have your name added or removed from our mailing list for this project, please check the appropriate box and return this comment form to us. If you do not ask us to remove your name from our mailing list, we will send you future EA-related announcements.

- Add my name to the mailing list
 Remove my name from the mailing list

Sign up to receive the EA

To receive the Environmental Assessment for review when it is available, please check below.

- Send me the EA for review

Note: Fold the comment form on the lines with the return address showing, tape it closed and drop it in the mail to us. Additional sheets may be attached.

December 27, 2007

Terrance J. Gisvold
Assistant State Conservationist
Dickinson Area Office
135 Sims, Suite 210
Dickinson, ND 58601

Re: Request for Information – Basin Electric Williston to Tioga Transmission Line Project

Dear Mr. Gisvold:

Basin Electric Power Cooperative (Basin Electric) proposes to construct an approximately 50-to-60-mile-long, 230 kV, single-circuit transmission line from Williston to Tioga, North Dakota. The proposed transmission route would use H-frame structures and would be located within rural agricultural lands. A Route Permit is required from the North Dakota Public Service Commission (NDPSC) and an Environmental Assessment (EA) is required for Western Area Power Administration (Western) and Rural Utilities Service (RUS). Western is the lead Federal agency; RUS is a cooperating agency.

Alternative transmission line corridors will be identified in accordance with NDPSC and RUS permitting requirements. The corridors will be six-miles-wide (maximum width required by the NDPSC) which is compatible with a 60-mile-long corridor. Two or more potential alternative transmission line routes will be identified within the corridors. An EA will be prepared for the project.

In order to address potential impacts to biological resources, Western would like to request noxious weed species occurrence information for the project area. We also would like to present you with the opportunity to provide your recommendation for a reclamation seed mixture for the proposed project area. Western will obtain the soil surveys for the project corridors. If additional sensitive areas exist within the project area in relation to soils, please provide information accordingly. Shapefiles for the project area are available. Please notify Dirk Shulund if these would be useful and they will be provided electronically.

If you have any questions regarding this request, please call me at (406) 247-7402 or email at shulund@wapa.gov. Thank you in advance for your prompt response to this request.

Sincerely,

Dirk Shulund
Environmental Manager

Enc. Overview Project Map

December 27, 2007

Kathy Duttenhefner
North Dakota Parks & Recreation Department
1600 E. Century Avenue, Suite 3
Bismarck, ND 58503-0649
kgduttonhefner@nd.gov

Re: Request for Information – Basin Electric Williston to Tioga Transmission Line Project

Dear Ms. Duttenhefner:

Basin Electric Power Cooperative (Basin Electric) proposes to construct an approximately 50-to-60-mile-long, 230 kV, single-circuit transmission line from Williston to Tioga, North Dakota. The proposed transmission route would use H-frame structures and would be located within rural agricultural lands. A Route Permit is required from the North Dakota Public Service Commission (NDPSC) and an Environmental Assessment (EA) is required for Western Area Power Administration (Western) and Rural Utilities Service (RUS). Western is the lead Federal agency; RUS is a cooperating agency.

Alternative transmission line corridors will be identified in accordance with NDPSC and RUS permitting requirements. The corridors will be six-miles-wide (maximum width required by the NDPSC) which is compatible with a 60-mile-long corridor. Two or more potential alternative transmission line routes will be identified within the corridors. An EA will be prepared for the project.

Information Request

Enclosed with this email is an overview map of the corridors and corridor shapefiles. In North Dakota, the Project will be routed through portions of Williams and Montrail counties.

In order to address potential impacts to aquatic and terrestrial plant and animal species, we are requesting occurrence data for:

- Federally listed, proposed, and candidate species;
- Designated critical habitat of federally listed species;
- State listed or state sensitive species; and
- Unique ecosystems or sensitive communities.

Because of the mobility of wildlife species, Western would like to request sensitive wildlife information 3 miles surrounding the corridors. We also would like to request sensitive plant data 1 mile surrounding the corridors. If applicable, please send electronic files for our environmental analysis to: shulund@wapa.gov.

Western will also be contacting the U.S. Fish and Wildlife Service and the North Dakota Game and Fish Department to request sensitive species information and to obtain input regarding the

Kathy Duttonhefner
December 27, 2007
Page 2

corridors in North Dakota. If you have any questions regarding this request, please call me at (406) 247-7402. Thank you in advance for your prompt response to this request.

Sincerely,

Dirk Shulund
Environmental Manager

Enc. Overview Project Map
Shapefiles

cc: John Schumacher, NDGFD
Jeffrey Towner, USFWS

December 27, 2007

John Schumacher
North Dakota Game and Fish Department
100 N. Bismarck Expressway
Bismarck, ND 58501

Re: Request for Information – Basin Electric Williston to Tioga Transmission Line Project

Dear Mr. Schumacher:

Basin Electric Power Cooperative (Basin Electric) proposes to construct an approximately 50-to-60-mile-long, 230 kV, single-circuit transmission line from Williston to Tioga, North Dakota. The proposed transmission route would use H-frame structures and would be located within rural agricultural lands. A Route Permit is required from the North Dakota Public Service Commission (NDPSC) and an Environmental Assessment (EA) is required for Western Area Power Administration (Western) and Rural Utilities Service (RUS). Western is the lead Federal agency; RUS is a cooperating agency.

Alternative transmission line corridors will be identified in accordance with NDPSC and RUS permitting requirements. The corridors will be six-miles-wide (maximum width required by the NDPSC) which is compatible with a 60-mile-long corridor. Two or more potential alternative transmission line routes will be identified within the corridors. An EA will be prepared for the project.

Information Request

Enclosed is an overview map of the corridors and a CD containing corridor shapefiles. The Project will be routed through portions of Williams and Montrail counties.

Western would like to provide an opportunity for North Dakota Game and Fish Department (NDGFD) biologists and botanists to identify prominent terrestrial and aquatic resource issues or concerns that may occur within or adjacent to the project corridors, focusing on species that are either sensitive (e.g., state-listed), have high economic value (e.g., big game, waterfowl), or are considered important by the state (e.g., raptors, bats). Please forward this request to the applicable specialists (e.g., fisheries and/or wildlife biologists, habitat biologists, botanists, etc.) so they may provide information and input. Resource information provided by the NDGFD will be reflected in the environmental baseline description pertaining to the project. If applicable, please send electronic files for our environmental analysis to: shulund@wapa.gov.

Where it appears that possible or probable concerns relative to sensitive species or habitats may occur, please indicate whether surveys might be required, as well as the preferred methodology and level of effort you would consider acceptable for the surveys.

John Schumacher
December 27, 2007
Page 2

Western also is contacting the U.S. Fish and Wildlife Service (USFWS) and the North Dakota Parks and Recreation Department (NDPRD) to request sensitive species information. If you have any questions regarding this request, please call me at (406) 247-7402. Thank you in advance for your prompt response to this request.

Sincerely,

Dirk Shulund
Environmental Manager

Enc. Overview Project Map
Shapefiles

cc: Kathy Deuttenhefner, NDPRD
Jeffrey Towner, USFWS

December 27, 2007

Jeffrey Towner
U. S. Fish and Wildlife Service
North Dakota Field Office
3425 Miriam Avenue
Bismarck, North Dakota 58501-7926

Re: Request for Information – Basin Electric Williston to Tioga Transmission Line Project

Dear Mr. Towner:

Basin Electric Power Cooperative (Basin Electric) proposes to construct an approximately 50-to-60-mile-long, 230 kV, single-circuit transmission line from Williston to Tioga, North Dakota. The proposed transmission route would use H-frame structures and would be located within rural agricultural lands. A Route Permit is required from the North Dakota Public Service Commission (NDPSC) and an Environmental Assessment (EA) is required for Western Area Power Administration (Western) and Rural Utilities Service (RUS). Western is the lead Federal Agency; RUS is a cooperating agency.

Alternative transmission line corridors will be identified in accordance with NDPSC and RUS permitting requirements. The corridors will be six-miles-wide (maximum width required by the NDPSC) which is compatible with a 60-mile-long corridor. Two or more potential alternative transmission line routes will be identified within the corridors. An EA will be prepared for the project.

Species Information Request

Enclosed is an overview map of the corridors and a CD containing corridor shapefiles. In North Dakota, the Project will be routed through portions of Williams and Montrail counties.

In order to address potential impacts to aquatic and terrestrial plant and animal species, we are requesting species information for:

- Federally listed, proposed, and candidate species; and
- Designated critical habitat of federally listed species.

Where it appears that possible or probable concerns relative to sensitive species or habitats may occur, please indicate whether surveys might be required, as well as the preferred methodology and level of effort you would consider acceptable for the surveys. If appropriate, Western also would like to request that the USFWS designate a project lead through the consultation process for the Project.

Western also is contacting the North Dakota Game and Fish Department (NDGFD) and the North Dakota Parks and Recreation Department (NDPRD) for resource data and input on the

Jeffrey Towner
December 27, 2007
Page 2

proposed Basin Electric Williston to Tioga Transmission Line Project. If you have any questions regarding this request, please call me at (406) 247-7402 or email at shulund@wapa.gov. Thank you in advance for your prompt response to this request.

Sincerely,

Dirk Shulund
Environmental Manager

Enc. Overview Project Map
Shapefiles

cc: Kathy Deuttenhefner, NDPRD
John Schumacher, NDGFD



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501



MAR 26 2008

RECEIVED IN BILLINGS UGPCSR

MAR 31 2008

Mr. Nicholas J. Stas
Western Area Power Administration
Upper Great Plains Customer Service Region
P.O. Box 35800
Billings, Montana 59107-5800

Re: Williston-Tioga 230-kV Transmission
Line Project

Dear Mr. Stas:

This letter is in regards to Basin Electric Power Cooperative's (Basin Electric) request for an interconnection with the Western Area Power Administration's (WAPA) transmission system and proposal to construct a 230 kV transmission line from Williston Substation to the Tioga Substation in Williams County, North Dakota. We offer the following comments under the authority of and in accordance with the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.), the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.), and the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. 4321 et seq.). We may have more detailed comments as the NEPA process proceeds.

To minimize disturbance to fish and wildlife resources in the project area, the Service provides the following recommendations:

- Time construction so that it does not occur between April 1 and July 15 so as not to disrupt waterfowl or other wildlife during the nesting season, and to avoid high water conditions.
- Make no stream channel alterations or changes in drainage patterns.
- Locate construction to avoid placement of fill in wetlands along the route.
- Replace unavoidable loss of wetland habitat with functionally equivalent wetlands.
- Replant trees in naturally forested areas or riparian zones at a ratio of two trees planted for every one removed.

- Install and maintain appropriate erosion control measures to reduce sediment transport to adjacent wetlands and stream channels.
- Reseed disturbed areas with a mixture of native grass and forb species.

If construction routes intersect wetlands, streams, or rivers, the Corps of Engineers (Corps) may require a Department of the Army permit, for the placement of dredge or fill material into waters of the U.S., including wetlands, or other impacts to navigable waters. We suggest you contact Mr. Daniel Cimarosti, Regulatory Office, Corps of Engineers, 1513 South 12th Street, Bismarck, North Dakota 58504 (701-255-0015), to determine the Corps' permit requirements.

A list of federally endangered and threatened species that may be present within the proposed project's area of influence is enclosed. This list fulfills requirements of the Service under Section 7 of the Endangered Species Act. This list remains valid for 90-days.

If a Federal agency authorizes, funds, or carries out a proposed action, the responsible Federal agency, or its delegated agent, is required to evaluate whether the action "may affect" listed species. If the Federal agency or its delegated agent determines the action may likely adversely affect listed species, then the responsible Federal agency shall request formal section 7 consultation with this office, or work with this office to remove the likely adverse effects before proceeding. Your determination of effects to listed species and concurrence by the Service should be completed prior to making a final determination of whether or not to grant an interconnection to WAPA's system. If the evaluation shows a "no effect" determination to listed species, further consultation is not necessary. However, the Service does not believe that a "no effect" determination for the whooping crane is appropriate for this action. Please inform us of your determination of effects to federally listed species, including the whooping crane.

To minimize the electrocution hazard to birds, the Service, with support from the Rural Utilities Service, recommends that new or updated overhead power lines be constructed in accordance with the current guidelines for preventing bird electrocutions. The recommended guidelines can be found in "2006 Suggested Practices for Avian Protection on Power Lines". To increase power line visibility and reduce bird fatalities resulting from collisions with power lines, the Service recommends power lines in the major whooping crane migration zone as well as power lines that cross or run adjacent to rivers or large wetlands be modified according to "Mitigating Bird Collisions with Power Lines: The State of the Art in 1994". Both publications can be obtained by writing or calling the Edison Electric Institute, P.O. Box 266, Waldorf, Maryland 20604-0266, (1-800-334-5453) or visiting their website at www.eei.org.

Thank you for the opportunity to comment on this proposal. If you require further information or the project plans change, please have your staff contact Carol Aron of my staff or contact me directly at (701) 250-4481 or at the letterhead address above.

Sincerely,

Jeffrey K. Towner

Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

Enclosure

FEDERAL THREATENED AND ENDANGERED SPECIES
AND DESIGNATED CRITICAL HABITAT FOUND IN
WILLIAMS COUNTY, NORTH DAKOTA
March 2008

ENDANGERED SPECIES

Birds

Interior least tern (*Sterna antillarum*): Nests along midstream sandbars of the Missouri and Yellowstone Rivers.

Whooping crane (*Grus Americana*): Migrates through west and central counties during spring and fall. Prefers to roost on wetlands and stockdams with good visibility. Young adult summered in North Dakota in 1989, 1990, and 1993. Total population 140-150 birds.

Fish

Pallid sturgeon (*Scaphirhynchus albus*): Known only from the Missouri and Yellowstone Rivers. No reproduction has been documented in 15 years.

Mammals

Gray wolf (*Canis lupus*): Occasional visitor in North Dakota. Most frequently observed in the Turtle Mountains area.

THREATENED SPECIES

Birds

Piping plover (*Charadrius melodus*): Nests on midstream sandbars of the Missouri and Yellowstone Rivers and along shorelines of saline wetlands. More nest in North Dakota than any other state.

DESIGNATED CRITICAL HABITAT

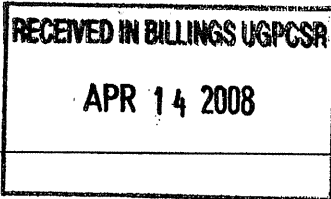
Birds

Piping Plover - Lake Sakakawea - Critical habitat includes sparsely vegetated shoreline beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with the water bodies.

1707 North 9th Street
PO Box 5523
Bismarck, ND 58506-5523
Phone: (701) 328-2800
Fax: (701) 328-3650



www.land.state.nd.us
www.nd.gov



Gary D. Preszler, Commissioner

April 11, 2008

ROD O'SULLIVAN ENVIRONMENTAL PROTECTION SPECIALIST
UPPER GREAT PLAINS REGION WESTERN AREA POWER ADMIN
PO BOX 35800
BILLINGS MT 59107-5800

Re: Williston-Tioga 230 Kv Transmission Line Project

Dear Mr. O'Sullivan:

The ND State Land Department manages land on behalf of the School Trusts that provide income for the schools and other institutions in North Dakota. The proposed northern route of the transmission line crosses several tracts of school trust land, including the following, all in Williams County:

- NE4 of Section 16, T155N, R101W
- S2 of Section 36, T156N, R101W
- W2 of Section 16 and S2SE4 of Section 9, T156N, R100W
- S2 and NE4 of Section 36, T157N, R99W
- S2 of Section 16, T157N, R95W

The amount of school trust land included in the proposed northern route consists of 12 leasing units on six sections of land, an unusually high percentage of the total ownership along the line. It appears the school trust land has been targeted for this project. These properties have a constitutional mandate to produce income for the trust beneficiaries and the potential impact of the transmission line on trust surface and mineral holdings must be considered.

Enclosed are maps showing potential gravel deposits and potential oil well locations. Not all of the potential oil well locations will be used. The most critical locations are within 800 feet of the section corners or quarter corners. Four of the proposed transmission line routes cross the school trust land on a diagonal which causes severance of the property.

We understand that you are considering an alternate route that would parallel the Highway 2 right of way line. This would be our preferred route. When you are ready to identify a specific route, please contact us so that we can review the specific impacts to the school trust lands.

Sincerely,

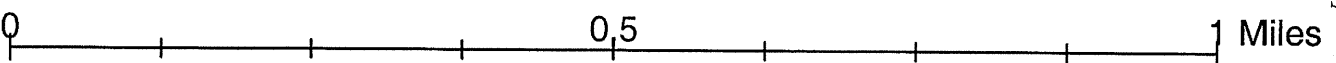
Michael L. Haupt, CPRM
Land Management Professional

16-T155-R101

Williams Co
Township: Missouri



Map Datum is WGS 84 (same as NAD 83)



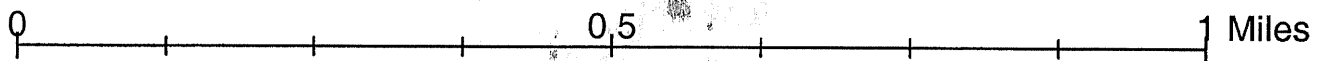
Printed: 4/3/2008 -- ND State Land

36-T156-R101

Williams Cou
Township: Ty



Map Datum is WGS 84 (same as NAD 83)



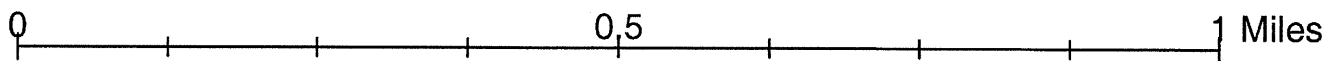
Printed: 4/3/2008 -- ND State Land I

9-T156-R100

Williams Cou
Township: East



Map Datum is WGS 84 (same as NAD 83)



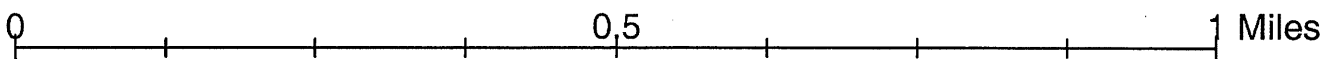
Printed: 4/3/2008 -- ND State Land

16-T156-R100

Williams Cou
Township: East



Map Datum is WGS 84 (same as NAD 83)



Printed: 4/3/2008 -- ND State Land I

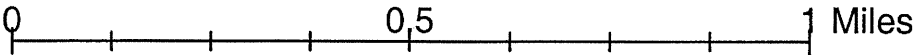
36-T157-R99

Williams Cou

Township: D



Map Datum is WGS 84 (same as NAD 83)



Printed: 4/3/2008 -- ND State Land

16-T157-R95

Williams Cou

Township: 7

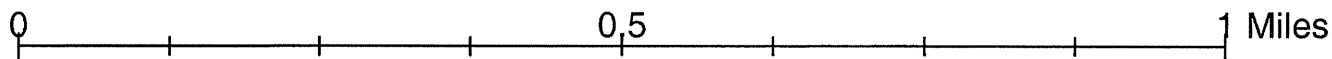


Proposed
electric transmission line

Potential
oil well
locations



Map Datum is WGS 84 (same as NAD 83)



Printed: 4/3/2008 -- ND State Land I



North Dakota Department of Transportation

Francis G. Ziegler, P.E.
Director

John Hoeven
Governor

RECEIVED IN BILLINGS UGPCSR

APR 21 2008

April 15, 2008

Rod O'Sullivan
Environmental Protection Specialist
Upper Great Plains Region
Western Area Power Administration
PO Box 35800
Billings, MT 59107-5800

WILLISTON – TIOGA 230-kV TRANSMISSION LINE, WILLIAMS COUNTY, STANLEY,
NORTH DAKOTA

We have reviewed your March 5, 2008, letter.

This project should have no adverse effect on the North Dakota Department of Transportation highways; however, NDDOT asks that all efforts be made to locate this transmission line off of the DOT right-of-way in a longitudinal installation. Vehicles at times do leave the roadway and for safety reasons, we try to minimize the amount of obstacles in recovery areas.

Additionally, if any work needs to be done on highway right-of-way, appropriate permits and risk management documents will need to be obtained from the Department of Transportation District Engineer, Walter Peterson at 701-774-2700.

A handwritten signature in black ink, appearing to read "Ronald J. Henke".

RONALD J. HENKE, P.E., DIRECTOR - OFFICE OF PROJECT DEVELOPMENT

57:rjh:js

c: Walter A. Peterson, Williston District



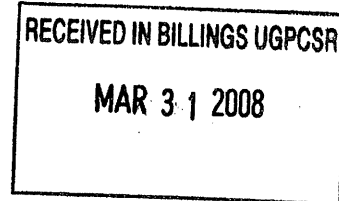
NORTH DAKOTA
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION
Gold Seal Center, 918 E. Divide Ave.
Bismarck, ND 58501-1947
701.328.5200 (fax)
www.ndhealth.gov



March 25, 2008

Mr. Rod O'Sullivan
Environmental Protection Specialist
Upper Great Plains Region
Western Area Power Administration
P.O. Box 35800
Billings, MT 59107-5800



Re: Williston – Tioga 230 kV Transmission Line Project, Williams County

Dear Mr. O'Sullivan:

This department has reviewed the information concerning the above-referenced project submitted under date of March 5, 2008, with respect to possible environmental impacts.

This department believes that environmental impacts from the proposed construction will be minor and can be controlled by proper construction methods. With respect to construction, we have the following comments:

1. All necessary measures must be taken to minimize fugitive dust emissions created during construction activities. Any complaints that may arise are to be dealt with in an efficient and effective manner.
2. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.
3. Projects disturbing one or more acres are required to have a permit to discharge storm water runoff until the site is stabilized by the reestablishment of vegetation or other permanent cover. Further information on the storm water permit may be obtained from the Department's website or by calling the Division of Water Quality (701-328-5210). Also, cities may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system. Check with the local officials to be sure any local storm water management considerations are addressed.

Environmental Health
Section Chief's Office
701.328.5150

Division of
Air Quality
701.328.5188

Division of
Municipal Facilities
701.328.5211

Division of
Waste Management
701.328.5166

Division of
Water Quality
701.328.5210

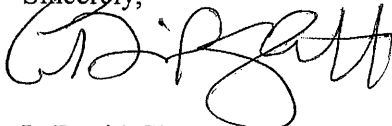
4. Noise from construction activities may have adverse effects on persons who live near the construction area. Noise levels can be minimized by ensuring that construction equipment is equipped with a recommended muffler in good working order. Noise effects can also be minimized by ensuring that construction activities are not conducted during early morning or late evening hours.

The department owns no land in or adjacent to the proposed improvements, nor does it have any projects scheduled in the area. In addition, we believe the proposed activities are consistent with the State Implementation Plan for the Control of Air Pollution for the State of North Dakota.

These comments are based on the information provided about the project in the above-referenced submittal. The U.S. Army Corps of Engineers may require a water quality certification from this department for the project if the project is subject to their Section 404 permitting process. Any additional information which may be required by the U.S. Army Corps of Engineers under the process will be considered by this department in our determination regarding the issuance of such a certification.

If you have any questions regarding our comments, please feel free to contact this office.

Sincerely,



L. David Glatt, P.E., Chief
Environmental Health Section

LDG:cc
Attach.



Construction and Environmental Disturbance Requirements

These represent the minimum requirements of the North Dakota Department of Health. They ensure that minimal environmental degradation occurs as a result of construction or related work which has the potential to affect the waters of the State of North Dakota. All projects will be designed and implemented to restrict the losses or disturbances of soil, vegetative cover, and pollutants (chemical or biological) from a site.

Soils

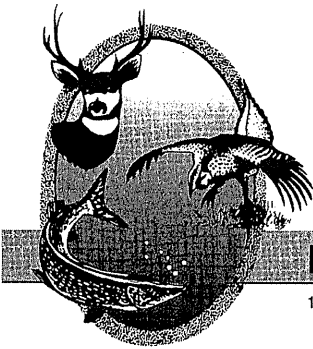
Prevent the erosion of exposed soil surfaces and trapping sediments being transported. Examples include, but are not restricted to, sediment dams or berms, diversion dikes, hay bales as erosion checks, riprap, mesh or burlap blankets to hold soil during construction, and immediately establishing vegetative cover on disturbed areas after construction is completed. Fragile and sensitive areas such as wetlands, riparian zones, delicate flora, or land resources will be protected against compaction, vegetation loss, and unnecessary damage.

Surface Waters

All construction which directly or indirectly impacts aquatic systems will be managed to minimize impacts. All attempts will be made to prevent the contamination of water at construction sites from fuel spillage, lubricants, and chemicals, by following safe storage and handling procedures. Stream bank and stream bed disturbances will be controlled to minimize and/or prevent silt movement, nutrient upsurges, plant dislocation, and any physical, chemical, or biological disruption. The use of pesticides or herbicides in or near these systems is forbidden without approval from this Department.

Fill Material

Any fill material placed below the high water mark must be free of top soils, decomposable materials, and persistent synthetic organic compounds (in toxic concentrations). This includes, but is not limited to, asphalt, tires, treated lumber, and construction debris. The Department may require testing of fill materials. All temporary fills must be removed. Debris and solid wastes will be removed from the site and the impacted areas restored as nearly as possible to the original condition.



"VARIETY IN HUNTING AND FISHING"

NORTH DAKOTA GAME AND FISH DEPARTMENT

100 NORTH BISMARCK EXPRESSWAY BISMARCK, NORTH DAKOTA 58501-5095 PHONE 701-328-6300 FAX 701-328-6352

RECEIVED IN BILLINGS UGPCSR

APR 17 2008

April 14, 2008

Rod O'Sullivan
Environmental Protection Specialist
Upper Great Plains Region
Western Area Power Administration
P.O. Box 35800
Billings, MT 59107-5800

Dear Mr. O'Sullivan:

RE: Williston - Tioga 230-kV Transmission Line Project

The North Dakota Game and Fish Department has reviewed this project for wildlife concerns. Our primary concern is the possible disturbance of native prairie, riparian corridors, and wetland areas associated with construction of the steel H-frame structures. We ask that work within these areas be avoided to the extent possible, above-ground appurtenances not be placed in wetland areas, and disturbed areas be reclaimed to pre-project conditions.

We would appreciate being kept informed as this project progresses, and would like to receive a copy of the Draft Environmental Assessment when it becomes available.

Sincerely,

(fos)

Michael G. McKenna
Chief
Conservation & Communication Division

js



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501



JUN 18 2008

Mr. Nicholas J. Stas, Environmental Manager
Western Area Power Administration
Upper Great Plains Customer Service Region
P.O. Box 35800
Billings, Montana 59107-5800

Dear Mr. Stas:

This letter is in response to your May 19, 2008, request for information related to threatened and endangered species, and critical habitat for a proposed Basin Electric Cooperative (Basin) transmission line from Western Area Power Administration's (Western) Williston Substation in Williams County, to the Tioga Substation in Mountrail County, North Dakota. Basin has requested an interconnection with Western's transmission system at the Williston Substation. This interconnection request is a Federal action which requires a National Environmental Policy Act (NEPA) review. Western plans to prepare an Environmental Assessment (EA) for the construction and interconnection of Basin's proposed 230-kilovolt (kV) transmission line. The Service requests the opportunity to review the Draft EA. We offer the following comments under the authority of and in accordance with the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.).

A current list of federally endangered and threatened species that may be present within the proposed project's area of influence is enclosed. As the lead Federal agency for section 7 consultation, Western will complete biological surveys for the proposed action and provide the U.S. Fish and Wildlife Service with their determination of effects to threatened and endangered species.

If you require further information or the project plans change, please have your staff contact Terry Ellsworth of my staff or contact me directly at (701) 250-4481, or at the letterhead address above.

Sincerely,

Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

Enclosure

cc: Director, ND Game and Fish Dept., Bismarck
(Attn: M. McKenna)

References

- McCabe, T.L. 1981. The Dakota skipper, *Hesperis dacotae* (Skinner): range and biology, with special reference to North Dakota. *Journal of the Lepidopterist' Society* 35(3):179-193.
- Royer, R.A. and G.M. Marrone. 1992. Conservation status of the Dakota skipper (*Hesperis dacotae*) in North and South Dakota. Unpublished report, U.S. Fish and Wildlife Service, Denver, CO. 15 March 1992. 44+pp.

FEDERAL THREATENED, ENDANGERED, AND CANDIDATE SPECIES
AND DESIGNATED CRITICAL HABITAT FOUND IN
MOUNTRAIL COUNTY, NORTH DAKOTA
June 2008

ENDANGERED SPECIES

Birds

Interior least tern (*Sterna antillarum*): Nests along midstream sandbars of the Missouri and Yellowstone Rivers.

Whooping crane (*Grus Americana*): Migrates through west and central counties during spring and fall. Prefers to roost on wetlands and stockdams with good visibility. Young adult summered in North Dakota in 1989, 1990, and 1993. Total population 140-150 birds.

Fish

Pallid sturgeon (*Scaphirhynchus albus*): Known only from the Missouri and Yellowstone Rivers. No reproduction has been documented in 15 years.

Mammals

Gray wolf (*Canis lupus*): Occasional visitor in North Dakota. Most frequently observed in the Turtle Mountains area.

THREATENED SPECIES

Birds

Piping plover (*Charadrius melodus*): Nests on midstream sandbars of the Missouri and Yellowstone Rivers and along shorelines of saline wetlands. More nest in North Dakota than any other state.

CANDIDATE SPECIES

Invertebrates

Dakota skipper (*Hesperia dacotae*): Found in native prairie containing a high diversity of wildflowers and grasses. Habitat includes two prairie types: 1) low (wet) prairie dominated by bluestem grasses, wood lily, harebell, and smooth camas; 2) upland (dry) prairie on ridges and hillsides dominated by bluestem grasses, needlegrass, pale purple and upright coneflowers and blanketflower.

DESIGNATED CRITICAL HABITAT

Birds

Piping Plover - Lake Sakakawea - Critical habitat includes sparsely vegetated shoreline beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with the water bodies.

FEDERAL THREATENED AND ENDANGERED SPECIES
AND DESIGNATED CRITICAL HABITAT FOUND IN
WILLIAMS COUNTY, NORTH DAKOTA
June 2008

ENDANGERED SPECIES

Birds

Interior least tern (*Sterna antillarum*): Nests along midstream sandbars of the Missouri and Yellowstone Rivers.

Whooping crane (*Grus Americana*): Migrates through west and central counties during spring and fall. Prefers to roost on wetlands and stockdams with good visibility. Young adult summered in North Dakota in 1989, 1990, and 1993. Total population 140-150 birds.

Fish

Pallid sturgeon (*Scaphirhynchus albus*): Known only from the Missouri and Yellowstone Rivers. No reproduction has been documented in 15 years.

Mammals

Gray wolf (*Canis lupus*): Occasional visitor in North Dakota. Most frequently observed in the Turtle Mountains area.

THREATENED SPECIES

Birds

Piping plover (*Charadrius melodus*): Nests on midstream sandbars of the Missouri and Yellowstone Rivers and along shorelines of saline wetlands. More nest in North Dakota than any other state.

DESIGNATED CRITICAL HABITAT

Birds

Piping Plover - Lake Sakakawea - Critical habitat includes sparsely vegetated shoreline beaches, beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with the water bodies.



John Hoeven, Governor
Douglass A. Prchal, Director
1600 East Century Avenue, Suite 3
Bismarck, ND 58503-0649
Phone 701-328-5357
Fax 701-328-5363
E-mail parkrec@nd.gov
www.parkrec.nd.gov

August 4, 2008

Nicholas J. Stas
Department of Energy-WAPA
Upper Great Plains Customer Service Region
P.O. Box 35800
Billings, MT 59107-5800

RE: Request for Information – Basin Electric Williston to Tioga Transmission Line Project

Dear Mr. Stas:

As requested, the North Dakota Parks and Recreation Department has compiled a list of the plant and animal species of concern and significant ecological communities within the project area. Please see the attached spreadsheet and map for more information on these species. We defer further comments regarding animal species to the North Dakota Game and Fish Department and the United States Fish and Wildlife Service.

Because this information is not based on a comprehensive inventory, there may be species of concern or otherwise significant ecological communities in the area that are not represented in the database. The lack of data for any project area cannot be construed to mean that no significant features are present. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

We appreciate your commitment to rare plant, animal and ecological community conservation, management and inter-agency cooperation to date. For additional information please contact me or Chris Dirk (cdirk@nd.gov).

Sincerely,

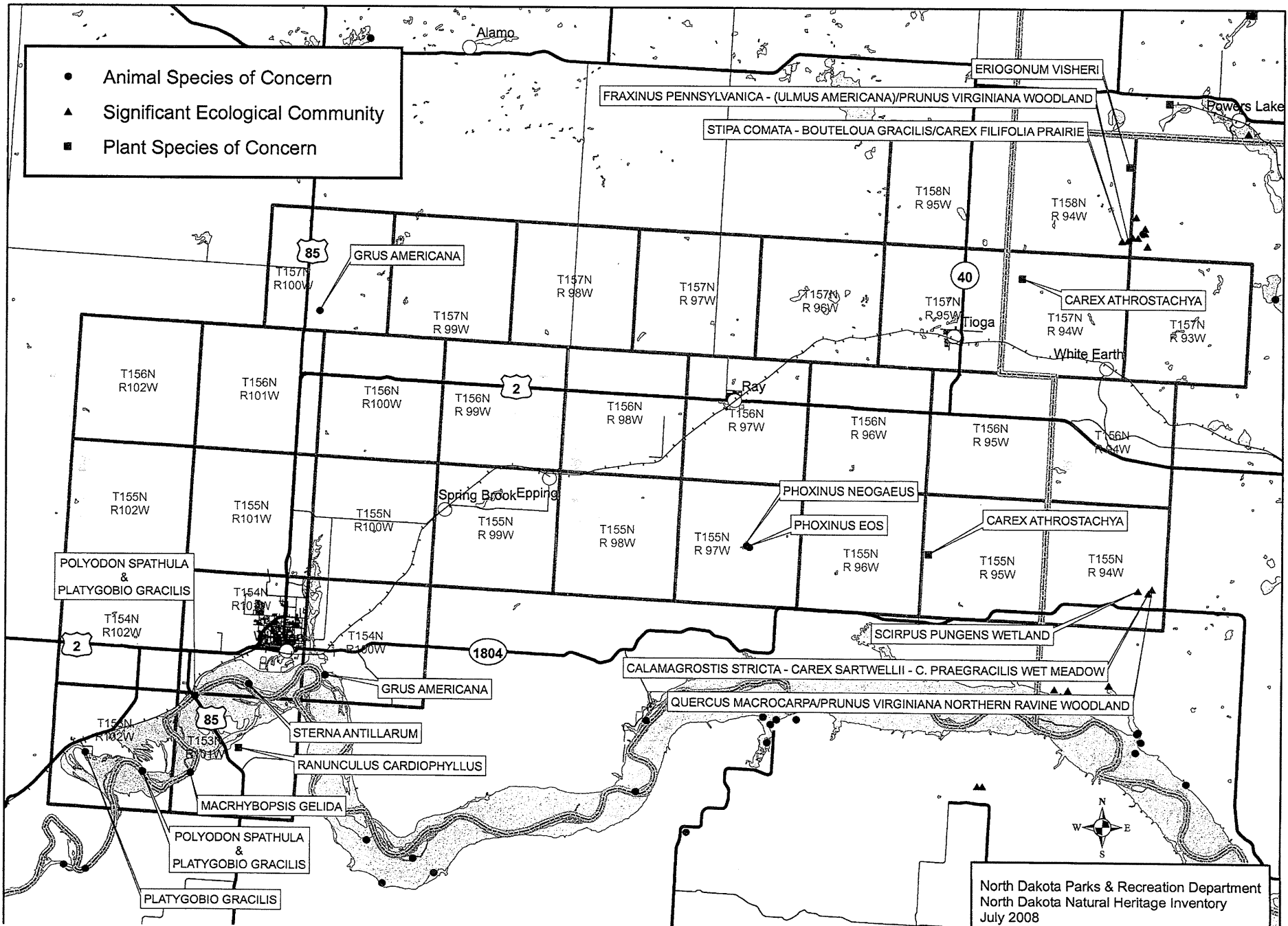
A handwritten signature in cursive script that reads "Kathy Duttenhefner".

Kathy Duttenhefner
North Dakota Parks and Recreation Department
kgduttonhefner@nd.gov

R.USNDNHI*2034

.....
Play in our backyard!

North Dakota Natural Heritage Inventory Species of Concern and Significant Ecological Communities



North Dakota Natural Heritage Inventory
Species of Concern and Significant Ecological Communities

| State Scientific Name | State Common Name | Township & Range | Section | TRS Notes | State Rank | Global Rank | Federal Status | Last Observation |
|---|---------------------------------------|------------------|---------|----------------|------------|-------------|----------------|------------------|
| POLYODON SPATHULA | PADDLEFISH | 153N101W | 6 | NW | S? | G4 | | 1994-09-30 |
| PLATYGOBIO GRACILIS | FLATHEAD CHUB | 153N101W | 6 | | S? | G5 | | 1994-08-23 |
| RANUNCULUS CARDIOPHYLLUS | HEART-LEAVED BUTTERCUP | 153N101W | 15 | | S1 | G4G5 | | 1967-06-25 |
| MACRHYBOPSIS GELIDA | STURGEON CHUB | 153N101W | 19 | | S2 | G3 | | 1994-09-21 |
| PLATYGOBIO GRACILIS | FLATHEAD CHUB | 153N102W | 20 | | S? | G5 | | 1994-09-20 |
| POLYODON SPATHULA | PADDLEFISH | 153N102W | 26 | | S? | G4 | | 1993-10-04 |
| PLATYGOBIO GRACILIS | FLATHEAD CHUB | 153N102W | 26 | | S? | G5 | | 1993-08-06 |
| GRUS AMERICANA | WHOOPING CRANE | 154N100W | 29 | | SX | G1 | (LE,XN) | 1963-10-19 |
| STERNA ANTILLARUM | LEAST TERN | 154N101W | 34 | | S1 | G4 | (PS:LE) | 1992-07 |
| CALAMAGROSTIS STRICTA - CAREX SARTWELLII - C. PRAEGRACILIS WET MEADOW | BRACKISH WET MEADOW | 155N094W | 22 | SEC 27 | S2S3 | | | 1987-07-02 |
| SCIRPUS PUNGENS WETLAND | WESTERN THREE-SQUARE MEADOW | 155N094W | 26 | | S1 | | | 1987-09-02 |
| QUERCUS MACROCARPA/PRUNUS VIRGINIANA NORTHERN RAVINE WOODLAND | BUR OAK UPLAND WOODLAND | 155N094W | 26 | SEC 23 | S3 | | | 1987-09-02 |
| CAREX ATHROSTACHYA | JOINTED-SPIKE SEDGE | 155N095W | 30 | | S3 | G5 | | 1970-07-30 |
| PHOXINUS EOS | NORTHERN REDBELLY DACE | 155N097W | 15 | SEC.22 | S4 | G5 | | 1975-06-17 |
| PHOXINUS NEOGAEUS | FINESCALE DACE | 155N097W | 15 | SEC 22 | SU | G5 | | 1974-08-08 |
| CAREX ATHROSTACHYA | JOINTED-SPIKE SEDGE | 157N094W | 15 | | S3 | G5 | | 1971-08-05 |
| GRUS AMERICANA | WHOOPING CRANE | 157N100W | 33 | N2, SEC.28 NE4 | SX | G1 | (LE,XN) | 1979-04-20 |
| ERIOGONUM VISHERI | DAKOTA BUCKWHEAT | 158N094W | 12 | | S2S3 | G3 | | 1970-08-05 |
| STIPA COMATA - BOUTELOUA GRACILIS/CAREX FILIFOLIA PRAIRIE | NEEDLE-AND-THREAD MIXED GRASS PRAIRIE | 158N094W | 25 | 36 | S2 | | | 1985-07-02 |
| FRAXINUS PENNSYLVANICA - (ULMUS AMERICANA)/PRUNUS VIRGINIANA WOODLAND | GREEN ASH UPLAND WOODLAND | 158N094W | 36 | SEC 21 | | | | |
| | | 158N093W | 30 | SEC 31 | S3 | | | 1985-07-02 |

North Dakota Natural Heritage Inventory Biological and Conservation Data Disclaimer

The quantity and quality of data collected by the North Dakota Natural Heritage Inventory are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in North Dakota have never been thoroughly surveyed, and new species are still being discovered. For these reasons, the Natural Heritage Inventory cannot provide a definite statement on the presence, absence, or condition of biological elements in any part of North Dakota. Natural Heritage data summarize the existing information known at the time of the request. Our data are continually upgraded and information is continually being added to the database. This data should never be regarded as final statements on the elements or areas that are being considered, nor should they be substituted for on-site surveys.

Appendix C

Special Status Species

Appendix C Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|-------------------|-----------------------|-----------------------------|--|-------------------------------------|--|---|-----------------------|-------------------------------------|
| Mammals | | | | | | | | |
| Arctic shrew | <i>Sorex arcticus</i> | ND Level III | Most commonly found in grass-sedge marshes, wet meadows, and other moist openings in and adjacent to boreal forests. Also present, in fewer numbers, in tamarack-spruce bogs and cedar swamps. Small globular nests are usually made aboveground under logs or other material. | Riparian | No | Yes. This species and its required habitat are not found within the Project area. | Mountrail | Hagen et al. 2005; NatureServe 2008 |
| Grey wolf | <i>Canis lupis</i> | FE ; ND Level III | This species inhabits a wide range of habitats where large ungulates are found. It utilizes mixed hardwood-coniferous forests in wilderness and sparsely settled areas, to forest and prairie landscapes dominated by agricultural and pasture lands. | Any | Yes – The occurrence of this species in the Project area would be as a migrant only. | Yes. Migratory occurrence of this species is highly unlikely and the Project would not impact this species due to the fact that it' is mobile. | Mountrail Williams | Hagen et al. 2005; USFWS 2008b |
| Long-eared myotis | <i>Myotis evotis</i> | ND Level III | This species typically roosts in rugged terrain in small groups or alone in rock crevices and under tree bark. It is associated with coniferous trees. This species hibernates in caves and abandoned mines. | Rugged terrain and coniferous trees | Yes – The occurrence of this species would be limited to foraging activities. | Yes. Use of the Project area by this species for foraging is unlikely. In addition, foraging would occur at night. Considering that construction activities would primarily occur within the day, and this species is mobile during foraging, the Project would not impact this species and is therefore not carried forward for detailed analysis. | Mountrail Williams | Hagen et al. 2005 |

Appendix C Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|------------------------------|----------------------------------|---------------------|--|-------------------------------------|---|---|--------------------|---|
| Long-legged myotis | <i>Myotis volans</i> | ND Level III | This species typically roosts in rugged terrain in small groups or alone in rock crevices and under tree bark. They also are associated with coniferous trees. | Rugged terrain and coniferous trees | Yes – The occurrence of this species would be limited to foraging activities. | Yes. Use of the Project area by this species for foraging is unlikely. In addition, foraging would occur at night. Considering that construction activities would primarily occur within the day, and this species is mobile during foraging, the Project would not impact this species and is therefore not carried forward for detailed analysis. | Mountrail Williams | Hagen et al. 2005 |
| Pygmy shrew | <i>Sorex hoyi</i> | ND Level II | This species prefers moist areas and riparian woodlands associated with mixed and tall grass prairies. | Riparian Woodlands | No | Yes. The Project area is located outside of the range of this species. | Mountrail | Hagen et al. 2005; NatureServe 2008; A__S__M__ 2008 |
| Richardson's ground squirrel | <i>Spermophilus richardsonii</i> | ND Level II | This species prefers well grazed pastures of native or tame grass in areas of sandy loam or gravelly soils. They also can be found near agricultural fields which provide cereal grain as a food source. | Mixed-grass prairie | Yes | Yes. Individuals or evidence of this species was not detected in the vicinity of the Project area during 2008 survey efforts. | Mountrail Williams | Hagen et al. 2005 |
| Sagebrush vole | <i>Lemmiscus curtatus</i> | ND Level III | This species prefers semi-arid areas with loose soil; usually a combination of grass and sagebrush. | Semi-arid lands | No | Yes. The required habitat for this species (sagebrush) is not located in the vicinity of the Project area. | Mountrail Williams | Hagen et al. 2005 |

Appendix C Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|-----------------------------|--------------------------------|---------------------|--|-------------------------------------|---|---|-----------------------|-------------------|
| Swift fox | <i>Vulpes velox</i> | ND Level II | This species is found in short-, mid-, and mixed-grass prairies with gently rolling hills. Den sites are typically located on flat areas or along slopes or ridges that provide a good view. Dens are typically on sites dominated by blue grama or buffalo grass. | Grasslands | Yes – historic | Yes. This species is believed to be extirpated from North Dakota. | Mountrail Williams | Hagen et al. 2005 |
| Western small-footed myotis | <i>Myotis ciliolabrum</i> | ND Level III | This species typically roosts in rugged terrain in small groups or alone in rock crevices and under tree bark. They are only found in North Dakota's badlands and also are associated with coniferous trees. | Rugged terrain and coniferous trees | Yes – The occurrence of this species would be limited to foraging activities. | Yes. Use of the Project area by this species for foraging is unlikely. In addition, foraging would occur at night. Considering that construction activities would primarily occur within the day, and this species is mobile during foraging, the Project would not impact this species and is therefore not carried forward for detailed analysis. | Williams | Hagen et al. 2005 |
| Birds | | | | | | | | |
| American avocet | <i>Recurvirostra americana</i> | ND Level II | This species prefers ponds or lakes with exposed, sparsely vegetated shorelines. Peak breeding season: mid-May to early July. | Ponds or Lakes | Yes | No. However, the Project crosses a limited amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| American bittern | <i>Botaurus lentiginosus</i> | ND Level I | This species inhabits a variety of wetlands, particularly large wetlands with tall emergent vegetation. This migratory bird also will nest in tall, dense grassland. Breeding season: mid-June to late-July. | Wetlands and tall, dense grasslands | Yes | No. However, the Project crosses a limited amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |

Appendix C Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|------------------------|----------------------------------|---------------------|---|--|--------------------------------|---|--------------------|-------------------------------------|
| American white pelican | <i>Pelecanus erythrorhynchos</i> | ND Level I | This species nests in colonies on islands or peninsulas in large lakes and sometimes on rivers. These islands consist of gravel, sand, or soil substrate and little to no vegetation. Foraging habitat is located in shallow waters of lakes, marshes, and rivers. | Large lakes/ reservoirs | Yes | No. This species and its required habitat are found along the Missouri River and waterbodies throughout North Dakota. | Mountrail Williams | Hagen et al. 2005 |
| Baird's sparrow | <i>Ammodramus bairdii</i> | ND Level I | This species prefers extensive tracts of native prairie but will utilize idle, tame grasslands, and lightly to moderately grazed pastures. Stands of grasses with narrow leaves are readily used. Breeding season: early June to late-July. | Extensive tracts of native mixed grass prairie and lightly grazed pastures | Yes | No | Mountrail Williams | Hagen et al. 2005; NatureServe 2008 |
| Bald eagle | <i>Haliaeetus leucocephalus</i> | ND Level II | This species typically occurs near large bodies of water that support suitable roosting and foraging habitat. Nest sites typically occur in proximity to open water and generally are found in mature heterogeneous stands of multi-storied trees, but also may nest on cliffs. Winter habitat typically includes areas of open water, adequate food sources, and sufficient diurnal perches and night roosts. Breeding season: January through July. Winter roosting season: November 15 through March 15. | Large rivers and waterbodies | Yes | No. This species and its required habitat are found along the Missouri River and waterbodies throughout North Dakota. | Mountrail Williams | Hagen et al. 2005; USFWS 2008b |

Appendix C Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|---------------------|----------------------------------|---------------------|---|-----------------------------|--------------------------------|---|-------------------------------------|-------------------|
| Black tern | <i>Chlidonias niger</i> | ND Level I | This species prefers wetlands complexes of shallow wetlands with emergent vegetation and open water surrounded by grasslands. Areas of open water are used for foraging and nests are constructed on floating mats of residual vegetation within the emergent vegetation. Breeding season: early June to mid-July. | Shallow wetlands, grassland | Yes | No. However, the Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Black-billed cuckoo | <i>Coccyzus erythrophthalmus</i> | ND Level I | This species inhabits bushy margins or openings of woodlands, and thickets of small trees or shrubs on the prairie. Also uses riparian areas, shelterbelts and wooded areas of towns and farmsteads. Breeding season: mid-June to late-July. | Wooded areas | Yes | No. However, the Project crosses only a small amount of suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Bobolink | <i>Dolichonyx oryzivorus</i> | ND Level II | This species uses a variety of grasslands but prefers moderate to tallgrass prairie, hayland, and retired croplands. Breeding season: early June to mid-July. | Grasslands | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| Burrowing owl | <i>Athene cunicularia</i> | ND Level II | This migratory species inhabits open grasslands with short vegetation and bare ground. Relies exclusively on burrowing mammals to create burrows for nest sites. Breeding season: early May to mid-August. | Prairie dog colonies | Yes | No. This species was detected during 2008 survey efforts in the vicinity of the Project area. | Secondary Range: Mountrail Williams | Hagen et al. 2005 |
| Canvasback | <i>Aythya valisineria</i> | ND Level II | This species prefers deep wetlands, particularly semipermanent wetlands with emergent cover. Breeding season: mid-May to mid-August. | Open water | Yes | No. However, the Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |

Appendix C Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|----------------------------|------------------------------|---------------------|---|-----------------------------|--------------------------------|---|--------------------|------------------------------------|
| Chestnut-collared longspur | <i>Calcarius ornatus</i> | ND Level I | This species is described as a native prairie specialist. Level to rolling, open, arid, mixed-grass and shortgrass prairie is utilized. Breeding season: early May to mid-July. | Native prairie | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| Dickcissel | <i>Spiza americana</i> | ND Level II | This species uses a variety of grassland habitats but prefers areas with alfalfa, sweet clover, and other brushy grasslands. Breeding season: early June to mid-August. | Grasslands | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| Franklin's Gull | <i>Larus pipixcan</i> | ND Level I | This species nests in colonies in extensive prairie wetlands with emergent vegetation on floating mats of vegetation, on muskrat houses, or other debris. Foraging occurs over water or within agricultural fields. Breeding season: late-May to mid-July. | Large wetlands, Ag fields | Yes | No. The Project crosses a small amount of suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Ferruginous hawk | <i>Buteo regalis</i> | ND Level I | This species inhabits a variety of open country and shrublands. Usually avoids cultivated fields, heavily grazed pastures, high elevations, and forest interiors. May be associated with prairie dog towns. Breeding season: late-April to mid-July. | Open country and shrublands | Yes | No | Mountrail Williams | Hagen et al. 2005; Gomes (No Date) |
| Grasshopper sparrow | <i>Ammodramus savannarum</i> | ND Level I | This species inhabits grasslands of intermediate height, clumped vegetation, patches of bare ground, moderate litter depth, and sparse woody vegetation. Also uses native and tame grasslands, CRP, haylands, and croplands. Breeding season: early June to late-July. | Open country | Yes | No | Mountrail Williams | Hagen et al. 2005 |

Appendix C Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|-------------------------|--------------------------------|----------------------------|---|-----------------------------------|--------------------------------|--|--------------------|--|
| Greater Prairie Chicken | <i>Tympanuchus cupido</i> | ND Level II | This species occurs within native tallgrass prairie associated with agricultural land. Leks are located in areas of short vegetation and bare ground. Nests are found close to the lek site within dense vegetation and some association to water. Breeding season: late-April to early July. | Native Tallgrass prairie/cropland | No | Yes. This species is believed to be extirpated from most of North Dakota. Current distribution is limited to eastern North Dakota. | Mountrail Williams | Hagen et al. 2005; Svedarsky et al. 2003 |
| Horned Grebe | <i>Podiceps auritus</i> | ND Level I | This species breeds in shallow freshwater ponds and marshes with emergent vegetation and substantial amounts of open water. Breeding season: June to early August. | Ponds/wetlands | No | Yes. This species and its required habitat are not found within the Project area. | Mountrail Williams | Hagen et al. 2005 |
| Interior least tern | <i>Sterna antillarum</i> | FE ; ND Level II | This species utilizes sparsely vegetated shorelines and sandbars within lakes and rivers. Nests are constructed as a hollow scrape on the ground with foraging occurring close to the nesting colony. Breeding season: early June to mid-July. | Sandbars/shorelines | No | Yes. This species and its required habitat are not found within the Project area. | Mountrail Williams | Hagen et al. 2005; USFWS 2008b; NDNHI 2008 |
| Lark bunting | <i>Calamospiza melanocorys</i> | ND Level I | This species inhabits mixed-grass prairies and sagebrush communities. Weedy cropland, CRP, hayland, and pastures also are used. Breeding season: early June to early August. | Open country and shrubland | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| LeConte's sparrow | <i>Ammodramus leconteii</i> | ND Level II | This species prefers fens, wet meadows, and marshes of sedge grasses. Breeding season: late-May to mid-August. | Wetlands | Yes | No. The Project crosses a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |

Appendix C Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|-------------------------------|----------------------------|---------------------|---|---------------------------------------|--------------------------------|---|--------------------|------------------------------------|
| Loggerhead shrike | <i>Lanius ludovicianus</i> | ND Level II | This species prefers open country with thickets of small trees, shrubs, and shelterbelts. Breeding season: early May to mid-July. | Open country with tree clumps | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| Marbled godwit | <i>Limosa fedoa</i> | ND Level I | This species requires large expanses of short, sparse to moderately vegetated uplands for nesting and a variety of wetlands for foraging. Requires a high percentage of grass cover and wetlands. Breeding season: early May to late-June. | Prairie adjacent to wetlands | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Nelson's sharp-tailed sparrow | <i>Ammodramus nelsoni</i> | ND Level I | This species inhabits fens, shallow-marsh and wet meadow zones of wetlands. Breeding season: mid-June to early August. | Fens, wet meadows | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Northern harrier | <i>Circus cyaneus</i> | ND Level II | This species inhabits open grasslands and wetlands with tall, dense vegetation. This migratory bird will utilize native or tame vegetation in wet or dry grasslands, fresh to alkali wetlands, lightly grazed pastures, croplands, shrubby fields and fallow fields. Breeding season: early May to mid-July. | Grasslands, Agriculture, and wetlands | Yes | No. This species was detected during 2008 survey efforts. | Mountrail Williams | Hagen et al. 2005; Gomes (No Date) |
| Northern pintail | <i>Anas acuta</i> | ND Level II | This species prefers wetland complexes of open water and associated upland native prairie. Breeding season: early April to early July. | Open water | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |

Appendix C Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|-----------------------|-----------------------------------|---------------------|---|------------------------|--------------------------------|---|--------------------|--|
| Peregrine falcon | <i>Falco peregrinus</i> | ND Level III | This species uses open expanses of native prairie, badland complexes, rocky cliffs overlooking rivers, lakes, or other water in North Dakota. Nests on high ledges, cliffs, steep sides of buttes, and tall buildings. Only one breeding pair has been identified in Fargo, North Dakota. Breeding season: early May to late-July. | Cliffs | Yes – as a migrant only. | Yes. The only known nesting pair was located in Fargo, North Dakota, and was last observed in 1954. | Mountrail Williams | Hagen et al. 2005; Gomes (No Date) |
| Piping plover | <i>Charadrius melodus</i> | FT; ND Level II | This species uses sandy or gravelly beaches and sandbars or alkaline wetlands. Breeding season: late-May to mid-July. | Sandy/gravelly beaches | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005; USFWS 2008b; NatureServe 2008 |
| Redhead | <i>Aythya americana</i> | ND Level II | This species uses a variety of wetland types but prefers semi-permanent and deep seasonal wetlands. Breeding season: early June to late-August. | Open water | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Red-headed woodpecker | <i>Melanerpes erythrocephalus</i> | ND Level II | This species prefers natural stands of mature deciduous trees along river bottoms, shelterbelts, and wooded areas of towns. Breeding season: early June to early August. | Deciduous tree stands | No | Yes. Shelterbelts and towns would be avoided. Habitat would not be affected. | Mountrail Williams | Hagen et al. 2005 |
| Sedge wren | <i>Cistothorus platensis</i> | ND Level II | This species prefers wet meadows of tall grasses and sedges. Breeding season: mid-June to early August. | Wet meadows | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |

Appendix C Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|---------------------|---------------------------------|---------------------|--|--|--------------------------------|---|--------------------|------------------------------------|
| Sharp-tailed grouse | <i>Tympanuchus phasianellus</i> | ND Level II | This species uses mixed grass prairie with patches of shrubs and small trees. CRP grasslands are important to this species. Nests in lightly grazed native prairie, haylands, CRP, and may be located close to the margin of a thicket of shrubs or small trees. Breeding season mid-May to early August. | Mixed grass prairie with patches of shrubs | Yes | No. No lek sites are known to occur near the proposed Project but individuals were observed during 2008 survey efforts. | Mountrail Williams | Hagen et al. 2005 |
| Short-eared owl | <i>Asio flammeus</i> | ND Level II | This species inhabits large expanses of open grassland and wetland areas. Uses native prairie, hayland, retired cropland, small grain stubble, shrub steppe, and wet meadow zones of wetlands. CRP land is important for this species. Breeding season: late-April to mid-July. | Open country | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| Sprague's pipit | <i>Anthus spragueii</i> | ND Level I | This species requires large native grasslands of intermediate height and sparse to intermediate vegetation density. Breeding season: early May to mid-August. | Large native grasslands | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| Swainson's hawk | <i>Buteo swainsoni</i> | ND Level I | This species inhabits open grasslands with scattered trees or shrubs. Also uses shortgrass, mixed-grass, tallgrass prairie, riparian areas, isolated trees, shelterbelts, pasture, hayland, cropland, and wetland borders. Breeding season: mid-May to late-July. | Open country with scattered trees and shrubs | Yes | No. This species was observed during 2008 survey efforts. | Mountrail Williams | Hagen et al. 2005; Gomes (No Date) |

Appendix C Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|--------------------|-----------------------------------|---------------------|--|---|---|---|--------------------|---|
| Upland sandpiper | <i>Bartramia longicauda</i> | ND Level I | This species inhabits native and tame grassland, wet meadows, hayland, pastures, CRP, cropland, highway and railroad ROWs. Often uses wooden fence posts for viewing. Breeding season: late-May to early July. | Open country Grasslands | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| Whooping crane | <i>Grus americana</i> | FE; ND Level III | Use of the Project would be limited to migration only. During migration, this species uses primarily wetlands and cropland ponds for roosting and feeding. Spring and fall migration through the Project regions generally occurs from April to mid-May and from mid-September to October. | Wetlands bordered by agricultural fields | Yes – Within primary migratory route through North Dakota | No | Mountrail Williams | Hagen et al. 2005; USFWS 2008b; NDNHI 2008; |
| Willet | <i>Cataprophorus semipalmatus</i> | ND Level I | Marshes, tidal mudflats, beaches, lake margins, mangroves, tidal channels, river mouths, coastal lagoons, sandy or rocky shores, and, less frequently, open grassland. Breeding season: late-May to mid-July. | Wetlands with sparse shorelines adjacent to native shortgrass prairie | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Wilson's phalarope | <i>Phalaropus tricolor</i> | ND Level I | This species uses wetlands with open water, emergent vegetation, and open shoreline for foraging and wet meadows, upland grasslands, and wetlands for nesting. Breeding season: late-May to early June. | Wetlands adjacent to upland grasslands | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Yellow rail | <i>Coturnicops noveboracensis</i> | ND Level I | This species uses fens or wet meadows with emergent vegetation, shallow water, and moist soil. Breeding season: early June to mid-July. | Fens, wet meadows | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005; NatureServe 2008 |

Appendix C Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|------------------------------|-------------------------------|---------------------|--|---------------------------|--------------------------------|---|--------------------|-------------------|
| Reptiles / Amphibians | | | | | | | | |
| Canadian toad | <i>Bufo hemiophrys</i> | ND Level I | This species inhabits margins of lakes, ponds, and a variety of wetlands that maintain a permanent water source. This species burrows in the soil with inactive. | Lakes, ponds and wetlands | Yes | No. The Project crosses only a small amount of suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Common snapping turtle | <i>Chelydra serpentina</i> | ND Level II | This species prefers warm water in permanent lakes or rivers with a muddy bottom and plenty of aquatic vegetation. This species buries itself in the mud at the margins of lakes, ponds, and rivers. | Lakes or rivers | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Plains spadefoot | <i>Spea bombifrons</i> | ND Level I | This species inhabits dry, open grasslands with sandy or loose soils. Temporary wetlands without vegetation, such as those found in agricultural fields, are easily flooded and may provide tolerable breeding habitat. This species burrows underground or occupies rodent burrows when inactive. | Open grasslands | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| Short-horned lizard | <i>Phrynosoma douglassi</i> | ND Level II | This species prefers semi-arid, shortgrass prairie in rough terrain. This species burrows in the soil or occupies rodent burrows. | Arid landscapes | Yes | No. The Project crosses only a small amount of suitable habitat. | Williams | Hagen et al. 2005 |
| Smooth green snake | <i>Liochlorophis vernalis</i> | ND Level I | This species prefers grazed or ungrazed grassland, particularly the uplands of hills where grass is shorter. Moist meadows, native prairies, and occasionally woodland clearings also are used. This species also utilizes burrows. It has been documented hibernating in ant mounds. | Grassland, upland hills | Yes | No | Mountrail Williams | Hagen et al. 2005 |

Appendix C Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|-----------------------|----------------------------|---------------------|--|---|--------------------------------|--|--------------------|---|
| Western hognose snake | <i>Heterodon nasicus</i> | ND Level I | This species prefers dry, sandy or gravelly areas in grassland, open sand prairies, or sand dunes. Burrows into loose soil or small mammal burrows for cover. | Open sand prairies | Yes | No. The Project crosses only a small amount of suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Fish | | | | | | | | |
| Blue sucker | <i>Cycleptus elongatus</i> | ND Level I | This species inhabits streams with swift currents and large turbid rivers. Found mostly in riffles or narrow chutes. Requires gravel bottoms free of sediment. | Large, turbid rivers with gravel bottoms free of sediment | Yes | Yes. No large rivers will be crossed by the proposed Project. | Mountrail Williams | Hagen et al. 2005; NatureServe 2008 |
| Finescale dace | <i>Phoxinus neogaeus</i> | ND Level III | This species inhabits boggy water of lakes and slow moving small streams. Bottom substrate is normally silted, sand, or gravel with vegetation present. | Boggy lakes and streams | Yes | Yes. One historic occurrence (1974) in Williams County is recorded by NDNHI 2008; however, the species is found only in the Tongue River in northeastern North Dakota. | Williams | Hagen et al. 2005; NDNHI 2008 |
| Flathead catfish | <i>Pylodictis olivaris</i> | ND Level III | This species occurs in pools and slow moving stretches of large rivers. Areas with debris and a hard bottom are preferred. Also found near impoundments where spawning habitat is available. | Large rivers with pools | No | Yes. No large rivers will be crossed by the proposed Project. | Mountrail Williams | Hagen et al. 2005 |
| Flathead chub | <i>Platygobio gracilis</i> | ND Level II | This species occurs in small creeks and the largest rivers that have turbid fluctuating water levels and unstable sand bottoms. This species relies on flood flows to spawn successfully. | Turbid rivers with sandy substrate | Yes | Yes. No large rivers will be crossed by the proposed Project. | Mountrail Williams | Hagen et al. 2005; NDNHI 2008; NatureServe 2008 |

Appendix C Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|------------------------|-----------------------------|----------------------------|---|------------------|--------------------------------|---|-----------------------|---|
| Northern redbelly dace | <i>Phoxinus eos</i> | ND Level II | This species inhabits slower moving stretches of rivers with clear water over silt bottoms. Vegetation is usually found in close proximity. Found to a lesser extent in pools and impoundments. | Rivers and ponds | Yes | Yes. One historic occurrence (1975) in Williams County is recorded by NDNHI 2008; however, in the Missouri River drainage, population are only known to occur in Brush, Apple, Beaver, and Antelope creeks, and the Cannonball, Knife, Heart, and Little Missouri rivers. | Williams | Hagen et al. 2005; NDNHI 2008 |
| Paddlefish | <i>Polyodon spathula</i> | ND Level II | This species inhabits slack water areas of rivers and areas of low flow. Areas such as behind sandbars, wing dams, or other structures are preferred. | Large Rivers | No | Yes. No large rivers will be crossed by the proposed Project. | Mountrail Williams | Hagen et al. 2005; NDNHI 2008; NatureServe 2008 |
| Pallid sturgeon | <i>Scaphirhynchus albus</i> | FE ; ND Level II | This species is only found in the Missouri River and parts of the Yellowstone River. Usually in fast current areas with a firm sand or gravel bottom. | Large Rivers | No | Yes. No large rivers will be crossed by the proposed Project. | Mountrail Williams | Hagen et al. 2005; NatureServe 2008 |
| Sicklefin chub | <i>Macrhybopsis meeki</i> | ND Level I | This species inhabits large turbid rivers, usually with a sand or gravel bottom. | Large Rivers | No | Yes. No large rivers will be crossed by the proposed Project. | Williams | Hagen et al. 2005; NatureServe 2008 |
| Sturgeon chub | <i>Macrhybopsis gelida</i> | ND Level I | This species inhabits large slow-moving turbid rivers, usually with a sand or gravel bottom. | Large Rivers | No | Yes. No large rivers will be crossed by the proposed Project. | Williams | Hagen et al. 2005; NDNHI 2008; NatureServe 2008 |

Appendix C Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|----------------------|---------------------------|---------------------|---|--------------------------------|--------------------------------|---|-----------|---|
| Invertebrates | | | | | | | | |
| Dakota skipper | <i>Hesperia dacotae</i> | FC | <p>This species is an obligate resident of native prairie habitats and resides in two types of grassland habitats. The first is flat, moist, native bluestem grass prairie where three species of wildflowers are present and in flower during the adult (flight) stage.</p> <p>The second habitat is upland, dry prairie that is often on ridges and hillsides. Bluestem grasses and needle grasses dominate these drier habitats.</p> <p>The current distribution of this species includes the border between tall grass and mixed grass prairie in western Minnesota, Northeastern South Dakota, north-central North Dakota, and southern Manitoba, Canada (USFWS 2002).</p> | Large tracts of native prairie | No. | Yes. Only known to be east of the Project area. | Mountrail | USFWS 2008b; NatureServe 2008; USFWS 2002, 2003 |
| PLANTS | | | | | | | | |
| Dakota buckwheat | <i>Eriogonum visherii</i> | ND SOC | <p>This plant grows predominantly on barren, highly erodible, rock outcrops in badlands habitats. It also may be found on smaller erosion features in mixed grass prairie.</p> <p>Flowering Period: July-August.</p> <p>Elevation range: 1,900-3,100 feet.</p> | Barren land | No | Yes. Habitat for this species was not detected in the vicinity of the Project area. | Mountrail | NDNHI 2008; Ladyman 2006; Locklear 2008 |

Appendix C Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|------------------------|---------------------------------|---------------------|---|--------------------------------|--------------------------------|--|-----------------------|---|
| Heart-leaved buttercup | <i>Ranunculus cardiophyllus</i> | ND SOC | Heart-leaved buttercup occurs in dry to moist meadows and seeps of the Rocky Mountains and western great plains. Its distribution in the Great Plains is concentrated in the Black Hills area of South Dakota. Flowering Period: June-July. Elevation Range: 1,970-11,150 feet. | Dry to moist meadows and seeps | Unknown | Yes. Habitat for this species was not detected in the vicinity of the Project area. The Project area falls at the lower end of the elevation tolerance for this species where it has rarely been documented. | Williams | NDNHI 2008; Efloras 2008; GPFA 1986; MNHP/MFWP 2008; Van Bruggen 1976 |
| Jointed-spike sedge | <i>Carex athrostachya</i> | ND SOC | Jointed-spike sedge is found on the margins of moist to wet meadows in the western U.S. Flowering Period: late spring-summer. Elevation Range: 1,900-8,800 feet. | Moist to wet meadows | Unknown | Yes. Habitat for this species was not detected in the vicinity of the Project area. The Project area falls at the lower end of the elevation tolerance for this species where it has rarely been documented. | Mountrail Williams | NDNHI 2008; GPFA 1986; Klinkenberg 2008 |

¹ **Species Status**

FE = Federally Endangered.

FT = Federally Threatened

FD = Federally Delisted.

FC = Federal Candidate.

ND Level I, II, III = North Dakota Level I, II, III Species of Conservation Priority.

ND SOC = North Dakota Species of Concern.

Appendix D

Mitigation Measures, Reclamation, and Best Management Practices

Williston to Tioga 230-Kv Transmission Project
Mitigation and Reclamation Measures

1. Jurisdictions, Land Use, and Agricultural Practices

Land Use

- The movement of crews and equipment will be limited to the ROW and areas that have been surveyed for cultural, historical and biological resources. The construction contractor will limit movement on the ROW so as to minimize damage to rangeland, cropland, or property.
- The proposed transmission line will be routed 500 feet or more away from inhabited structures.

Agricultural Practices

- The proposed transmission line will span fields to the extent feasible.
- The proposed transmission line will be routed along section and mid-section lines to avoid diagonal crossings of fields, when possible.
- Where practical, construction activities will be scheduled during periods when agricultural activities would be minimally affected or the landowner will be compensated accordingly.
- Fences, gates, and similar improvements that are removed or damaged will be promptly repaired or replaced. New gates will be installed, for access to the ROW.
- ROW will be purchased through negotiations with each landowner affected by the proposed project and payment will be made of full value for crop damages or other property damage during construction or maintenance.
- When weather and ground conditions permit all deep ruts that are hazardous to farming operations and to movement of equipment would be eliminated or compensation will be provided as an alternative if the landowner desires. Such ruts will be leveled, filled, and graded, or otherwise eliminated in an approved manner. Ruts, scars, and compacted soils from construction activities in cropland or rangeland will be loosened and leveled by scarifying, harrowing, discing, or other appropriate method. Damage to ditches, terraces, roads, and other features of the land will be corrected. The land and other features will be restored as nearly as practicable to their original conditions.

2. Physiography, Topography, Soils, Geology, and Minerals

Soils

- The majority of soil will be spread in the vicinity of the structures. Any excess soils will be disposed off-site at an approved landfill.
- Erosion and sediment controls will be established prior to construction, then maintained and controlled through application of storm water prevention plans.
- Sediment control measures (e.g., installation of silt fences) will be used, where appropriate, to prevent sediment from moving off-site and into water bodies.
- Maintenance operations will be scheduled during periods of minimum precipitation to minimize the potential of surface runoff and to reduce the risk of erosion, rutting, sedimentation, and soil compaction. However, emergency repairs to the proposed transmission line may occur during periods of inclement weather.
- Staging areas will be located in previously disturbed areas and areas previously surveyed for cultural and biological resources.

Geology

- Transmission line structures will not be sited on any potentially active faults.
- Transmission line structures will not be sited on lands known to have active landslides.

3. Hydrology and Drainage

- A 100-foot buffer will be established adjacent to wetlands and creeks, where practicable, to prevent or minimize impacts to those ecosystems. Construction vehicles and equipment will not traverse through wetlands and riparian areas, thereby avoiding direct impacts to these sensitive areas.
- Transmission line structures will be sited so that streams and drainages are spanned and remain undisturbed.
- Staging areas and refueling areas will not be located near surface water bodies.
- Areas that need to be cleared during construction will be revegetated with an approved native seed mix as soon as technically feasible to minimize soil erosion and sediment runoff.
- A Spill Prevention Control and Countermeasure Plan (SPCC) is required for the storage of oil-based products (greater than 2,320 gallons) at a site. The plan will include a procedure for storage of hazardous materials and refueling of construction equipment outside of riparian zones, spill containment and recovery plan, and notification and activation protocols.
- Refueling of construction vehicles will occur at commercial fueling facilities and at staging areas, if onsite fuel storage is needed for refueling.
- A Storm Water Pollution Prevention Plan (SWPPP) will be developed and implemented prior to initial construction activities. This plan will include an analysis of materials that will be utilized and site activities that could potentially impact storm water and the associated mitigation measures to minimize that potential. Plan implementation will include regular inspections of areas under construction, material storage and laydown areas, and structural devices for storm water management. All construction personnel will be trained on the plan and will be required to comply with its requirements and the maintenance of all mitigation measures. The SWPPP will be maintained until final stabilization of all disturbed areas is completed.

4. Vegetation Resources

- In areas where wooded areas cannot be avoided, the proposed transmission line will be placed in areas with the lowest density of trees, whenever feasible, thereby reducing the number of trees that will require removal within the construction ROW.
- Woody species (i.e., trees and shrubs) removed (i.e., cut or mowed) during construction will be replaced at a 2:1 ratio (i.e., 2 plants would be planted for every plant removed, as required by the NDPSC). If possible, the replacement trees would be planted in the same watershed where trees were removed. Suitable sites would be identified through cooperation with landowners and appropriate State or local agencies.
- Prior to construction, a woody (e.g., trees and shrubs) species inventory will be conducted in areas where vegetation will be removed (i.e., cut or mowed) to determine the numbers, sizes, and locations of woody species present in these areas. A Woody Species Inventory Report will be developed, which will summarize the information collected during the woody species inventory. In addition, a Woody Species Planting Plan will be developed that will provide detailed information regarding the numbers, sizes, and locations of species that will be planted and methods used to plant these species. Numbers, sizes, locations, and species to be replanted will be determined through consultation with appropriate State or local agencies and landowners.

- All vegetative materials resulting from clearing operations will either be chipped on site, or removed and disposed in a permitted facility.
- Existing native vegetation within the construction ROW will be preserved whenever feasible.
- Surface disturbance areas will be reclaimed using native species and will be planted at the appropriate times, as recommended by agencies or landowners, to reestablish native vegetative cover and minimize the potential for invasion by non-native species.
- Wetland and riparian communities will be spanned by the proposed transmission line thereby avoiding impacts to these ecosystems.
- Erosion and sedimentation controls will be implemented to minimize indirect impacts to wetlands and riparian areas.

5. Wildlife and Fisheries

- Prior to surface disturbance activities during the migratory bird (not including raptors) breeding season (April 15 through July 15), a qualified biologist would survey within suitable habitat (i.e., noncultivated land) for nesting activity and other evidence of nesting (e.g., mated pairs, territorial defense, birds carrying nest material, transporting food). If active nests are located, or other evidence of nesting is observed, appropriate protection measures, including establishment of buffer areas and constraint periods, would be implemented until the young have fledged and dispersed from the nest area. These measures will be implemented on a site-specific and species-specific basis, in coordination with Western.
- If construction is to occur during the breeding season for raptors (February 1 through August 15), prior to construction activities, raptor breeding surveys will be conducted by a qualified biologist through areas of suitable nesting habitat to identify any active nest sites within 0.5 mile (1.0 mile for bald eagles) from the project area. If applicable, appropriate protection measures, including seasonal constraints and establishment of buffer areas will be implemented at active nest sites until the young have fledged and have dispersed from the nest area. These measures will be implemented on a site specific and species-specific basis, in coordination with Western.
- Standard measures to minimize avian collision risk with overhead transmission lines, as outlined in *Mitigating Bird Collisions with Power Lines* (APLIC 1994), will be examined and appropriate measures will be developed in coordination with the USFWS and NDGFD.
- Adequate raptor proofing designs, as described in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006), will be implemented on the structures in coordination with the NDGFD to minimize raptor use of these structures.
- Holes that are drilled or excavated for pole placement or foundation construction and left unattended overnight will be marked and secured with temporary fencing and plywood covers to reduce the potential for livestock and wildlife entering the holes and for public safety.

6. Special Status Species and Noxious Weeds

Special Status Species

- BEPC will implement additional mitigation measures developed during section 7 consultations, as specified by the USFWS.

Noxious Weeds

- Prior to the initiation of construction activities, construction vehicles and equipment would be thoroughly cleaned to prevent the possible spread of noxious weed seeds within the project area.
- Noxious weeds present within proposed disturbance areas will be controlled prior to the initiation of construction to prevent the potential spread of noxious weeds.

- If noxious weeds are observed in the surface disturbance areas, populations will be controlled with the application of herbicides, which will be applied by a certified herbicide applicator in accordance with label instructions and state and local County Weed Board regulations. Biological control methods (i.e., use of spurge beetles, etc.) also may be used for weed control.
- Herbicides will not be used near surface water.
- The construction ROW and other surface disturbance areas will be monitored for noxious weeds for a three-year period following construction and reclamation.
- Landowners will be consulted regarding all noxious weed control measures and issues.
- Herbicide applications will occur in late spring or early summer to eradicate or control noxious weeds before they mature.

7. Archaeological and Historic Resources

- A Class III cultural resources inventories have been conducted within the proposed disturbance area. Results of the inventories will be documented in a cultural resources inventory report and submitted to Western and the North Dakota State Historic Preservation Office (SHPO) for review and concurrence. Any potentially eligible sites, including unevaluated sites, will be avoided by spanning the proposed transmission line over the sites or by rerouting the proposed transmission line.
- If any previously unknown cultural resources or human remains are discovered during project construction, all work within 200 feet of the discovery that might adversely affect the cultural resource will cease until Western, in consultation with the appropriate parties, could evaluate the discovery. Western will be notified immediately (within 24 hours) and will have a cultural resource specialist or a Tribal monitor with the proper expertise for the suspected resource type on-site as soon as possible. Construction will not proceed until authorized by Western.

8. Paleontological Resources

- If paleontological resources are observed during construction, construction activities in the area will cease and Western will be contacted to discuss the importance of the paleontological resources and develop appropriate mitigation.

9. Transportation Network

- The transportation of materials and equipment will be conducted in accordance with North Dakota Department of Transportation regulations.
- All necessary provisions will be made to conform to safety requirements for maintaining the flow of public traffic. Construction operations will be conducted to offer the least possible obstruction and inconvenience to public traffic.
- Public roads, section lines and existing trails will be used, to the extent practicable, to access the proposed transmission line.

10. Socioeconomic Values

- Potential impacts to populations and housing within the project area will be minimized.

11. Hazardous Materials and Solid Waste

- The proposed project will likely be subject to the requirements associated with hazardous waste management as a small quantity generator as described in 40 CFR 262.

12. Meteorology and Air Quality

- The contractors will apply standard environmental protection measures associated with construction.
- Fugitive dust emissions generated as a result of surface disturbance activities and vehicle use of access roads will be controlled by the periodic application of water, if necessary.
- Vehicles and equipment will be properly maintained to avoid excessive emission of exhaust gases due to poor engine adjustments.
- The speed of vehicles traveling on unpaved roads will be limited, to the extent practicable, to reduce the generation of fugitive dust.
- Burning or burying waste materials within the ROW will not be permitted and all waste materials will be disposed at permitted waste disposal areas or landfills.

**APPLICATION TO
NORTH DAKOTA PUBLIC SERVICE COMMISSION
for
ROUTE PERMIT
FOR THE WILLISTON TO TIOGA TRANSMISSION PROJECT
(CASE NUMBER PU-07-671)**

by
BASIN ELECTRIC POWER COOPERATIVE

July 2009

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A. Project Description

A.1 Type

Electrical power transmission improvements are needed in northwestern North Dakota to meet increasing load demands. A systems study concluded that the transmission of additional power to the Tioga, North Dakota area was the most effective way of meeting future demands. As a result, Basin Electric Power Cooperative (BEPC) proposes to construct and operate a new 230-kilovolt (kV) transmission line to meet existing and future electric power requirements in northwestern North Dakota. The new transmission line would transfer power from the Western Area Power Administration (Western) Williston Interconnect Substation, near Williston, North Dakota, to a substation near Tioga, which is owned and operated by Montana-Dakota Utilities (MDU). The proposed transmission line, in addition to other system improvements in northwestern North Dakota, would allow for an additional 130 megawatts (MW) of load in northwestern North Dakota.

The proposed Project would be located in Williams and Mountrail counties in northwestern North Dakota. The Williston Interconnect Substation is located in Williams County, approximately 3.6 miles southwest of the City of Williston. The Tioga Substation also is located in Mountrail County, approximately 2 miles northeast of the City of Tioga. A 6-mile-wide corridor was identified from the Williston Interconnect Substation to the Tioga Substation in accordance with North Dakota Public Service Commission (PSC) requirements, as illustrated in **Exhibit A-1**.

The proposed 61.1-mile-long transmission line would be constructed using steel single-pole structures within a 125-foot-wide right-of-way (ROW). Minor modifications would be made to the existing Williston Interconnect Substation and Tioga Substation. Changes to the Williston Substation are part of an existing substation expansion being done by Western.

A.2 Product

Electricity would be transmitted via the proposed transmission line between the existing Williston Interconnect Substation and Tioga Substation.

A.3 Size and Design

Section A.4.4, Transmission Line Specifications, and section A.4.5, Other Facilities, provide general information regarding the size and design of the proposed transmission line. A Design Data Report has been provided in **Appendix F**, which provides detailed information regarding the size and design of the proposed transmission line. Proposed construction procedures also are described in the following sections.

Detailed transmission line routing was carried out to maximize the use of existing linear features, avoid sensitive areas and receptors, minimize environmental impacts, and comply with landowner requests. Aerial photography, field reconnaissance, and available published data were used to identify potential routes that would accomplish these objectives. BEPC transmission line engineers and specialists met with landowners during detailed routing to refine potential routes to accommodate specific landowner wishes. Based on public comments from a previous project with similar environmental issues, BEPC elected to use single-pole transmission line structures during the planning stages of the Williston to Tioga Transmission Project. Use of single-pole structures would greatly reduce land requirements, conflicts with agricultural activities, and the introduction and spread of noxious weeds.

The proposed 230-kV, single-circuit transmission line would be constructed using steel single-pole self-supporting structures within a 125-foot-wide ROW. Western would be responsible for modifying the 230-kV bay at Williston Interconnect Substation to accommodate interconnection of the new transmission line. Since the modifications at the Williston Interconnect Substation were addressed as part of the Wolf Point to

Williston Transmission Line Rebuild Environmental Assessment (EA) (prepared August 2003); substation modifications are not addressed as part of this application.

A.4 Transmission Line Routing

The proposed route is the result of extensive analysis and strict application of PSC guidelines. In addition, landowner input was considered in all route alignment decisions. **Exhibits B-1** through **B-3** illustrate the proposed route. Details regarding how the routing criteria were applied to each segment of the proposed route are described in **Appendix D** and illustrated in **Exhibit C-1**.

A.4.1 Right-of-Way and Construction Procedures

A.4.1.1 Permits, Pre-construction Surveying and Geotechnical Analyses

Various studies must be completed and permits acquired before construction begins, including completion of the EA process, Western authorization, cultural resources (section 106 of the National Historic Preservation Act [NHPA]) clearance, biological surveys, transmission line engineering and design, ROW procurement, and final transmission structure siting.

BEPC and/or its contractors would perform initial transmission line survey work, consisting of survey control, route centerline location, profile surveys, and access surveys prior to construction. These surveys would likely be conducted concurrently with other pre-construction tasks.

Geotechnical analyses would be conducted at transmission line angle points and other locations to determine engineering requirements for structures. A truck-mounted auger would be transported to each site to drill a small-diameter borehole. Cuttings from each borehole would be evaluated to determine soil characteristics. Geotechnical analyses would be conducted after harvest to minimize impacts to local agricultural activities; land disturbance would be confined to a relatively small area needed for site access and equipment operations. Geotechnical locations would require an area totaling approximately 400 square feet (ft²) in addition to an access trail.

A.4.1.2 ROW Access and Construction Preparation

Crews would gain access from public roads and section line trails as well as within the proposed transmission line ROW for constructing and maintaining the proposed transmission line. Access for the proposed transmission line construction would be by truck travel within the ROW; structure sites located along section lines would be accessed directly from section line roads and trails, where possible. New graded surface access roads are not anticipated. Existing roads and trails would be left in comparable or better condition than what existed before construction. Gates would be installed where fences cross the ROW and locks would be installed at the landowner's request. Gates not in use would be closed but not locked, unless otherwise requested by the landowner.

Three temporary material staging and equipment laydown areas, each averaging approximately 4 acres, would be used. If additional areas are needed, appropriate biological and cultural resource surveys would be conducted before disturbance. Staging areas would be returned to their previous condition.

Tree and brush removal in the ROW is anticipated to be minimal because the Project area consists largely of cultivated cropland and rangeland, and because woodlands and shelterbelts were avoided during the routing process. The ROW would only be cleared if trees and/or shrubs that are present would interfere with construction activities or the safe, reliable operation of the proposed transmission line. Trees would be cut at ground level to provide access within the ROW and to allow vehicle access. Stumps and roots would remain in the ROW unless the landowner requests otherwise. Disposal of cut trees and brush would be consistent with the landowner's wishes and applicable state waste management rules.

A.4.1.3 Transmission Structure Site Preparation

Transmission structure site clearing would be minimal. The Project area and locations along the proposed transmission line route are relatively flat; the need for structure site leveling is expected to be minimal. It is anticipated that at some structure locations, blading of small areas (up to 40 feet by 40 feet for crane and manlift landings) may be required to level the ground surface to allow the safe operation of the equipment. Blading would be confined to the ROW and accomplished using bulldozers or front-end loaders. Soil removed during leveling would be stockpiled and replaced following construction; special emphasis would be placed on salvaging topsoil to be used for reclamation. The ground would be re-graded to the approximate original contour and revegetated (rangeland) or tilled (cropland) when the work is completed. Temporary disturbance to soils would be mitigated by returning the sites to grazing and farming.

A.4.1.4 Borehole Excavation

Crews would use a truck-mounted auger or tracked vehicle equipped with a power auger to drill holes for the structures at appropriate locations along the ROW. Total disturbance at each structure location would vary depending on terrain and equipment; however, all disturbance would be confined to the ROW.

Borings for the pole holes would have an average diameter of 5 feet and an average depth of 20 feet. The single-pole structure would be lowered by crane into boreholes and the annulus around the pole would be backfilled with excavated material. Approximately 20 cubic yards of surplus material also would be either spread in the vicinity of the structure or disposed of in accordance with landowner wishes. Surplus material (expected to total approximately 15 cubic yards at each tangent structure site) would be spread around the bases of structures or hauled to an off-site location (i.e., area landfills) for disposal, in accordance with landowner wishes.

Approximately 32 structures would require reinforced concrete foundations; these require a 6-foot-diameter boring to an average depth of 20 feet. Large volumes of soil would be disposed of at local landfills. Landfills typically need additional fill as cover for waste material. Disposal of waste material, including concrete spoil, would be in compliance with applicable regulations and would not include placement in wetlands or aquatic sites. Site-specific borehole diameters, depth, and the use of reinforced concrete foundations would be determined during geotechnical engineering evaluations.

A.4.1.5 Structure Assembly and Erection

Structure components (i.e., structure segments, davit arms, hardware, insulators, and related materials) would be trucked to structure work site locations and assembled. Davit arms, insulators, and other appurtenances would be attached to the poles while on the ground at each structure location, within the 125-foot-wide ROW. Erection crews would place the lower portion of the structure in the borehole (directly imbedded) or on reinforced foundations (i.e., self-supporting angle point and dead-end structures) using cranes or large boom trucks. The structures would then be plumbed and the hole backfilled, as previously described. Approximately 12,500 square feet would be temporarily disturbed at each structure site due to borehole excavation, structure laydown, and assembly.

A.4.1.6 Conductor Stringing and Tensioning

Following structure construction, crews would install the conductors and an optical groundwire (OPGW) using conductor stringing sheave blocks and line pulling and tensioning equipment. The conductor and OPGW are kept under tension during the stringing process to keep the conductor clear of energized circuits, the ground, and obstacles that could damage the conductor and OPGW surfaces.

Pulling and tensioning sites are typically located at 10,000-foot intervals and at angle point structures. Sites along tangent structures are maintained within the ROW, those at angle points typically are partially outside of the ROW. Each site typically requires two 37,500-square-foot (0.9-acre) temporary use areas. Stringing equipment generally consists of wire pullers, tensioners, conductor reels, OPGW wire reels, and sheave blocks. About 10,000 feet of conductor and OPGW would be installed for each pull. After the

conductor/ground wire is pulled for a section of line, it is tightened or sagged to the required design tension in compliance with the National Electrical Safety Code (NESC). The process would be repeated until all of the conductor and OPGW is pulled through all sheaves. Conductor stringing also would require access to each structure for securing the conductor to the insulators or OPGW to each structure, once final line sag is established.

For public safety and property protection, temporary wooden guard structures would be used to provide support when stringing conductor and OPGW across existing power lines, roads, highways, railroads, and other linear obstacles. The structures would be removed when stringing is complete; the pole borings would be backfilled and the temporary support structure sites would be reclaimed. All temporary wooden guard structures would be installed within the proposed transmission line ROW.

A.4.1.7 Structure Site Access and Traffic

Access would involve the use of existing roads where available, and temporary overland access trails, where necessary. No new access roads would be constructed for the Project. The use of temporary overland access trails between structure sites would not require new construction, but would result in temporary disturbance. Occasional access from section line trails could result in temporary disturbance along the ROW; however, such disturbance would be limited to a 12-foot-wide track (approximately) and only long enough to provide vehicle access directly to structure locations. Some additional access disturbance could occur if truck or vehicle turnarounds are needed; however, the use of structure work sites would be encouraged.

Existing access roads (typically paved or maintained with a gravel or aggregate base) would be used in their original condition to the extent possible, or with minor road blading or other improvements as agreed upon by the county or township. BEPC would be responsible for repairing any damage caused by construction equipment movement and would return existing roads to original or better condition following construction. BEPC would not be responsible for maintaining roads following construction. BEPC would not be responsible for maintaining fences and gates following construction and restoration; however, access gates that would be installed during construction would be left in place following construction.

Line segments that are parallel to section lines that do not have established roadways would utilize the 66-foot-wide public ROW to the extent practicable. Specific access locations and areas of temporary disturbance cannot be determined without detailed engineering showing locations where such access locations might be appropriate and distances that would be crossed. A 33-foot-long, 12-foot-wide temporary access point would temporarily disturb 0.009 acre. If blading or other minor improvements are needed to ensure the safe movement of heavy equipment, such improvements would remain in place following construction.

BEPC would restore disturbed areas to pre-construction conditions, to the extent practicable, and would not be responsible for the long-term maintenance of such section line trails. Any fences, gates, or similar features that would be removed during construction would be replaced or rebuilt. Gates and fences that would be installed during construction would be left in place for future use.

A.4.1.8 Temporary Overland Access

Temporary overland access would be used in areas without existing roads. Overland access through rangeland would avoid areas of sensitive vegetation, to the extent practicable. Access through cultivated fields would be, to the extent practicable, during the non-growing season. Landowners would be compensated for loss of crops caused by construction activities. Gates may be installed to facilitate access to some structures and the ROW. The gates would be left in place, following construction activities. Permanent access roads to ROW or structures would not be maintained.

Temporary access routes would result in a 12-foot-wide temporary disturbance and compaction of vegetation and soils. Natural vegetation along these temporary access routes would recover quickly, primarily because large-scale grading would not be required. Temporary overland access routes would be subject to the same

cultural resource and vegetation surveys as the other ROWs. Landowners would be compensated for access routes where public access does not exist.

A.4.2 Reclamation

Following construction, disturbed areas would be graded and/or re-contoured to their approximate original contours to minimize erosion and visual alteration. In grassland or pasture areas, disturbed areas would be reseeded with native species. Cultivated land would be tilled and returned to production. Fences and gates damaged as a result of the Project would be repaired.

Rangeland from which vegetation has been removed, destroyed, or damaged would be reclaimed and revegetated. Reclamation activities, weather permitting, would be ongoing throughout construction and would be undertaken as soon as construction activities are completed in a particular area. Drainage structures and similar improvements would be removed from areas to be reclaimed, where appropriate, and the area would be revegetated using a native seed mixture, as recommended by the County Agricultural Extension Service or the Natural Resources Conservation Service (NRCS).

Ruts and scars from overland travel would be tilled to break up compacted soils and aid in returning areas to approximate original contours. Cultivated areas disturbed by overland travel would be tilled to loosen compacted soils (if necessary) and returned to production.

The optimal timing for revegetation success would be spring or fall to coincide with seasonal rains. Mulching or netting may be required to protect seeded areas from erosion. Other erosion control devices, such as water bars, terracing, or water diversion structures would be constructed where needed. Follow-up inspections would be completed during the next growing season. Areas that did not become revegetated would be reseeded again, as necessary.

The reclamation procedures described above would be applied to disturbed areas including temporary access, staging areas, transmission line ROW, and other areas disturbed by Project activities.

A.4.3 Construction Waste Management

Typical waste materials generated from construction activities include miscellaneous lumber and shipping materials used to protect equipment during transportation, paper products, soda cans, food-related materials, and sanitary waste. Waste from construction materials and rubbish from all construction areas would be collected, hauled away, and disposed of in an approved landfill. Sanitary waste would be disposed of through arrangements with local municipal sanitary waste treatment facilities. Hazardous waste would not be stored or located near the ROW or in proximity to waterways or drainages at any time before, during, or after construction.

Material staging areas and vehicle maintenance and refueling areas would not be located near major waterways. If any of the material staging areas include vehicle and equipment refueling or storage of petroleum products in excess of 1,320 gallons, a Spill Prevention, Control, and Countermeasures (SPCC) Plan would be developed. The SPCC Plan would address: 1) operating procedures to prevent spills; 2) control measures to prevent a spill from reaching navigable waters; and 3) countermeasures to contain, clean up, and mitigate the effects of a spill that reaches navigable waters. Additionally, spill containment and clean up materials (e.g., absorbent material, shovels) would be available at every work site. The materials would be used to contain and clean up oil and hydraulic spills that may result from equipment leaks. Workers would be trained in procedures to follow to contain and clean up released hazardous materials.

A.4.4 Transmission Line Specifications

The single-pole transmission line structures would range in height from approximately 95 to 120 feet and average 110 feet, depending on span distances between structures and area topography. The span between structures would range from 700 feet to 950 feet and average approximately 800 feet, depending on

topography; taller structures could be used for crossing existing distribution and transmission lines or where unusual terrain exists. The single-pole frame structures would be designed to support three conductors and an OPGW. The OPGW would provide lightning suppression and fiber optic communications between the Williston and Tioga Substations for systems control. Tangent structures would be free-standing and directly imbedded into the soil. Angle structures (used where the proposed transmission line changes direction) and dead-end structures (used to provide longitudinal stability along the length of the proposed transmission line) would be steel with concrete foundations. Guy wires would not be used.

Project construction and design would meet the requirements of the NESC for the Heavy Loading District, BEPC design criteria, and other applicable local or national building codes. The Heavy Loading District refers to those areas (including North Dakota) that are subject to severe ice and wind loading. **Table A-1** describes the typical physical design characteristics for the proposed transmission line, and a typical single-pole structure is illustrated in **Exhibit A-2**.

Minimum conductor clearance is measured at the point of greatest conductor sag and closest proximity to the ground. The proposed transmission line would be constructed with clearances that exceed standards set by the NESC. Minimum conductor height would be 26 feet over agricultural land, 28 feet over rural roads, and 31 feet over paved highways.

Table A-1 Transmission Line Characteristics

| Design Component | Value |
|--|----------|
| Voltage (kV) | 230 |
| Conductor diameter (inches) | 1.345 |
| ROW width (feet) | 125 |
| Typical span distances between structures (feet) | 700-950 |
| Average span (feet) | 800 |
| Maximum and minimum structure height (feet) | 95-120 |
| Average height of structures (feet) | 110 |
| Average number of structures (per mile) | 6.6 |
| Temporary disturbance per structure (square feet) (approximately 125-foot x 100-foot area) | 12,500 |
| Permanent disturbance per structure (acre) (approximately 3-foot-diameter per structure leg) | <0.0002 |
| Minimum conductor ground clearance to agricultural land at 100°C (feet) | 26 |
| Minimum conductor-ground clearance to rural roads at 100°C (feet) | 28 |
| Minimum conductor-ground clearance to paved highways at 100°C (feet) | 31 |
| Circuit configuration | Vertical |

A.4.5 Other Facilities

A Supervisory Control and Data Acquisition (SCADA) system would interconnect the Williston Interconnect Substation and the Tioga Substation. Hard-wire system communications would utilize fiber optics within the OPGW between the two substations and microwave communications equipment would be installed for

SCADA redundancy and to facilitate voice and data communications by field personnel. Thus, minimal modifications at the substations would be required.

A.4.6 Operation, Maintenance, and Abandonment

The following operation and maintenance activities would be performed throughout the life of the Project.

- BEPC's preventive maintenance program for the proposed transmission line includes aerial and ground inspections. Aerial inspections would be conducted at least two times each year. Ground patrols would be conducted annually for the first three or four years, and less frequently thereafter. Climbing inspections of structures would be conducted on a 5-year cycle with every fifth structure inspected each year. Inspections and patrols would involve the use of vehicles in areas where there are roads and foot patrols in areas where roads either do not exist or are not permitted.
- Maintenance activities would include repairing damaged conductors, inspecting and repairing structures, replacing damaged and broken insulators, and tightening hardware.
- BEPC would maintain any gates it installs or uses for access.
- BEPC would trim trees that pose a clearance or safety problem to the operation of the proposed transmission line. Specific requirements of the NERC would be followed. This activity would be completed in accordance with the landowner easement.

If the proposed transmission line were to be abandoned or rebuilt, decommissioning and removal of structures, conductor, and ancillary equipment would be in accordance with regulations in place at the time.

Treatment of vegetation within the ROW would include the selective removal or trimming of trees to prevent their contact with the proposed transmission line conductors. Some trees would have to be removed if they are classified as "danger trees" (i.e., trees that are 20 feet in height or taller which upon falling would come within 10 feet of the structure or conductors). Disposal of cut trees and brush would be in a manner acceptable to the landowner and in accordance with applicable state waste management rules. The need for tree removal is expected to be minimal as areas with trees were intentionally avoided during detailed routing.

A.5 Time Schedule

Exhibit A-3 illustrates the time schedule for important permitting and construction phases of the proposed Project. Transmission line construction would take place over a one-year period and would generally follow a sequential set of activities performed by crews proceeding along the length of the line. Activities that would impact nesting migratory bird species would be scheduled to avoid the nesting period (typically April 15 through July 15) to the extent practicable. However, some activities would coincide with the nesting period. Surveys would be carried out during the nesting period to determine if species are present. If species are found to be present, activities would be rescheduled in consultation with Western to avoid disturbance to nesting birds.

Table A-2 lists construction activities. The proposed transmission line would take an estimated 7 months to construct. Construction activities associated with the Project are estimated to begin early 2010. It is anticipated that the proposed transmission line would be in service by late 2010. The sequential nature of construction would minimize activities at given work site.

Table A-2 Conventional Personnel, Equipment, and Time Requirements for Construction

| Task | Number of Personnel | Equipment | Length of Time |
|---|----------------------------|---|-----------------------|
| Transmission Line Construction | | | |
| Structure site clearing and vegetation management | 4–6 | Pickups, ATVs | 1 month |
| Gate installation | 3 | Flatbed and pickup trucks | 1 month |
| Structure assembly | 6–8 | Pickups, cranes, material trucks, rubber-tired crane, 4x4 pickups | 4 months |
| Hole excavation | 2–3 | Rotary drilling rigs, backhoes, pickups, rubber-tired digging equipment, ATVs, portable compressors | 4 months |
| Structure erection | 6–8 | Rubber-tired cranes, boom trucks, 4x4 pickups | 5 months |
| Ground wire and conductor stringing | 16–20 | Pickups, manlifts/boom trucks, hydraulic tensioning machines, reel trailers | 3 months |
| Cleanup | 4 | Pickups, dump trucks, flatbed trucks | Duration of Project |
| Concrete foundations | 10 | Excavators, concrete trucks, skid steer | 1–2 months |
| Equipment installation | 10 | Cranes and trucks | 3–4 months |

B. Location

B.1 Policies and Commitments to Limit Environmental Impacts

BEPC is committed to the implementation of the mitigation measures provided in **Appendix E**. In addition, BEPC also adheres to their Environmental Commitment and Compliance policies to limit environmental impacts. It is the policy of BEPC and its wholly owned subsidiaries to maintain compliance with all federal, state, and local environmental legislation and regulations. BEPC and its subsidiaries recognize the need to maintain a healthy environment for all employees and for citizens in the surrounding areas and commit their support to management in the pursuit of that need.

B.2 North Dakota Century Code, Section 49-22-09

Factors to be considered in evaluating application and designation of sites, corridors, and routes as outlined by the PSC are listed below. The PSC shall be guided by, but is not limited to, the following considerations, where applicable, to aid in the evaluation and designation of sites, corridors, and routes:

1. *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.*

An EA is currently being completed by Western for the proposed Project, which provides detailed information regarding the affected environment and potential impacts that may occur as a result of the proposed Project. The following sections provide a summary of the potential impacts to natural and human resources that may occur as a result of construction and operation of the proposed Project.

B.2.1 Jurisdictions, Land Use, and Agricultural Practices

As shown in **Table B-1**, construction of the proposed transmission line would result in temporary impacts to 273 acres required for access trails between structures, structure pads (work sites), pulling and tensioning sites for conductor stringing, and conductor splicing sites. Temporary impacts to cropland would total approximately 175 acres; temporary impacts to pastureland/rangeland would total 84 acres. Where practical, construction activities will be scheduled during periods when agricultural activities would be minimally affected, such as post-harvest periods. Therefore, impacts to cropland would be limited to soil compaction, which would be minimized by cultivation. Construction within pasturelands also could result in soil compaction, which is expected to recover over time. Wetlands and riverine areas would be either avoided or spanned during construction. Impacts to wetlands are not anticipated.

Table B-1 Land Uses Temporarily Impacted by the Proposed Transmission Line

| | Percent | Acres |
|--|----------------|--------------|
| Cropland and planted herbaceous perennials | 64.8 | 174.6 |
| Pasture/Rangeland | 30.0 | 84.3 |
| Shrubland and barren land | 2.9 | 8.3 |
| Wetland and riverine | 1.3 | 2.8 |
| Woodlands | 0.2 | 0.9 |
| Commercial/Industrial/Developed | 0.8 | 1.8 |
| Total | 100.0 | 272.7 |

Permanent impacts would affect less than 0.2 acre of land at the structure locations. Overall, temporary and permanent impacts would be minimized by BEPC's decision to use single-pole, self-supporting structures, rather than guyed structures or H-frame structures.

A Conditional Use Permit would be required from Williams County prior to construction. A permit is not required from Mountrail County.

B.2.2 Physiography, Topography, Soils, Geology, and Minerals

B.2.2.1 Soils

Boring of each 5-foot-diameter single-pole tangent structure to an average depth of 20 feet would displace approximately 5 cubic yards of soil. Installation of turning structures (those that alter the direction of the proposed transmission line) would require a 6-foot-diameter, 20-foot-deep borehole for foundation construction. Soil displacement for each turning structure would total approximately 15 cubic yards. The majority of soil would be spread in the vicinity of the structure. However, any excess soils would be disposed of off-site at an approved landfill.

Disturbance by construction practices resulting in the loss of the protective vegetative soil cover could result in accelerated wind and water erosion. Compaction may occur where construction vehicles travel along the ROW, especially if the soil is moist or wet. Temporary impacts to soils would increase erosion by wind and water. Soils prone to erosion from water would be expected to affect 8.1 acres. Soils susceptible to wind erosion would not be crossed by the proposed route. Project mitigation measures and best management practices (BMPs) would be applied to reduce water erosion and sedimentation to nearby waterways.

Soil compaction and rutting result from the movement of heavy construction vehicles along the construction ROW, on access roads, and from overland access. The degree of compaction would depend on the moisture content and texture of the soil at the time of construction. Compaction would be most severe where heavy equipment operates on moist to wet soils with high clay contents. Maintenance of the proposed transmission line would be scheduled to extent practicable, during periods of minimum precipitation to minimize impacts such as rutting and compaction.

Rutting affects the surface hydrology of a site as well as the rooting environment. The process of rutting physically severs roots and reduces the aeration and infiltration potential of the soil, thereby degrading the rooting environment. Rutting also disrupts natural surface water hydrology by damming surface water flows, creating increased soil saturation upgradient from ruts, or by diverting and concentrating water flows creating accelerated erosion. Rutting is most likely to occur on moist or wet fine-textured soils but may also occur on dry sandy soils due to low soil strength.

Additional mitigation measures include limiting the amount of ground disturbance, to the extent practicable and the use of silt and flow barriers. The construction contractor would be responsible for a Storm Water Pollution Prevention Plan (SWPPP); BEPC engineers and lands specialists would oversee construction to ensure compliance with SWPPP requirements and compliance with landowner requests.

Table B-2 indicates the soil characteristics crossed by the proposed route. The soil assessment for the proposed Project is based on Soil Survey Geographic (SSURGO) database review and analyses. Field mapping methods using national standards are used to construct the soil maps in the SSURGO database. SSURGO is the most detailed level of soil mapping done by the NRCS. SSURGO digitizing duplicates the original soil survey maps (SSURGO 2008).

Table B-2 Soil Characteristics for the Proposed Route

| | Percent | Acres |
|---|----------------|--------------|
| Compaction prone ¹ | 0.9 | 2.4 |
| Hydric ² | 23.4 | 63.4 |
| Low revegetation potential | 0 | 0.0 |
| Severe wind erosion | 0 | 0.0 |
| Severe water erosion | 3.0 | 8.1 |
| Shallow depth to restrictive layer ³ | 2.6 | 7.2 |
| Other soils | 70.1 | 191.6 |
| Total | 100.0 | 272.7 |

¹ Includes soils with greater than 28 percent clay in the top 20 inches.

² Soils classified as hydric or partially hydric.

³ Paralithic bedrock.

Source: SSURGO.

Prime and Unique Farmlands and Farmlands of Statewide Importance

Data indicate that 3 acres of prime and unique farmland and 126.5 acres of farmlands of statewide importance would be temporarily impacted by transmission line construction. Temporary impacts to prime and unique farmland and farmlands of statewide importance are shown on **Table B-3**.

Table B-3 Temporary Impacts to Prime and Unique Farmlands and Farmlands of Statewide Importance

| | Percent | Acres |
|--|----------------|--------------|
| Temporary impacts to prime and unique farmlands | 1.0 | 3.0 |
| Temporary impacts to farmlands of statewide importance | 47.6 | 126.5 |
| Other lands | 51.4 | 143.2 |
| Total | 100.0 | 272.7 |

Impacts to prime and unique farmland and farmland of statewide importance would be temporary and short term during and immediately following construction. Construction equipment would likely result in soil compaction and/or rutting, particularly along the 12-foot-wide temporary access trail between structures and at structure work site locations where boring equipment, cranes, and trucks would be operating. Although not totally effective, compaction and rutting can be mitigated by cultivation. Temporary impacts also could be minimized if construction were to take place during periods of low precipitation. Long-term or permanent loss of important farmlands would be limited to the area that is expected to be occupied by proposed transmission line structures. Installation of 363 to 403 structures would physically occupy less than 0.2 acre of land. Permanent loss of prime and unique farmland and farmland of statewide importance would be considerably less. Such losses would not result in loss of economic viability to area farmers. The use of self-supporting single-pole structures (rather than guyed structures or H-frame structures) would further reduce impacts to croplands by allowing cultivation to take place immediately adjacent to each structure base.

B.2.2.3 Mineral Resources

The proposed Project would not affect minerals production within the area. Scattered aggregate excavation sites would be either avoided or spanned during detailed engineering. Oil and gas wells, primarily in the vicinity of Tioga, would be similarly avoided. Impacts to oil and gas production sites would be further minimized by routing the proposed Project along section and mid-section lines, rather than through tracts of land where such facilities are typically located.

B.2.3 Hydrology and Drainage

Data indicate that the proposed route would not cross an extensive amount of flood prone areas. Areas crossed by the proposed route are listed in **Table B-4**.

Table B-4 Temporary Impacts to Flood Prone Areas

| | Percent | Acres |
|-------------------|----------------|--------------|
| Zone X (500-year) | 1.7 | 4.5 |
| Zone AE | 0 | 0.0 |
| Zone A | 0.4 | 1.0 |
| Total | 2.1 | 5.5 |

The proposed route would temporarily impact approximately 5.5 acres of flood prone lands; structures would not be placed within flood prone areas or within streams or channels. Flood prone areas, streams, and channels would be avoided or spanned on a case-by-case basis. Access roads would avoid crossing streams and channels. If streams or channels cannot be avoided, crossings would generally be perpendicular to such features. If culverts are needed, they would be installed temporarily and removed following construction activities. Silt barriers would be constructed to mitigate the potential for sediment loading from disturbed soils, as necessary. Disturbed soils would be revegetated promptly to mitigate sediment transport.

A SWPPP would be developed specifically for the Project, which would reduce the potential for off-site transport of soils and contaminants during construction. The plan would identify circumstances in which silt barriers and other containment methods would be used and steps that would be taken to restore disturbed areas.

B.2.4 Vegetation Resources

Vegetation types that would be temporarily disturbed, reduced, and removed as a result of construction and installation of the proposed transmission line (i.e., structure work areas, access trails, splicing sites, pulling and tensioning areas, laydown areas) are provided in **Table B-5**. Data from **Table B-5** indicate that approximately 153 acres of cropland and 21 acres of planted herbaceous perennials would be temporarily impacted by transmission line construction.

Approximately 84 acres of pasture and rangeland would be temporarily impacted by transmission line construction due to the need for ROW access, structure work areas, pulling and tensioning sites, and splicing sites.

Shrublands are limited to scattered locations throughout the Project area. Construction of the proposed transmission line would temporarily affect 8 acres of this community.

Although data indicate that approximately 3 acres of wetland communities and less than 1 acre of woodland communities would be temporarily affected by transmission line construction, actual impacts would be far less. Wetland communities would be either avoided or spanned during detailed routing; therefore, direct impacts to

wetlands are not expected. Woodlands that would be impacted consist of scattered trees that generally parallel fencelines and drainages. Heavily wooded areas would not be crossed by the proposed route. Trees would only be removed to avoid contact with the conductor. Trees and shrubs would be replaced two for every one removed.

Table B-5 Temporary Impacts to Vegetation Resources

| Vegetation Community | Vegetation Sub-community | Percent | Acres |
|-------------------------------|---|----------------|--------------|
| Planted herbaceous perennials | Total planted herbaceous perennials | 8.2 | 21.4 |
| Pasture/Rangeland | Mixed bluestem, needlegrass, and wheatgrass | 4.2 | 11.0 |
| | Needlegrass | 13.7 | 36.5 |
| | Wheatgrass | 7.3 | 22.9 |
| | Other grasses | 4.9 | 13.9 |
| | Total pasture/rangeland | 30.2 | 84.3 |
| Shrubland | Total shrubland | 3.0 | 8.3 |
| Cultivated cropland | Total cultivated cropland | 56.8 | 153.2 |
| Woodlands | Total woodlands | 0.2 | 0.9 |
| Wetlands and riverine | Total wetlands | 0.9 | 2.8 |
| Barren and developed lands | Total barren and developed lands | 0.7 | 1.8 |
| Total | | 100.0 | 272.8 |

Detailed routing by BEPC engineers and lands specialists maximized opportunities to cross grasslands, prairie, and shrubland and minimized crossing of cropland. Temporary impacts to pasture/rangeland resulting from construction of the proposed Project would total 84 acres.

The primary impact of the proposed Project on vegetation would be the cutting, clearing, and/or removal of existing vegetation within construction work areas. Upon completion of construction, disturbed areas would be revegetated in compliance with Project mitigation measures (**Appendix E**), including re-seeding of disturbed areas using native vegetation, or a seed mixture that would be determined at the discretion of the landowner. In addition, BEPC's mitigation measures for vegetation and noxious weeds state that they will use standard construction practices to minimize potential soil compaction, erosion, and sedimentation associated with construction of the proposed transmission line. Timely stabilization of the construction ROW and reseeded with an appropriate seed mix would minimize the duration of vegetation disturbance.

- **Planted Herbaceous Perennials:** Construction of the proposed Project during the growing season would directly impact herbaceous perennials due to equipment movement and structure installation, conductor pulling and tensioning, and splicing. Construction would not take place during extremely wet conditions, to reduce the probability of soil compaction and rutting could occur. Construction of the Project would temporarily impact 21 acres of herbaceous perennials.
- **Cultivated Cropland:** Cropland would typically regenerate quickly following construction. Project mitigation measures (**Appendix E**) indicate that in order to reduce impacts to agriculture, the proposed transmission line would be routed along the edges of irrigated fields, or would span fields to the extent feasible. Potential impacts to croplands also were minimized by increased opportunities to use public roads, section lines, and existing trails. BEPC's decision to use single-pole structures

(rather than H-frame structures) would result in reduced long-term impacts by eliminating areas between H-frame structure legs that cannot be cultivated and by allowing lines to be constructed adjacent to property and section lines.

- Pasture/Rangeland: Long-term impacts may occur to grassland and rangeland communities. Recovery of these habitats may take a minimum of 5 to 7 years due to poor soil and low moisture conditions. Planted grasslands would typically regenerate quickly after cleanup and reseeded of the construction ROW, typically within 2 years. Project construction would temporarily affect 82 acres of pasture/rangeland. If native prairie communities are disturbed, mitigation measures would be implemented to alleviate the severity of impacts. Mitigation measures would include re-seeding disturbed areas with native species and application of BMPs to minimize soil compaction, erosion, and sedimentation.
- Shrubland: A minimal amount of shrubland would be temporarily affected by Project construction. Construction of the proposed Project would affect approximately 8 acres. The community is sparsely vegetated and soil disturbance is likely to result in increased soil erosion from wind and water. Due to poor soil conditions and low moisture content, recovery of shrubland vegetation could take several years.
- Woodlands: Woodlands were avoided during detailed routing to the extent practicable. Clearing of woodland vegetation within the construction ROW would result in long-term and permanent environmental change. In this region, it is anticipated that re-growth of woodlands to mature conditions could take between 50 to 100 years, depending on the species (long-term impact); however, ROW maintenance would be carried out to remove tall woody species. Trees removed during construction would be replaced at a 2:1 ratio and planted at locations amenable to landowners.
- Wetland/Riverine: Impacts to wetlands are not anticipated. Wetlands (including riparian areas) would be avoided or spanned. Temporary impacts could change wetland hydrology and water quality. Compaction and rutting of soils during construction could result in alteration of natural hydraulic patterns, inhibiting seed germination or increase the possibility of siltation.

Project mitigation measures (**Appendix E**) have been developed to avoid or reduce impacts to wetlands. These measures include:

- A buffer zone around wetlands when feasible to prevent impacts to those ecosystems;
- Spanning of wetland and riverine communities; and
- Development of a SWPP Plan and Spill Response Plan, as needed.
- Consultation with the U.S. Fish and Wildlife Service (USFWS) and the North Dakota Game and Fish Department (NDGFD) identified concerns about impacts to wetland and native prairie communities (USFWS 2007; NDGFD 2007). Measures would be taken to avoid placing structures in wetland areas and to avoid disturbing such areas. If native prairie communities are disturbed, mitigation measures would be followed to alleviate the severity of impacts. Those measures include re-seeding disturbed areas using native vegetation; application of BMPs to minimize potential soil compaction, erosion, and sedimentation; spanning of wetlands and riparian communities; and use of sediment control and erosion control devices.

B.2.4.1 Sensitive Ecological Communities

Impacts to sensitive ecological communities identified as potentially occurring along the proposed route could include loss of individuals or local populations as a result of crushing from construction vehicles and equipment, and clearing and construction of transmission line components. Although these communities may be affected, mitigation measures would not be required since they are not protected by state statutes.

B.2.4.2 Noxious Weeds

Noxious weeds, if not controlled, can displace native plant species, rendering infested areas unproductive. They can be introduced to the Project area as a result of bringing in weed-contaminated equipment from off-site, using straw (for surface water control), and see mixtures that are not weed-free.

Project-specific mitigation measures (**Appendix E**) to reduce the introduction of noxious weeds would include implementing a Weed Management Plan (Plan) prior to construction. The Plan would include construction and restoration procedures that detail:

- Coordinating with the appropriate local, state, and federal agencies to: 1) obtain written recommendations from local soil conservation authorities or land management agencies regarding permanent erosion control and revegetation specifications; and 2) develop specific procedures in coordination with the appropriate agency to prevent the introduction or spread of noxious weeds resulting from construction and restoration activities;
- Ensure that the contractor will use only weed-free straw or hay for sediment control devices or mulch applications;
- Cleaning all equipment and vehicles prior to the beginning of construction; and

B.2.5 Wildlife and Fisheries

Game Species

Impacts to big game and small game species would include an incremental short-term reduction of forage habitat. However, these incremental losses of vegetation would represent only a small percentage of the overall available habitat within the broader Project region. The loss of native vegetation would be long-term (greater than 5 years and, in some cases, more than 20 years). In the interim, herbaceous species may become established within 3 to 5 years, depending on future weather conditions and grazing management practices that would affect reclamation success in the Project area. In most instances, suitable habitat adjacent to the disturbed areas would be available for wildlife species until grasses and woody vegetation were reestablished within the disturbance areas. In addition, BEPC would replant disturbed areas with native species or non-native species as directed by the appropriate agency/landowner (see **Appendix E**).

Indirect impacts would result from increased human activity and noise levels during transmission line construction. Big game species as well as small game species would likely decrease their use within and adjacent to surface disturbing activities due to increased noise levels. This displacement of both big game and small game species would be short-term and animals would return to the disturbance area following construction activities.

Nongame species

Direct impacts to nongame species (e.g., mammals, birds, reptiles) from surface disturbance activities would result in incremental short-term loss of habitat. Habitat fragmentation would continue until construction activities stopped and vegetation became reestablished. Impacts include mortalities of less mobile or burrowing nongame species (e.g., small mammals, birds, reptiles, amphibians, invertebrates) caused by operating vehicles and equipment.

Indirect impacts would include short-term displacement of highly mobile species (e.g., larger mammals, adult birds) caused by increased noise levels and human activities during construction. Displacement of nongame species from disturbance areas would be short-term and animals would be expected to return to the disturbance areas following construction activities.

The Migratory Bird Treaty Act (MBTA) makes it unlawful to take, kill, or possess migratory birds. Habitat alteration, human disturbance, and power line electrocution could result in direct impacts to migratory species including loss of individuals, abandonment of nests or young, and the loss of nests, eggs, or young. However,

these impacts would be reduced by following applicable mitigation measures from Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Interaction Committee [APLIC] 2006) and Mitigating Bird Collisions with Power Lines: The State of the Art in 1994 (APLIC 1994). Western will coordinate with the USFWS regarding appropriate mitigation measures that may be necessary to protect migratory birds.

BEPC may construct the proposed transmission line during the nesting period (typically March through July) for migratory birds. Project-specific mitigation measures (**Appendix E**) indicate that BEPC plans to conduct pre-construction surveys to locate active bird nests for species protected under the MBTA and establish buffers (if necessary) until the nesting season is complete.

Electrocution and collision with power lines is a major cause of mortality for raptors, waterfowl, and whooping cranes. Additionally, collision potential depends on transmission line design, the location of the proposed transmission line relative to high-use habitat areas (e.g., nesting, foraging, and roosting), and bird flight patterns and movement corridors. Following suggested mitigation measures from Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (APLIC 2006) and Mitigating Bird Collisions with Power Lines: The State of the Art in 1994 (APLIC 1994), collision impacts for raptors and other foraging bird species would be minimized. Conductor-to-ground and conductor-to-conductor distances that are proposed for the transmission line are approximately 10 feet and 20 feet, respectively, which is sufficient to preclude electrocution of avian species.

Mitigation measures that have been developed for the Project (**Appendix E**) include the use of line markers to prevent collision with conductors.

Fisheries

Construction-related impacts on fisheries would include clearing and grading of vegetation within the construction ROW causing increased erosion along stream banks and turbidity levels in the waterbodies, as well as cause localized changes in water temperature and light penetration, which could affect aquatic habitat, primary and secondary production, and fish use patterns. In addition, pollutants from hazardous substance spills and herbicide use could contaminate waterways crossed by the Project.

Mitigation measures have been developed (see **Appendix E**) to reduce impacts to waterbodies crossed by the proposed Project. Those measures include:

- Spanning all streams and drainages;
- Developing a SPCC Plan prior to the start of construction to prevent the potential for spills of hazardous substances to streams. A SPCC Plan is required for the storage of more than 1,320 gallons of oil-based products. The plan would include a procedure for storage of hazardous materials and refueling of construction equipment outside of riparian zones, spill containment and recovery plan, and notification and activation protocols;
- Refueling and staging areas located away from waterbodies to prevent contamination;
- Herbicides used to control noxious weeds would be applied in accordance with label instructions and by a certified applicator; and
- Establishing erosion and sediment controls prior to construction that are maintained throughout restoration.

B.2.6 Special Status Species

B.2.6.1 Special Status Wildlife Species

Impacts to special status wildlife species would be similar to those discussed for general wildlife. Direct impacts include mortalities caused by construction activities (e.g., crushing from vehicles and equipment) and permanent structures (e.g., collision with power lines); habitat loss, manipulation or fragmentation; and animal

displacement. Indirect impacts to wildlife may include increased noise occurrence, increased human activity, increased presence of noxious and invasive weeds, and increased dust from unpaved roads. Indirect impacts also would include short-term displacement of mobile species (e.g., larger mammals, adult birds) caused by increased noise levels and human activities during construction. Impact levels would depend upon timing and type of construction, sensitivity of the impacted species, and seasonal use patterns.

In order to minimize impacts to special status wildlife species, Western would coordinate with the USFWS to comply with the terms and conditions of any mitigation plan for special status species that would be developed and approved by those agencies prior to construction. Consultations with these agencies would be conducted to determine appropriate and feasible buffers for the proposed Project. Monitoring would be conducted in accordance with any mitigation plan that may be necessary as a result of impact analyses.

Federally Listed Species

Whooping Crane

The proposed Project would not affect whooping crane nesting habitat or breeding rookeries. The construction and operation of the proposed Project would occur within the whooping crane migratory route and may result in collision impacts. Collision with power lines is the largest source of mortality for migrating whooping cranes. Collision potential depends on the location of the proposed transmission line relative to high-use habitat areas (e.g., nesting, foraging, and roosting), bird flight patterns, and movement corridors. Specifically for whooping cranes, collision potential increases when power lines are constructed between suitable wetland roosting and foraging habitat while at a stop-over site. Cranes tend to fly at low altitudes between these two sites, increasing the chance of collisions.

The September 2008 and June 2009 field surveys identified approximately 38 locations crossed by the Project or adjacent to the Project area that could be considered suitable stop-over habitat. The proposed Project area occurs within the western portion of the whooping crane migration corridor. Based on the number of whooping crane sightings that have been recorded by the USFWS through 2007, approximately 75 percent of the sightings were within a 90-mile-wide migration corridor (which runs north to south through North Dakota). The western-half of the Project area lies within the 75 percent occurrence corridor, and the eastern-half lies within the 50 percent occurrence corridor. Therefore, the potential for whooping cranes to occur within the Project area during their annual spring and fall migration is high.

BEPC has committed to implementing the mitigation measures from Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (APLIC 2006) and Mitigating Bird Collisions with Power Lines: The State of the Art in 1994 (APLIC 1994) outlined in **Appendix E** to prevent collisions. Western will coordinate with the USFWS regarding additional mitigation.

Informal consultation with the USFWS is ongoing regarding impacts and mitigation measures to protect the whooping crane and piping plover. Concepts under consideration include line marking to reduce collision potential with static wires. The extent of such line marking could range from installation along limited segments in proximity to high-use habitat to marking throughout the full extent of the proposed Project. BEPC will comply with USFWS requirements as defined in the Project Biological Assessment.

Piping Plover

Direct impacts to piping plover from construction may include the disturbance of stop-over habitat. The proposed Project could cause displacement, injury, or direct mortality of individuals. These impacts are highly unlikely as the proposed transmission line would span and structures would be placed outside the limited habitat for this species. Construction activities and associated noise occurring in the vicinity of stop-over habitat could disrupt and displace individuals that have gathered.

The September 2008 field surveys identified one location crossed by the Project or adjacent to the Project area that could be considered suitable stop-over habitat. This location, which is a small ponded area

(approximately 1 acre) with marginal alkali habitat, could provide migration or foraging habitat. However, it does not contain suitable characteristics to provide nesting or breeding habitat for piping plover.

Indirect impacts may include the degradation of habitat by construction of the proposed transmission line and infrastructure, which provide additional hunting perches for predators.

No in-stream construction activities would occur during Project construction. According to BEPC mitigation measures (**Appendix E**), the proposed transmission line structures would be designed so that streams and drainages would be spanned and remain undisturbed.

North Dakota Species of Conservation Priority

Grassland Associated Species

Temporary impacts to Baird's sparrow, burrowing owl, black-billed cuckoo, bobolink, chestnut-collared longspur, dickcissel, ferruginous hawk, grasshopper sparrow, lark bunting, Leconte's sparrow, loggerhead shrike, marbled godwit, northern harrier, plains spadefoot, sharp-tailed grouse, short-eared owl, short-horned lizard, smooth green snake, sprague's pipit, Swainson's hawk, upland sandpiper and western hognose snake would be limited to temporary disturbance during construction. Although temporary displacement could occur during construction, actual loss of individuals would be unlikely. Impacts to nesting species could be avoided by scheduling initial ground disturbing activities to avoid the nesting season to the extent practicable. Field surveys also would be carried out during nesting periods to determine the presence of such species.

Indirect impacts may include the incremental reduction and degradation of habitat by the construction of the proposed transmission line and infrastructure. Construction of the proposed Project also would provide additional hunting perches for raptors. With the exception of raptor species, this could cause indirect impacts through the facilitation of depredation. BEPC's Project-specific mitigation measures (**Appendix E**) also indicate that BEPC plans conduct pre-construction surveys to locate active bird nests for species protected under the MBTA and establish buffers (if necessary) until the nesting season is complete.

Perching Species

In addition to the temporary and indirect impacts indicated above, additional temporary impacts to red-tailed hawk, ferruginous hawk, northern harrier, short-eared owl, and Swainson's hawk may occur due to human activities. Electrocution impacts associated with the proposed Project are not expected due to line and structure spacing. Collision impacts could be mitigated with the installation of line marking devices.

According to BEPC's mitigation measures (**Appendix E**), if construction is to occur during the breeding season for raptors (February 1 through August 15), prior to construction activities, raptor breeding surveys would be conducted by a qualified biologist through areas of suitable nesting habitat to identify any potentially active nest sites within 0.5 mile from the Project area. If applicable, appropriate protection measures, including seasonal constraints and establishment of buffer areas would be implemented at active nest sites until the young have fledged and have dispersed from the nest area. These measures would be implemented on a site-specific and species-specific basis, in coordination with Western.

Lekking Species

In addition to the temporary and indirect impacts indicated above, direct impacts of construction to sharp-tailed grouse may include the loss of lekking grounds and other habitat. Depending on the timing of construction, the proposed Project could impact the sharp-tailed grouse during lekking activities or brood rearing, and could cause displacement, injury, or direct mortality of individuals. The NDGFD has not observed any sharp-tailed grouse leks along the proposed route. These species are particularly sensitive to disturbances while they gather on lekking grounds each morning and evening from March to June. Construction activities and associated noise occurring in early morning and late evening in the vicinity of lekking grounds could disrupt and displace individuals that have gathered for breeding activities.

Once breeding activities have concluded, hens create their nests on the ground underneath vegetation in proximity to the lekking grounds. The proposed Project could impact nesting sharp-tailed grouse by destroying nests, causing nest abandonment, or causing injury or direct mortality to the young.

Less Mobile and Burrowing Species

In addition to the temporary and indirect impacts indicated above, direct impacts to the burrowing owl, plains spadefoot, short-horned lizard, smooth green snake, and western hognose could result from surface disturbing activities (e.g., crushing by vehicles and equipment) and result in mortalities of these less mobile or burrowing species. Additional direct impacts may include the destruction of burrows and hibernacula, which could result in the displacement of burrowing species into less suitable habitats, increasing susceptibility to predation, reducing cover or forage habitat, or reducing reproductive success.

Wetland, and Riparian Associated Species

Impacts to the American avocet, American bittern, black tern, canvasback, Canadian toad, common snapping turtle, Franklin's gull, horned grebe, Nelson's sharp-tailed sparrow, northern pintail, redhead, sedge wren, willet, Wilson's Phalarope, and yellow rail would be minimal because the proposed Project avoids open water, wetlands, and a 100-foot buffer would be maintained around riparian habitats. Potential collision impacts could be mitigated by installation of line marking devices. Temporary impacts to the above-referenced species would be limited to temporary disturbance during construction. Although temporary displacement could occur during construction, actual loss of individuals would be unlikely. Impacts to nesting species could be avoided by the avoidance of these areas and the scheduling of initial ground disturbing activities to avoid the nesting season to the extent practicable. Field surveys also would be carried out during nesting periods to determine the presence of such species.

In addition to impacts indicated above, direct impacts to Canadian toad and common snapping turtle may occur outside of the 100-foot buffer of wetland, riparian, and aquatic areas. These impacts could result in mortalities of these less mobile or burrowing species due to surface disturbing activities (e.g., crushing by vehicles and equipment). Indirect impacts would include the loss of associated vegetation during clearing activities.

Although the proposed Project would not result in a permanent loss of habitat along the construction ROW, the regeneration of vegetation associated with these species would likely be slow.

According to BEPC's Project-specific mitigation measures (**Appendix E**), pre-construction surveys will occur to locate active bird nests for species protected under the MBTA and establish buffers (if necessary) until the nesting season is complete. In addition all wetland and riparian communities would be spanned by the proposed transmission line. A 100-foot buffer for wetlands, riparian areas, and aquatic habitats would be provided whenever feasible.

B.2.6.2 Special Status Fish Species

Impacts to special status fish species would not occur as the Project area does not contain suitable habitat.

B.2.6.3 Special Status Plant Species

Impacts to special status plant species would not occur as the Project area does not contain suitable habitat.

B.2.7 Archaeological and Historic Resources

Section 106 of the NHPA requires that federal agencies take into account the effect of an undertaking on historic properties and provide the Advisory Council on Historic Preservation (Council) an opportunity to comment. Historic property, as defined by the regulations implementing section 106, means "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the NPS." The term includes properties of traditional religious and cultural importance to an Indian tribe or

Native Hawaiian organization that meet the National Register criteria. Potential impacts to historic properties are assessed using the “criteria of adverse effect” (36 CFR 800.5[a][1]), as defined in the implementing regulations for the NHPA. “An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association.” Adverse effects include not only the physical disturbance of a historic property, but also may include the introduction, removal, or alteration of various visual or auditory elements, which could alter the traditional setting or ambience of the property. The analysis of impacts using the criteria is limited to those resources that are listed in the NRHP or have been recommended as eligible.

A total of 55 archaeological and historic sites and nine isolated finds were recorded during the Class III inventory of the proposed route. All of the isolated finds are recommended as not eligible for the NRHP. No further work is recommended for these resources. The NRHP-eligibility of the 55 sites currently is unknown. These unevaluated sites would be avoided by spanning the proposed transmission line over the sites or by rerouting the proposed transmission line. Therefore, no adverse effects to archaeological or historic resources are expected to occur as a result of the proposed Project.

Activities associated with constructing the proposed Project could adversely affect previously undiscovered archaeological and historic resources. Class III cultural resource inventories may not locate all sites. Buried sites may be missed in the course of field investigations. If a previously unknown archaeological or historic resource is encountered during Project construction, all work within 200 feet of the discovery that might adversely affect the resource would immediately cease until Western, in consultation with the appropriate parties, could evaluate the discovery. Western would be notified immediately (within 24 hours) and would have a qualified archaeologist or a tribal monitor with the proper expertise for the suspected resource type on-site as soon as possible. Construction would not proceed until authorized by Western. Upon arriving at the site of the discovery, the qualified archaeologist would assess the resource. The assessment would include the nature of the resource, the spatial extent of the resource, and the nature of deposition and exposure. If the site is determined to be damaged, a site damage assessment report would be written by the qualified archaeologist for review and comment by Western, the North Dakota State Historic Preservation Office (SHPO), and interested tribes.

The qualified archaeologist also would complete a North Dakota Archaeological Site Form that includes basic information on how and when the discovery was made. All Archaeological Site Forms would be sent by the qualified archaeologist to Western. Western would send the forms to the North Dakota SHPO and interested tribes for review and comment.

If construction or other Project personnel identify what they believe to be human remains, they would immediately halt construction at that location and notify the construction or environmental inspector and Western’s Federal Preservation Officer of the discovery. The inspector would notify the archaeological field director or archaeological monitor of the discovery as soon as possible, and then would proceed to ensure that further construction does not occur within 200 feet in any direction of the discovery until further instruction is received from Western. The inspector also would secure the area of the apparent human remains to ensure no further disturbance or removal of those remains and associated material occurs. The inspector also would ensure that vehicular traffic across the area is restricted to a location removed from the discovery. After arrival at the site, the archaeological field director or archaeological monitor would evaluate the discovery.

Under the provisions of North Dakota law (Century Code § 23-06-27), the discovery of human remains on state or private lands would be reported promptly by Western to the county coroner, the county sheriff, and the North Dakota State Archaeologist. The remains would not be disturbed or removed until reviewed by the State Archaeologist, the State Office of History, Western, and tribes. If the human remains are found on federal or tribal land, NAGPRA may apply. Western would evaluate the appropriate steps and implement internal procedures for complying with NAGPRA. NAGPRA [43 CFR §10.4(d)(iii)] requires notification within 3 days to affiliated tribal members.

NAGPRA [43 CFR §10.4(c)] requires that the federal activity that resulted in the inadvertent discovery of human remains should cease for a maximum of 30 days and the remains should be secured and protected, “including, as appropriate stabilization or covering” [43 CFR §10.4(d)(ii)].

NAGPRA [43 CFR 10.4 (d)(v)] states that, if the human remains, funerary objects, sacred objects, or objects of cultural patrimony must be excavated or removed, follow the requirements and procedures in 10.3 (b) of NAGPRA.

B.2.8 Native American Setting

The Class I cultural resources inventory indicates that nine previously recorded archaeological and historic resources are located within 75 feet of the proposed route. Additionally, 26 sites were noted to be within 500 feet of proposed route. Results of the Class III pedestrian inventory indicated that construction or operation of the proposed Project would not adversely impact known or observed archaeological or historic resources.

If archaeological or historic resources are discovered during construction of the proposed transmission line, work would cease within 200 feet of the discovery and Western would be contacted. Any discovered archaeological or historic resource or human remains would be properly treated under applicable law.

B.2.9 Paleontological Resources

It is unlikely that paleontological resources would be affected by transmission line construction since there is little bedrock present along the proposed route. If paleontological resources are discovered during construction, work in the area should be halted and the North Dakota Geological Survey notified. Construction of the proposed Project could result in the discovery of paleontological resources that otherwise would not have been found. Such a discovery could prove beneficial to the scientific community.

B.2.10 Transportation

The proposed route crosses major local roads and highways roads. Disruption to local traffic is expected to be minimal, short-term, temporary, and related to the movement of heavy equipment.

Single-pole transmission line structures, conductor, ground wire, OPGW, and hardware would be trucked to staging areas and/or structure site locations. Flat-bed trucks would be used to transport structure sections (typically two sections per structure), insulators, hardware, conductor, and OPGW, totaling approximately 90 truck loads.

Equipment would be required for site clearing, structure assembly, hole excavation, conductor and OPGW stringing, and foundation construction, as identified in **Table A-2**. Personal vehicles would transport approximately 70 construction workers to scattered work sites over a 6- to 8-month period. Areas where worker activity is most intense are likely to experience localized temporary traffic that could be an annoyance to rural residents. Overall, traffic increases also could lead to a small increase in risk of traffic accidents.

Steps can be taken to reduce potential impacts to traffic during construction. The transportation of materials and equipment would be conducted in accordance with North Dakota Department of Transportation (DOT) regulations. All necessary provisions will be made to conform to safety equipment for maintaining the flow of public traffic. Local roads and highways that are damaged by construction equipment would be repaired in a timely manner and to county specifications.

The proposed route is approximately 1 mile west of the Williston – Slioulin Field International Airport. Engineering analyses indicate that the maximum structure height of the proposed transmission line cannot exceed 130 feet. Design height for the proposed transmission line ranges from 95 to 120 feet (approximately 10 feet below the maximum allowable height). The proposed route would be within 1 mile east of the Tioga Municipal Airport. Engineering analyses indicate maximum structure height of the proposed transmission line

cannot exceed 141 feet. The proposed transmission line was rerouted to avoid a private landing strip north of Williston. The proposed route would be approximately 1 mile east of the landing strip.

B.2.11 Socioeconomics

Construction of the proposed Project would directly affect approximately 100 landowners. Structures that are located within cultivated fields would require avoidance by machinery that would result in additional fuel usage and time commitments. The presence of the structures also could result in accidental damage to farm machinery. However, using single-pole structures greatly reduces potential conflicts with farming practices, reduces lands that would be rendered inaccessible by farm machinery, and reduces the effects on farming efficiency.

Mitigation measures available to reduce temporary impacts would include timing construction to avoid the growing season and prompt re-planting of crops. Additional mitigation measures would include off-setting structures from property lines to allow equipment movement in close proximity to structures. Off-setting would be at the discretion of landowners and through negotiations with BEPC. All structures would be free-standing (self-supporting); guy wires would not be used.

Construction of the proposed transmission line would be completed by construction contractors. A total of approximately 70 workers would be needed during the 7-month construction period (**Table A-2**). Workers traveling from outside of the area would require lodging and meals. The communities of Williston and Tioga could see a minimal, short-term beneficial economic impact during construction. Some materials and services would be purchased locally, such as concrete, seed, aggregate, food, fuel, and machinery repair. Impact to housing, population, or community services are not expected as a result of the proposed Project. No long-term beneficial or adverse economic impacts are anticipated from operation of the proposed Project.

B.2.12 Public Health and Safety

Construction of the proposed transmission line would require the transport of heavy equipment and materials along the length of the proposed Project. Impacts from vehicle movement would be relatively short term and concentrated within specific areas at structure sites. Construction would take place over a seven-month period. Materials delivery would be carried out during the 7-month construction period. Approximately 70 truck loads would be required for structures and 20 truck loads would be required for insulator and hardware delivery. Large pieces of equipment, such as structure segments, would be delivered directly to work sites along the proposed transmission line corridor. Conductor and OPGW transport would require at least one flat-bed truck for each 20,000 feet of wire, totaling about 60 truckloads. Additional truck traffic would be needed to transport materials from staging sites to work sites. The transportation of materials and equipment would be conducted in accordance with North Dakota DOT regulations. All necessary provisions will be made to conform to safety requirements for maintaining the flow of public traffic.

Electric shock is not expected to represent a health and safety issue as conductor heights would be sufficient to allow movement of construction and farm equipment and personnel below the proposed transmission line.

Cause and effect relationships associated between electromagnetic field (EMF) exposure and adverse health effects have not been determined. Some studies have indicated possible connections between exposure and health effects, while other studies have not. Those indicating some sort of linkage have often, if not always, shown no correlation when replicated. EMF levels diminish substantially with increased distance from the conductors, typically reaching background levels within 300 feet of the nearest conductor. Furthermore, occasional exposure to such fields would be short-term and infrequent in this sparsely populated region. Exposures would be far less than those experienced in the home or workplace. Furthermore, the proposed transmission line would be greater than 500 feet from residential or public-use structures.

Stray voltage and induced current occurs on metal objects and along linear features, such as fences that parallel conductors. Neither stray voltage nor induced current are health risks to area residents, since they result in nuisance shocks and would be completely mitigated by proper grounding.

Potential adverse health effects associated with lightning strikes are minimized by the presence of the overhead ground wire and OPGW which shield the conductors. The current from a lightning stroke is diverted to the ground at the adjacent structure. When the current is discharged from the structure base to the surrounding ground, a step potential voltage can momentarily exist on the ground near the structure, presenting an electrocution hazard. Therefore, people should avoid being near structures during a lightning storm.

The transmission line would be constructed and maintained in compliance with worker health and safety regulations as prescribed by the U.S. Department of Labor, Occupational Safety and Health Administration, industry standards, and the NESC. Solid and human waste management would be handled by local waste removal firms. All wastes would be transported to approved disposal sites.

B.2.13 Environmental Justice

Racial composition of the residents within both counties is predominantly white and the Fort Berthold Reservation is located well to the south of the Project. Since there are essentially no minority populations that would be impacted, environmental justice is not an issue. While the communities of Williston and Tioga report a higher percentage of individuals below the poverty level (approximately 19 percent) as compared to the North Dakota's state average of 11.4 percent below poverty, the proposed Project does not directly affect these communities or those populations. As a result, no impacts to low-income populations would occur as a result of Project development. Construction and operation of the proposed transmission line would not result in proportionately greater impacts to minority populations and/or low-income populations than those to the population as a whole.

B.2.14 Visual Resources

Visual resources within the Project area are typically expansive and largely uncluttered. However, several transmission lines, distribution lines, and telephone lines are present in the Project area. Installation of a transmission line would affect the viewshed of many areas. Visual impacts would be most apparent in areas that are frequented by local residents (i.e., near residences, along highways and local roads), and locations where the transmission line would be elevated over surrounding lands. BEPC engineers and ROW specialists made adjustments to the final routing alignment to avoid or reduce visual and other impacts to local landowners. BEPC's decision to use single-pole structures, rather than H-frame structures, further reduces potential visual impacts within the area. Reduced visual impacts are largely related to reduced mass of the single-pole structures.

Construction along roadways would introduce a linear feature that would be obtrusive to some viewers, regardless of alternative. The proposed transmission line would be visible for long distances, due to the relatively flat terrain. However, visibility of the transmission line would decrease with distance. The transmission line structures would be a light gray. Light colored structures tend to become less visible with distance as they fade in with the horizon. Construction would create temporary visual impacts that would remain until vegetation becomes reestablished.

Long-term visual impacts would be reduced by placing structures as far from residential structures as practicable. Placing structures behind shelter belts would further reduce impacts to residential views. Impacts along roadways would be reduced by placing structures along mid-section lines, or off-set into agricultural properties. Placing structures away from intersecting roads and highways would reduce visual impacts to motorists crossing perpendicular to the lines.

Although the proposed transmission line would be viewed by numerous residents and travelers throughout the area, those from residential structures would be greater than 500 linear feet, thus resulting in minimal impacts. Views along roads and highways also were considered to result in minimal impacts as the proposed Project is located along the highway ROW and the landscape has been previously altered.

B.2.15 Noise

Temporary noise impacts would result from construction activities, most likely consisting of annoyances such as equipment back-up warning devices and diesel engine operations. Temporary construction noise would be limited to no more than a few days at any particular location and could be mitigated by scheduling work to daytime hours, particularly near sensitive receptors. The use of single-pole structures, rather than H-frame structures, would reduce construction time needed for boring structure legs by approximately 50 percent. Reduced boring time would decrease the duration of associated equipment noise. The Project would not result in long-term noise annoyances to area residents.

B.2.16 Air Quality

Emissions from heavy equipment would result in temporary and localized air quality impacts during construction. Diesel and gasoline engine exhaust would emit hydrocarbons. Moving equipment would increase particulate matter. Operating construction equipment would emit carbon dioxide (CO₂), a greenhouse gas, which has been identified as contributing to global warming. The amount of CO₂ that would be attributable to Project construction would be far less than that of power generation and would be similar to that being emitted as part of local agricultural activities. Effects on global warming that would be attributable to the Project cannot be quantified due to the minimal amount of emissions and the lack of scientific data.

The proposed Project would not emit air emissions during operations. Air emissions generated by construction equipment (trucks, earthmoving equipment, etc.) would be temporary and short-term. Therefore, impacts to air quality are not anticipated. Federal and state air quality standards would not be violated as a result of the Project.

- 2. The effects of new energy conversion and transmission technologies and systems designed to minimize adverse environmental effects.*

BEPC would use self-supporting electric transmission line structures without the use of guy wires for support. Steel single-pole structures would be used instead of H-frame structures, which would result in less permanent disturbance.

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

Not applicable.

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

To the extent practicable, all effects from the construction and operation of the proposed transmission line within the proposed corridor would be mitigated. Transmission line structures and all other lands that would be disturbed during construction would be returned to the current land use. Construction of transmission structures would result in the permanent loss of <0.2 acre of land. No other permanent direct or indirect adverse effects are anticipated.

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

No alternative locations for the proposed facilities have been identified at this time. Alternatives may be identified during the public hearing process.

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

Irreversible and irretrievable commitments of natural resources would include the permanent loss of vegetation and soil productivity at the structure locations (<0.2 acre). No other irreversible or irretrievable commitments of natural resources would occur from Project construction and operation. All areas of natural vegetation within the ROW would be reclaimed with agency-recommended or landowner-specified seed mixtures, wetlands would be avoided, and minimal agricultural land would be taken permanently out of production.

7. *The direct or indirect economic impacts of the proposed facility.*

Economic impacts would be positive. Ad valorem taxes would be paid annually, which help the economy. North Dakota sales or use tax would be paid on all materials purchased. During construction, workers would increase the level of business activity in the area.

8. *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.*

The proposed route crosses several existing oil fields. However, BEPC would not place transmission structures at proposed well pad locations that would interfere with future oil field development.

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

Detailed information related to the potential effects to these resources has been provided in the Visual Resources, Archaeological and Historic Resources, and Paleontological Resources subsections in Section B.2, North Dakota Century Code, Section 49-22-09.

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

The proposed route crosses wetlands and wooded areas in localized areas. A total of 67 special status species (54 wildlife, 9 fish, 1 invertebrate, and 3 plant species) potentially occur along the proposed route. However, impacts to these species are not anticipated to these species with the construction of the proposed Project and implementation of BMPs and mitigation measures. Surveys would be conducted for raptor species during the breeding season.

11. *Problems raised by federal agencies, other state agencies, and local entities.*

To date, no problems have been identified by federal, state, or local agencies. Federal and state agencies were contacted during the data collection phase of the proposed Project. These agencies have provided input and identified concerns that have been addressed in this document. The federal, state, and local agencies that were contacted are provided in **Appendix B**, Notification. **Appendix C**, Agency Correspondence, is a compilation of correspondence letters and telephone call summaries. **Appendix D** provides a summary of issues identified during public scoping meetings that were held in Williston and Tioga, North Dakota in March 2008 as part of the public involvement process as required for the EA. In addition, **Appendix D** includes refined routing comments, transmission line routing descriptions, and a figure (**Exhibit C-1**) illustrating route adjustment areas that were incorporated into the proposed route to address landowner concerns.

B.3 Proposed Route Location and Selection Criteria

The proposed transmission line must originate at the Williston Interconnect Substation and terminate at the Tioga Substation. The criteria identified and illustrated in this section were used to define a proposed route

between these two points. These criteria are difficult to list in order of importance in terms of relative value as they are closely interrelated. They were of equal value and importance in the route selection process.

Exclusion and avoidance areas as defined by the PSC have been inventoried for the proposed route and are illustrated in **Exhibits B-1** and **B-9**. The proposed route alignment within the proposed corridor avoids impacts to exclusion and avoidance areas. Throughout the route suitability evaluation process, PSC selection and policy criteria, design and construction limitations, and economic factors have been considered. These criteria are summarized in sections B.3.1 through B.3.6.

B.3.1 Exclusion Areas

Exclusion areas are defined as geographical areas that are to be completely avoided during transmission line routing. Buffer zones of reasonable distance are to be applied to each exclusion area; natural screening may be considered in determining the extent of the buffer zone. **Exhibits B-1** through **B-3** illustrate the exclusion areas that occur within the proposed corridor and along the proposed route.

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

None would be crossed by the proposed route.

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

None would be crossed by the proposed route.

3. *County parks and recreational areas; municipal parks; and parks owned or administered by other governmental subdivisions.*

None would be crossed by the proposed route.

4. *Areas that are critical to the life stages of threatened or endangered animal or plant species.*

None would be crossed by the proposed route. Detailed information regarding threatened and endangered species has been provided in the Special Status Species subsection in Section B.2, North Dakota Century Code, Section 49-22-09.

5. *Areas where animal or plant species that are unique or rare to the state would be irreversibly damaged.*

Detailed information regarding state rare species has been provided in the Special Status Species subsection in Section B.2, North Dakota Century Code, Section 49-22-09. Animal and plant species unique to the state would not be irreversibly damaged with the implementation of the mitigation and reclamation measures described in **Appendix E**.

B.3.2 Avoidance Areas

Avoidance areas are defined as geographical areas that are to be completely avoided during transmission line routing, 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 PSC 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. Buffer zones of a reasonable distance shall be included, unless a distance is specified in the criteria. Natural screening may be considered in determining the width of the buffer zone.

Exhibits B-4 through **B-6** illustrate the avoidance areas that occur within the proposed corridor and along the proposed route.

1. *Designated or registered national: historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; and grasslands.*

None would be crossed by the proposed route.

2. *Designated or registered state: wild, scenic, or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands.*

None would be crossed by the proposed route.

3. *Historic resources that are not specifically designated as exclusion or avoidance areas.*

None would be adversely affected by the proposed route.

4. *Areas that are geologically unstable.*

No faults are known to occur along the proposed route. However, due to underground lignite mining, sinkhole-type subsidence and unstable ground conditions do exist. Transmission structures would be sighted to avoid these areas.

5. *Areas within 500 feet of a residence, school, or place of business (also to include community centers, healthcare facilities, and daycare facilities).*

Residences, schools, and places of business are not located within 500 feet of the proposed route.

6. *Reservoirs and municipal water supplies.*

None would be adversely affected by the proposed route.

7. *Water sources for organized rural water districts.*

None would be adversely affected by the proposed route.

8. *Irrigated land.*

None would be crossed by the proposed route.

9. *Areas of recreational significance that are not designated as exclusion areas.*

None would be crossed by the proposed route.

B.3.3 Selection Criteria

In selecting its proposed route, BEPC has attempted to minimize potential impacts to all environmental resources (**Exhibits B-7** through **B-9**). Several resources are specifically identified in the PSC selection criteria. Steps that BEPC proposed to take to minimize impacts to the selection criteria are discussed in the following sections.

1. *Agricultural production.*

The Project area is predominantly used for agricultural production, which could not be avoided.

2. *Family farms and ranches.*

The Project area is predominantly used for agricultural production. Family farms and ranches could not be avoided during the routing process. Impacts to family farm and ranch operations were minimized through discussions with landowners and adjustments to the proposed route alignment.

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

Lands that are highly suited for irrigation have been identified in **Exhibits B-7** through **B-9**. These areas would be avoided to the extent practicable.

4. *Surface drainage patterns and groundwater flow patterns.*

Hydrology and drainage are discussed in the Hydrology and Drainage subsection Section B.2, North Dakota Century Code, Section 49-22-09.

5. *Noise-sensitive land uses.*

Noise sensitive land uses are discussed in the Noise subsection in Section B.2, North Dakota Century Code, Section 49-22-09.

6. *The visual effect on the adjacent area.*

Potential effects to visual resources are discussed in the Visual Resources subsection in Section B.2, North Dakota Century Code, Section 49-22-09.

7. *Extractive and storage resources.*

The proposed route crosses several oil and sections with natural gas plants. However, these operations would not be affected by construction and operation of the proposed transmission line.

8. *Wetlands, woodlands, and wooded areas.*

These areas are discussed in the Vegetation Resources subsection in Section B.2, North Dakota Century Code, Section 49-22-09.

9. *Radio and television reception, and other communication or electronic control facilities.*

These facilities are discussed in the Public Health and Safety subsection in Section B.2, North Dakota Century Code, Section 49-22-09.

10. *Human health and safety.*

Public health and safety is discussed in the Public Health and Safety subsection in Section B.2, North Dakota Century Code, Section 49-22-09. Operation of the proposed transmission line would generate low EMFs within close proximity of these facilities. Based on recent studies that have been conducted, the overall scientific evidence for human health risk from EMF exposure is inconclusive (National Institute of Environmental Health Sciences 2002). Since the Project area is sparsely populated and people would have infrequent, short-term exposure to low levels of EMFs during operation, potential impacts to human health are not anticipated.

11. *Animal health and safety.*

EMFs generated by the proposed transmission line would not likely affect animal health since animals would have infrequent, short-term exposure to low levels of EMFs during operation. Surface water, frequently utilized by animals, would be protected from contamination with the implementation of the BMPs and mitigation measures provided in **Appendix E**.

12. *Plant life*

Impacts to plant life would be limited to the disturbed portions of the proposed transmission line ROW. Approximately 65 percent of the land along the proposed route is cultivated cropland. Construction within these areas would not affect native vegetation. Rangeland disturbed during construction activities would be reclaimed with agency-prescribed seed mixes or seed mixes provided by landowners. Reclamation of these areas would restore vegetation and reinstate the native habitat.

B.3.4 Policy Criteria

The PSC may give preference to an applicant that would maximize benefits that result from the adoption of the following policies and practices, and in a proper case, may require the adoption of such policies and practices. The PSC also may give preference to an applicant that would maximize interstate benefits.

1. *Location and design.*

The proposed route was selected to avoid sensitive resources to the extent possible, as described in sections B.3.1 through B.3.3. Detailed information regarding Project design and Project components have been described in sections A.4.4 and A.4.5.

2. *Training and utilization of available labor in North Dakota for the general and specialized skills required.*

Transmission line construction would require special skills and equipment. The construction contractor would be encouraged to use local labor, when possible.

3. *Economics of construction and operation.*

BEPC has attempted to maximize the economics of the construction and operation of the proposed Project by locating the proposed transmission line adjacent to public highways and avoiding topographic and cultural resource features.

4. *Use of citizen coordinating committees.*

None were believed appropriate for this type of project. Public impact was gathered at public scoping meetings that were held in Williston and Tioga.

5. *A commitment of a portion of the transmitted product for use in North Dakota.*

Power would be purchased by Mountrail-Williams Electric Cooperative, Western, and MDU, which are local energy suppliers.

6. *Labor relations.*

Union and non-union construction contractors would bid on the proposed Project. The construction contract would be awarded to the lowest qualified bidder. Transmission line construction would require special skills and equipment. The construction contractor would be encouraged to use local labor, when possible.

7. *The coordination of facilities.*

The existing Williston Interconnect Substation would be used to interconnect with the Tioga Substation.

8. *Monitoring of impacts.*

Monitoring of revegetated areas would be completed for 2 years following construction to evaluate revegetation success and 3 years to identify any noxious weed populations.

9. *Utilization of existing and proposed ROWs and corridors.*

The proposed route was selected to maximize the potential use of existing highways, roads, and section lines.

10. *Other existing or proposed transmission facilities.*

Not applicable.

B.3.5 Design and Construction Limitations

In order to serve the intended functions of transmitting electricity from the Williston Interconnect Substation to the northwestern North Dakota area, the proposed transmission line must originate at the Williston Interconnect Substation and terminate at the Tioga Substation.

B.3.6 Economic Considerations

BEPC is committed to constructing the proposed transmission line as economically as possible while strictly adhering to the PSC's criteria. The anticipated construction cost for installation of the proposed transmission line within the proposed corridor is \$24.3 million; annual operation costs are estimated at approximately \$23,673 per year for the transmission line.

B.4 Mitigative Measures

Construction specifications would be designed to minimize potential impacts from proposed transmission line construction. Certain impacts may not be entirely avoidable, but could be mitigated to reduce the severity and longevity. Mitigation measures for the proposed Project have been provided in **Appendix E**.

B.5 List of Preparers and Qualifications

This application for a Route Permit was prepared by AECOM Inc., dba AECOM Environment (AECOM) (formerly ENSR Corporation), BEPC, and Metcalf Archaeological Consultants. The qualifications of the individuals who participated in the preparation and review of this application are provided in **Table B-5**.

Table B-6 Qualifications of Application Preparers

| Company and Person | Responsibilities | Education and Experience |
|--|---|---|
| AECOM Environment - Fort Collins, Colorado | | |
| Jon Alstad | Corridor Compatibility Application Manager | M.S. Range Science B.S. Animal Science A.A. Liberal Arts 20 Years Experience |
| George High | Project Manager | B.S. Biology 34 years experience |
| Peggy Roberts | Assistant Project Manager, Public Involvement Specialist | B.J. Journalism/PR M.S. Public Communications (in progress) 17 years experience |
| Erik Bray | Wildlife and Fisheries | B.S. Wildlife Management and Biology 10 Years Experience |
| Jessica Rubado | Special Status Species | B.S. Fisheries and Wildlife Science 9 Years Experience |
| Terra Mascarenas | Soils | B.S. Soil Science (Environmental Concentration) 11 Years Experience |
| Rachel Ridenour | Vegetation and Special Status Plant Species | B.S. Natural Resource Management 1 Year Experience |
| Kim Munson | Cultural Resources | M.A. Anthropology B.A. Anthropology 13 Years Experience |
| Bill Berg | Geology, Mineral Resources, and Paleontology | M.S. Geology 30 Years experience |
| Billy Williams | GIS | B.S. Forestry Science 1 Year Experience |
| Matt Brekke | Technical Support | B.S. Wildlife Biology 2 Years Experience |
| Susan Coughenour | Technical Editor | Two Years General Studies 25 Years Experience |
| Basin Electric Power Cooperative – Bismarck, North Dakota | | |
| Duey Marthaller | Project Manager | M.S. Civil Engineering B.S. Civil Engineering 29 Years Experience Registered Professional Engineer |

Table B-6 Qualifications of Application Preparers

| Company and Person | Responsibilities | Education and Experience |
|--|--------------------------|--|
| Kevin Solie | Environmental Analyst | M.S. Geology B.S. Geology B.S. Geological Engineering 17 Years Experience Engineer in Training |
| Mike Murray | Right-of-Way | A.A. Business Administration Various Courses through International ROW Association SR/WA (Senior ROW designation) 8 Years Experience |
| Valeree King | Right-of-Way | Interstate Business College – Legal Writing & Descriptions Various Courses through International ROW Association 16 Years Experience |
| Don Hellman | Right-of-Way | 2 yr degree Electrical tech Associate Arts and Science degree Various courses through International ROW Association 36 years experience working for Utility Companies with the last 16 years in ROW |
| Duffy Heinle | Right-of-Way | A.A. Criminal Justice A.S. Polygraph Sciences B.A. College Studies 1 year experience |
| Veda Christman | Right-of-Way | B.S. Business Administration Various courses through International ROW Association 10 Years Experience |
| Jason Brekke | GIS Analyst | BS Geography 7 Years Experience |
| Curt Pearson | Corporate Communications | B.S. Business Administration M.B.A. Cert. Cooperative Communicator 30 Years Experience |
| Metcalfe Archaeological Consultants – Eagle, Colorado | | |
| Patrick O'Brien | Cultural Resources | M.A. Anthropology B.A. Anthropology 17 Years Experience |

B.6 Maps

Detailed maps of the proposed transmission line have been provided in the **Exhibits** section and the engineering report with drawings will be provided under separate cover.

B.7 Permits, Licenses, Approvals, and Consultation Requirements

Permitting and agency coordination would be required from various federal, state, and county agencies. Permitting and coordination requirements include:

- Western – System Interconnection Authorization, compliance with the NEPA, Native American Consultation.
- USFWS – Compliance with the ESA (section 7 consultation), compliance with the MBTA.
- NDPSC – Certificate of Corridor Compatibility and Route Permit.
- North Dakota SHPO – Compliance with the NHPA (section 106 consultation).
- North Dakota DOT – Permit to construct and operate a transmission line across or within highway ROWs.
- NDGFD – Consultation to identify any state-listed species of concern that could potentially be affected by the proposed Project.
- Williams County – Planning and Zoning Board indicated that a Conditional Use Permit would be required for the proposed Project.
- Zoning permits are likely to be required by some townships.
- Burlington Northern-Santa Fe Railroad – Authorization to construct and operate a transmission line across railroad ROW.

B.8 References

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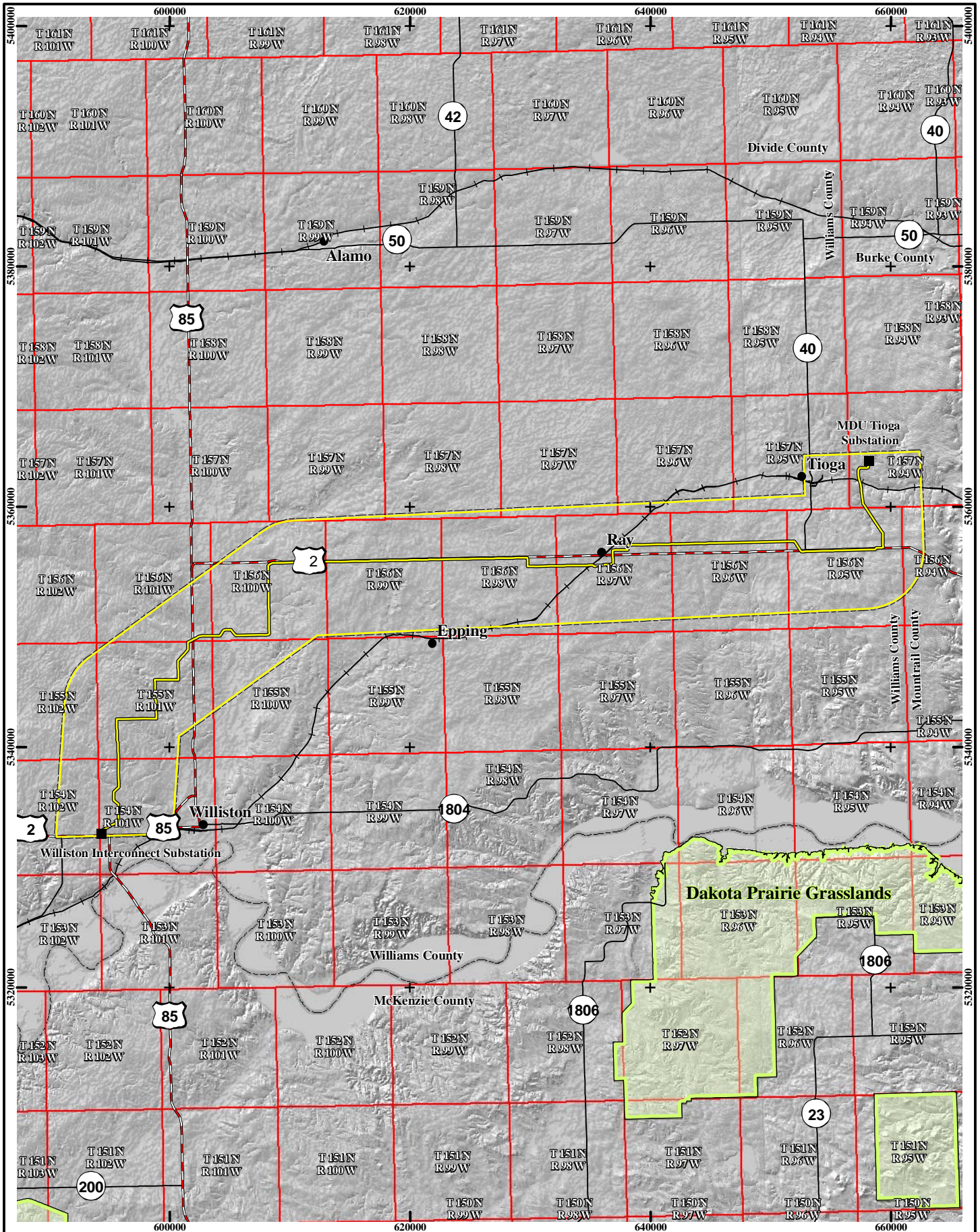
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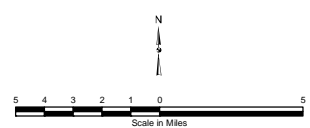
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Exhibits



| LEGEND | |
|--------|-------------------------|
| | PROPOSED ROUTE |
| | PROPOSED CORRIDOR |
| | SUBSTATIONS |
| | CITY OR TOWN |
| | U.S. NATIONAL GRASSLAND |
| | TOWNSHIP |
| | RAILROAD |



Williston to Tioga Transmission Project

Exhibit A-1 Williston - Tioga Proposed Route

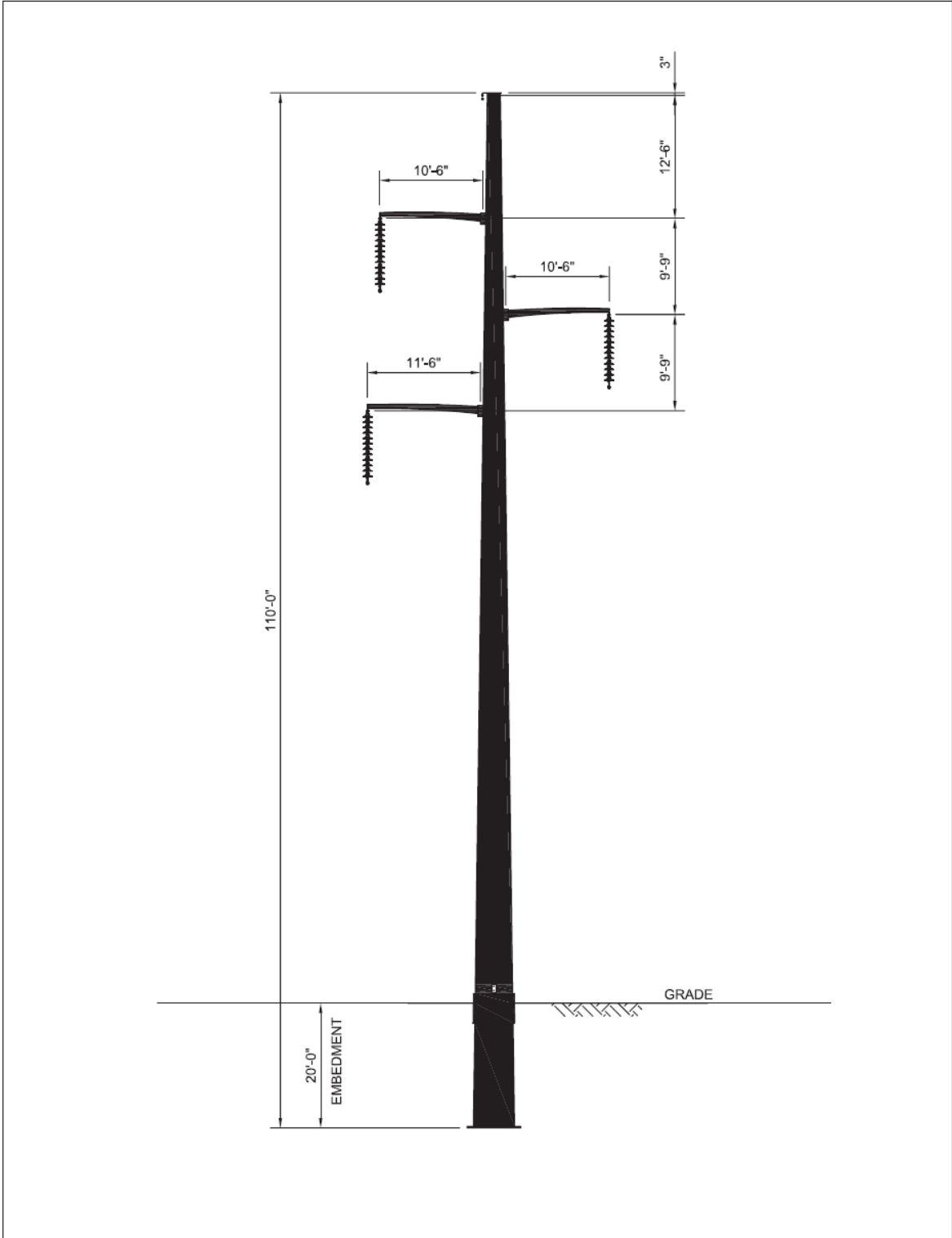
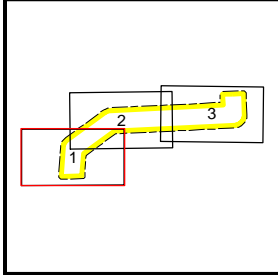
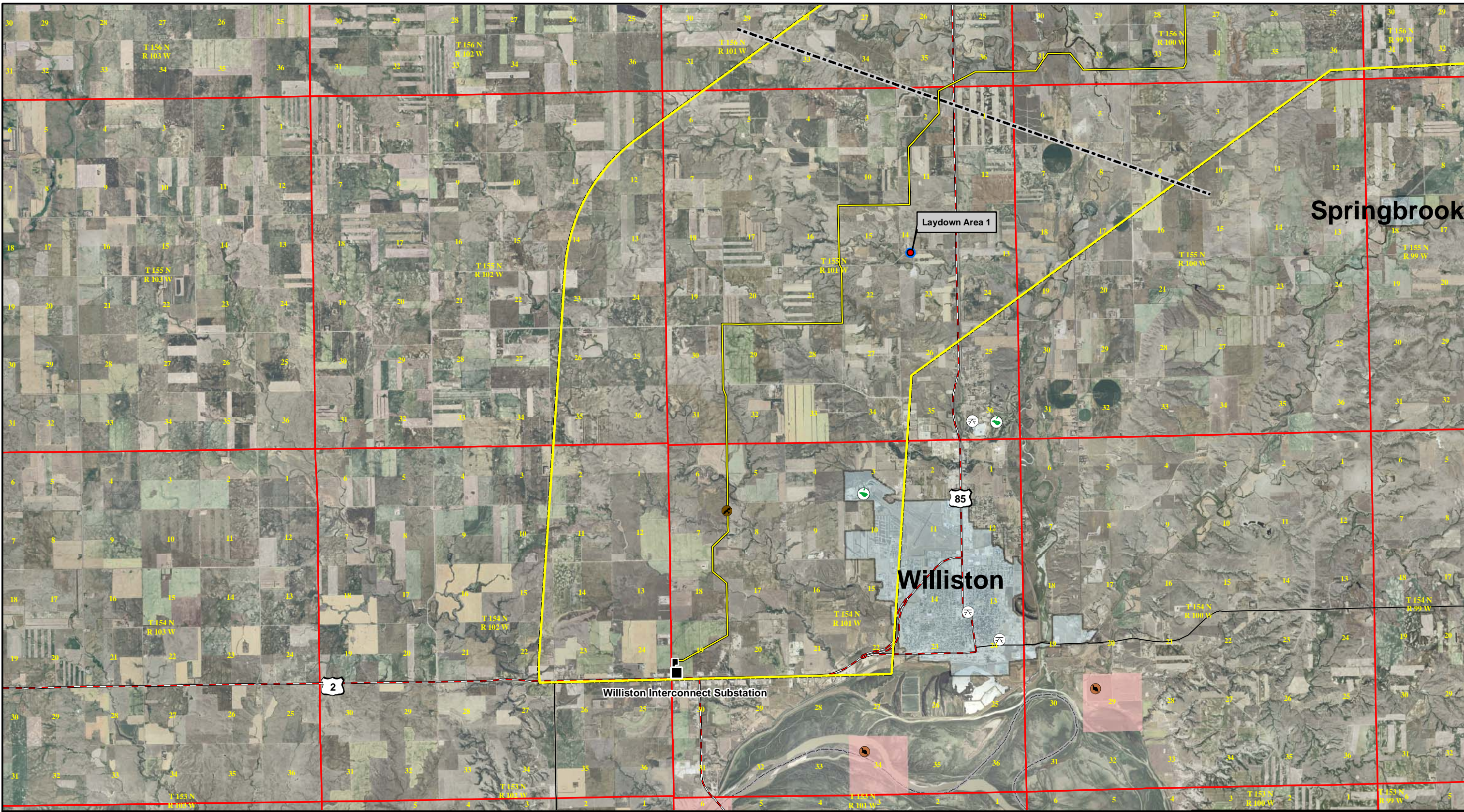


Exhibit A-2 Typical Single-Pole Structure

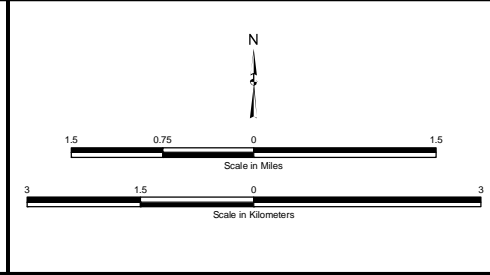
Exhibit A-3. Proposed Time Schedule for Permitting and Construction

| ID | Task Name | Start | Finish | 2009 | | | | | | | | | | | | 2010 | | | | | | | | | | | | 2011 | | | | | | | | | | | |
|----|---|--------------------|---------------------|------|---|---|---|---|---|---|---|---|---|---|---|------|---|---|---|---|---|---|---|---|---|---|---|------|---|---|---|---|---|---|---|--|--|--|--|
| | | | | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | | | | |
| 1 | PSC Corridor Compatibility and Route Permit Applications | Mon 8/4/08 | Wed 12/16/09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Prepare Corridor and Route Permit Applications | Mon 8/4/08 | Fri 6/26/09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Submit Corridor and Route Permit Applications to PSC | Wed 7/8/09 | Wed 7/8/09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | PSC Issues Notice for Hearings | Wed 8/26/09 | Wed 8/26/09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Prepare for PSC Public Hearings | Thu 8/27/09 | Wed 10/14/09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Public Hearings (2) | Thu 10/15/09 | Wed 10/21/09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | PSC Issues Certificate of Corridor Compatibility and Route Permit | Wed 12/16/09 | Wed 12/16/09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Transmission Line Construction | Thu 4/15/10 | Fri 12/10/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Vegetation Management and Structure Site Clearing | Thu 4/15/10 | Tue 6/15/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Gate Installation | Thu 4/15/10 | Tue 6/15/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Structure Assembly | Mon 5/17/10 | Thu 7/1/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Hole Excavation | Mon 5/17/10 | Fri 8/13/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | Structure Erection | Mon 5/17/10 | Fri 8/13/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | Concrete Foundations | Mon 5/17/10 | Thu 7/15/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Ground Wire and Conductor Stringing | Thu 7/1/10 | Fri 10/15/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | Cleanup | Mon 10/18/10 | Fri 12/10/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | Landscape Rehabilitation | Mon 10/18/10 | Fri 12/10/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | Project Construction Complete | Mon 12/13/10 | Mon 12/13/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | Project In-Service | Fri 12/31/10 | Fri 12/31/10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | |
|---|------|-----------|---------|
| Project: Project schedule-072109 Date: Tue 7/21/09 | Task | Milestone | Summary |
|---|------|-----------|---------|



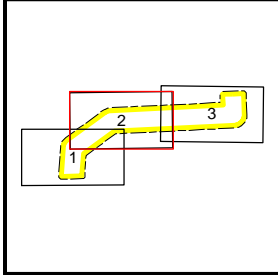
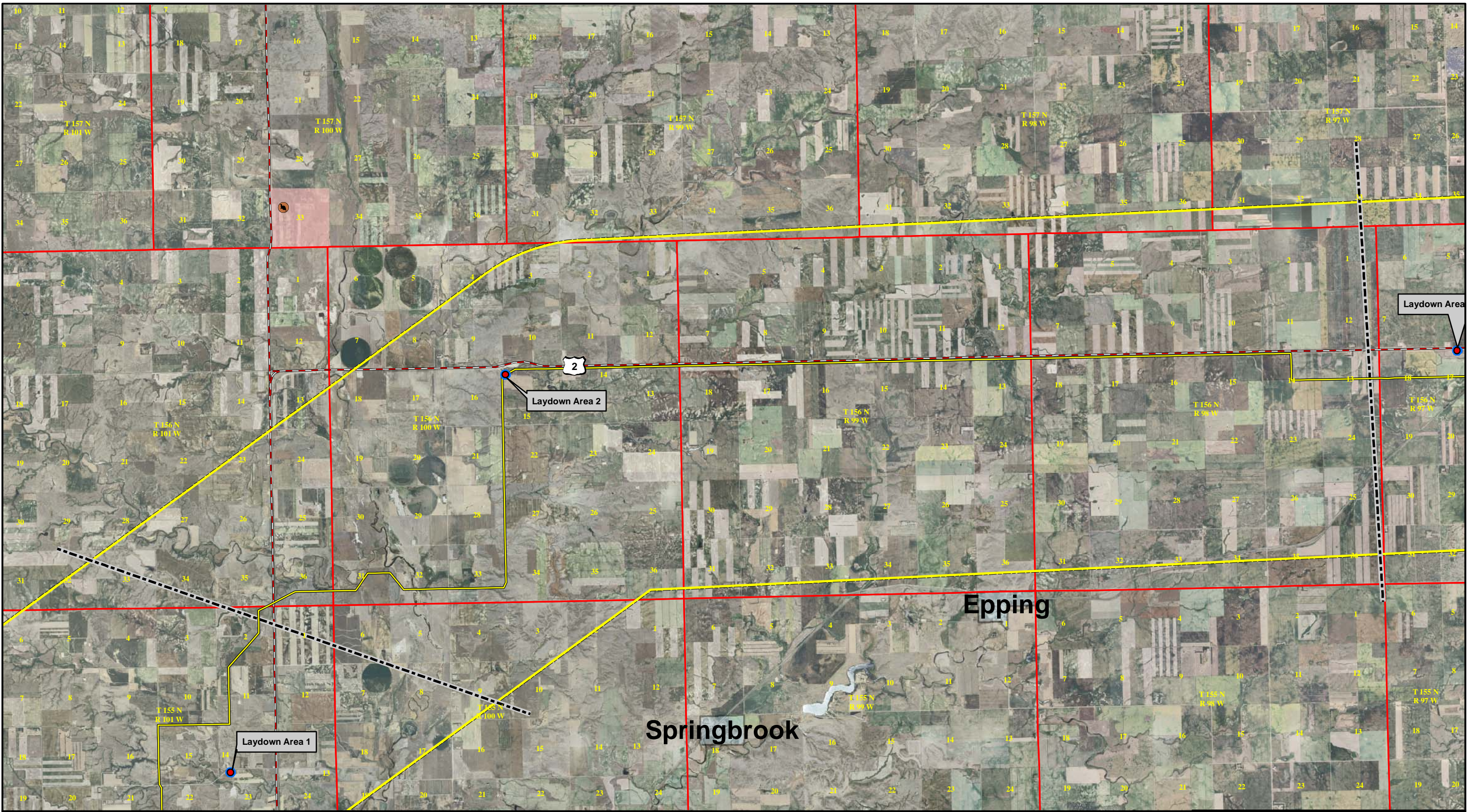
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|--------|---------------------------|
| | PROPOSED ROUTE |
| | PROPOSED CORRIDOR |
| | SUBSTATIONS |
| | MATCH LINE |
| | TOWNSHIP |
| | CITY/TOWN |
| | BURROWING OWL |
| | PARK |
| | GOLF COURSE |
| | RARE ECOLOGICAL COMMUNITY |
| | RARE ANIMAL OBSERVATION |
| | RARE PLANT OBSERVATION |



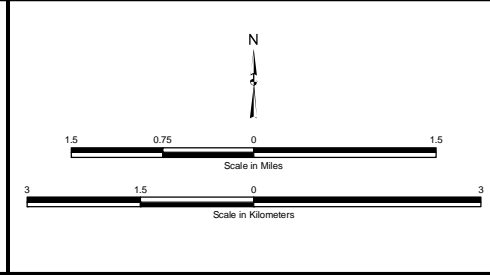
Williston to Tioga Transmission Project

Exhibit B-1
Proposed Route
Exclusion Areas

Sources: Wildlife/Ecology- NDNHI 2008, Parks- GNIS



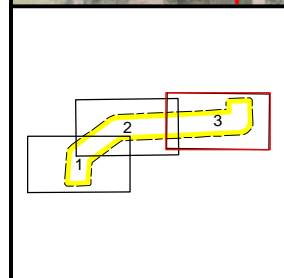
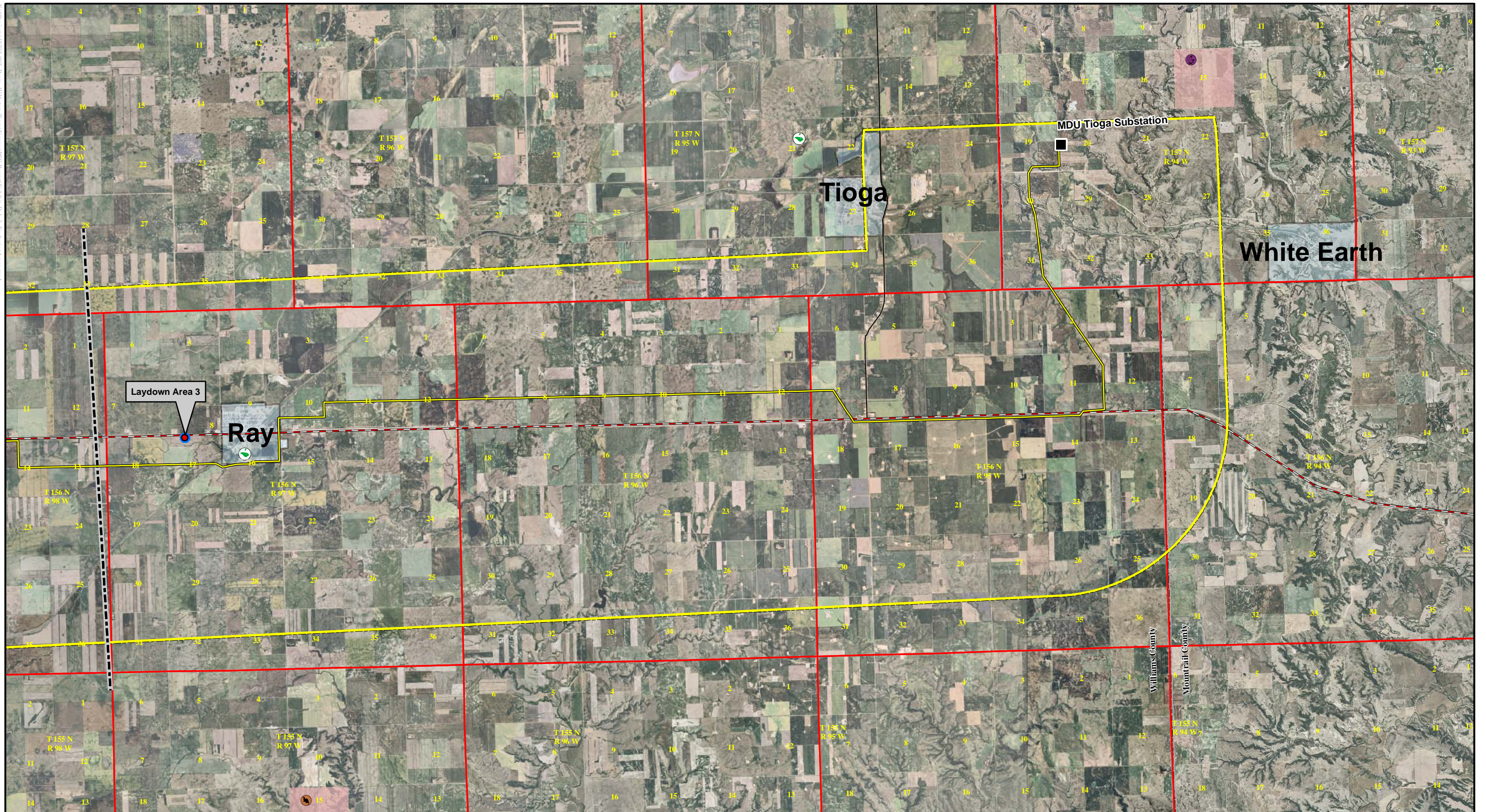
| LEGEND | |
|--------|---------------------------|
| | PROPOSED ROUTE |
| | PROPOSED CORRIDOR |
| | SUBSTATIONS |
| | MATCH LINE |
| | TOWNSHIP |
| | CITY/TOWN |
| | BURROWING OWL |
| | PARK |
| | GOLF COURSE |
| | RARE ECOLOGICAL COMMUNITY |
| | RARE ANIMAL OBSERVATION |
| | RARE PLANT OBSERVATION |



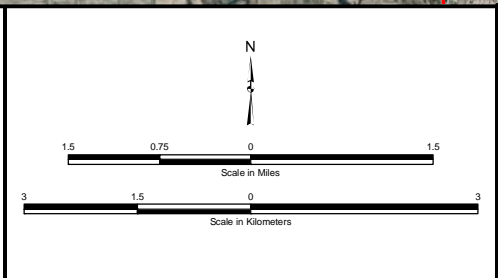
Williston to Tioga Transmission Project

**Exhibit B-2
Proposed Route
Exclusion Areas**

Sources: Wildlife/Ecology- NDNHI 2008, Parks- GNIS



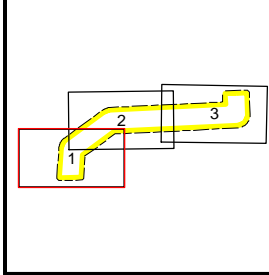
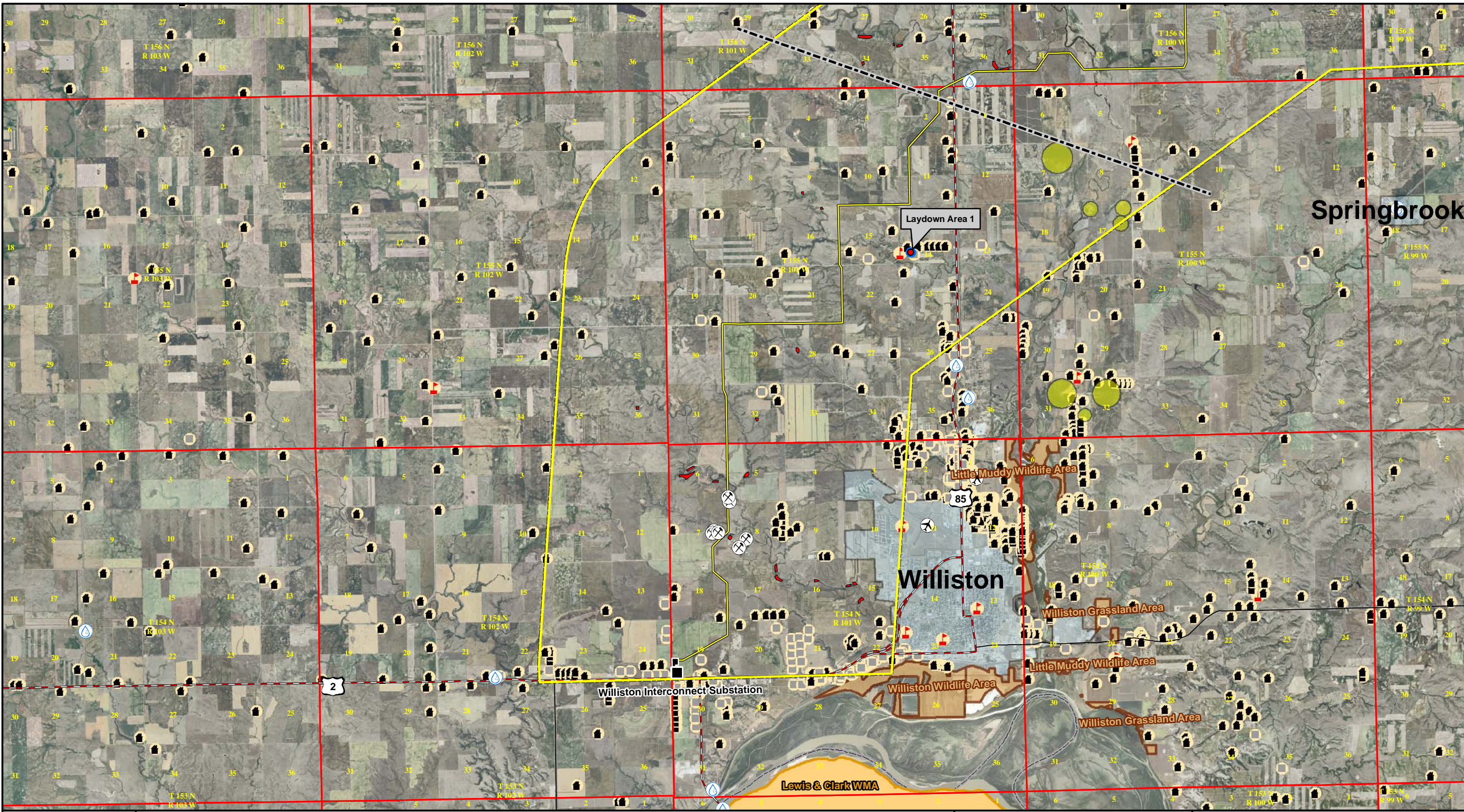
| LEGEND | |
|-------------------|---------------------------|
| PROPOSED ROUTE | BURROWING OWL |
| PROPOSED CORRIDOR | PARK |
| SUBSTATIONS | GOLF COURSE |
| MATCH LINE | RARE ECOLOGICAL COMMUNITY |
| TOWNSHIP | RARE ANIMAL OBSERVATION |
| CITY/TOWN | RARE PLANT OBSERVATION |



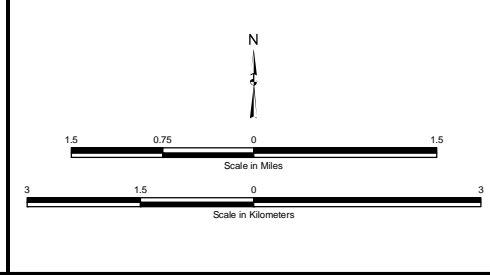
Williston to Tioga Transmission Project

**Exhibit B-3
Proposed Route
Exclusion Areas**

Sources: Wildlife/Ecology- NDNHI 2008, Parks- GNIS



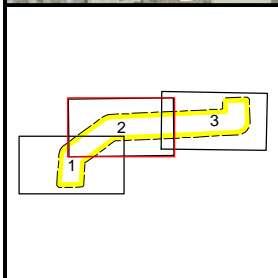
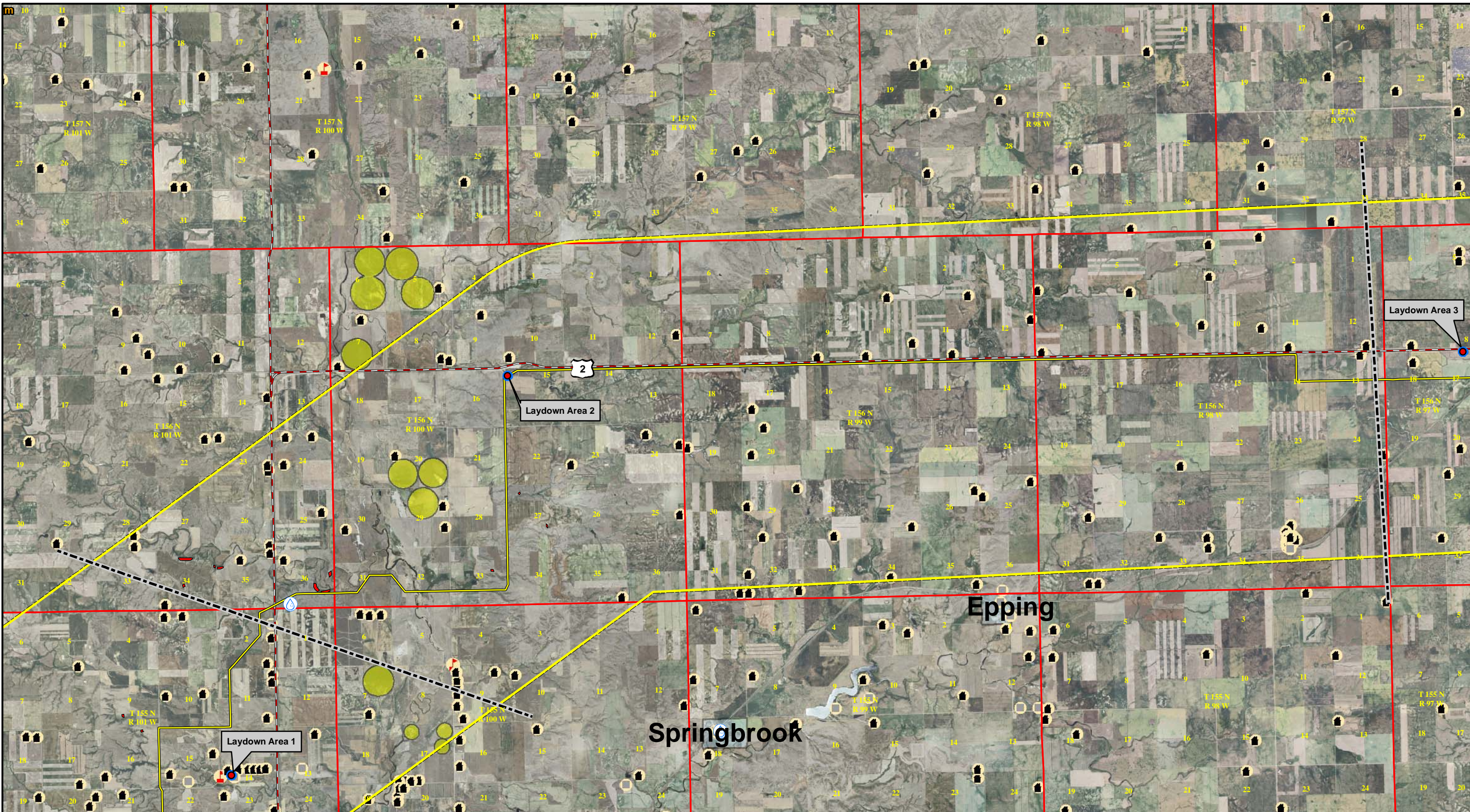
| LEGEND | |
|-----------------------|--|
| PROPOSED ROUTE | SCHOOL WITH 500 FT. BUFFER |
| PROPOSED CORRIDOR | LANDSLIDE AREAS |
| SUBSTATIONS | IRRIGATED AREAS |
| MATCH LINE | USACE WILDLIFE/GRASSLAND MANAGEMENT AREAS |
| TOWNSHIP | STATE WILDLIFE MANAGEMENT AREAS |
| CITY/TOWN | USFWS WATERFOWL PRODUCTION AREAS |
| MUNICIPAL WATER WELLS | RESIDENCE OR OTHER STRUCTURE WITH 500 FT. BUFFER |
| ABANDONED MINES | PLACE OF BUSINESS WITH 500 FT. BUFFER |
| AIRPORT | |



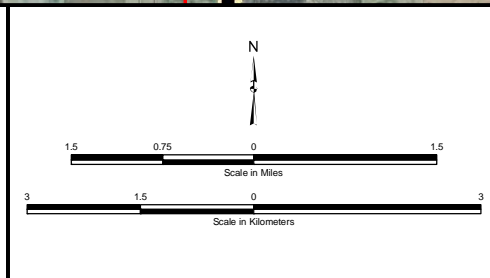
Williston to Tioga Transmission Project

**Exhibit B-4
Proposed Route
Avoidance Areas**

Sources: Schools - USGS, GNIS; Residential/Business - NDDatahub; Geology - NDGS, 2004; Wildlife - NDGF, NDDatahub, USFWS; Water Supply - North Dakota State Water Commission

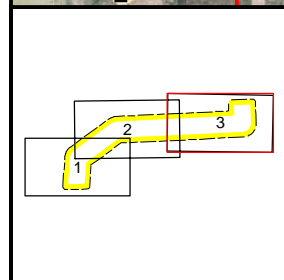
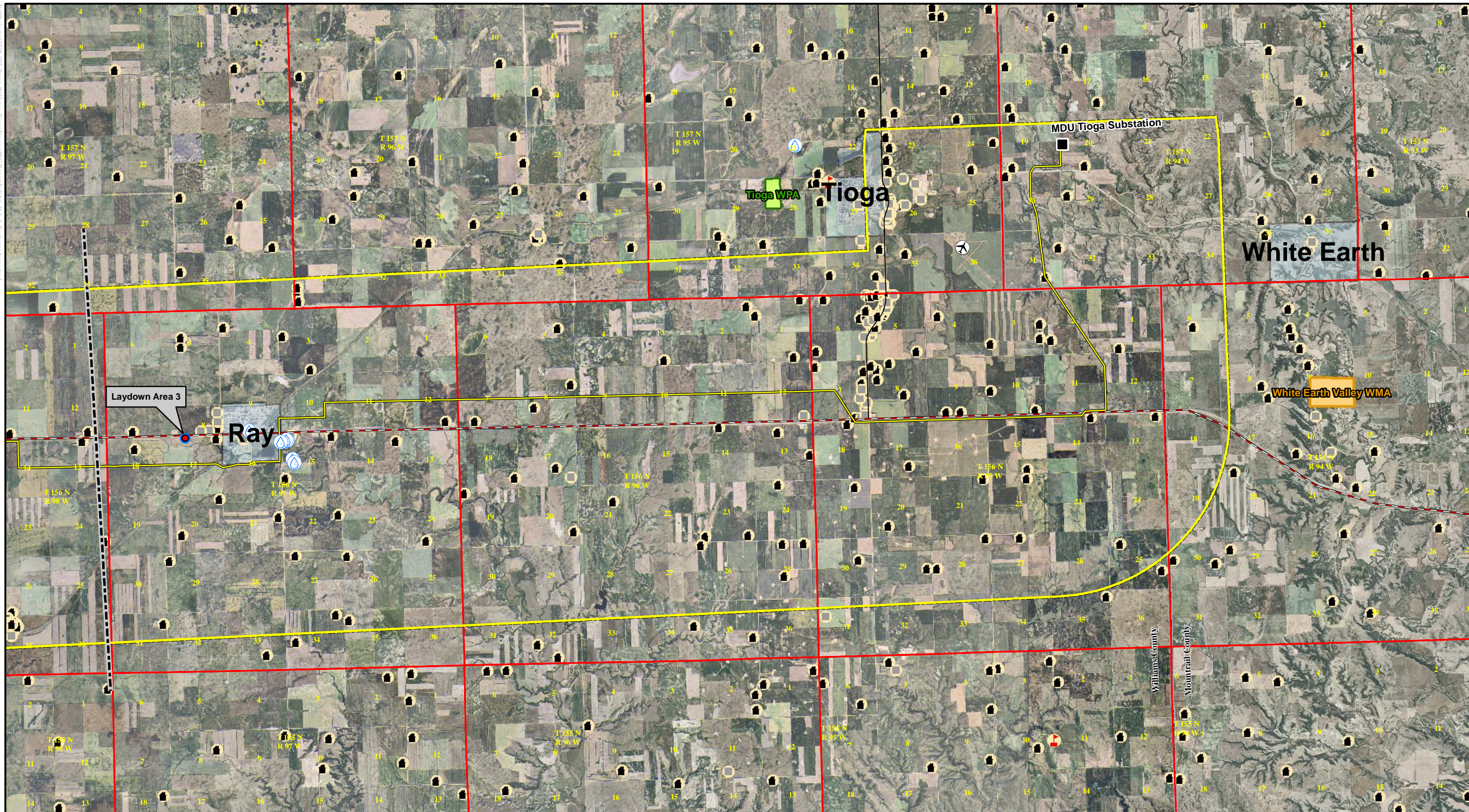


| LEGEND | |
|-----------------------|--|
| PROPOSED ROUTE | SCHOOL WITH 500 FT. BUFFER |
| PROPOSED CORRIDOR | LANDSLIDE AREAS |
| SUBSTATIONS | IRRIGATED AREAS |
| MATCH LINE | USACE WILDLIFE/GRASSLAND MANAGEMENT AREAS |
| TOWNSHIP | STATE WILDLIFE MANAGEMENT AREAS |
| CITY/TOWN | USFWS WATERFOWL PRODUCTION AREAS |
| MUNICIPAL WATER WELLS | RESIDENCE OR OTHER STRUCTURE WITH 500 FT. BUFFER |
| ABANDONED MINES | PLACE OF BUSINESS WITH 500 FT. BUFFER |
| AIRPORT | |

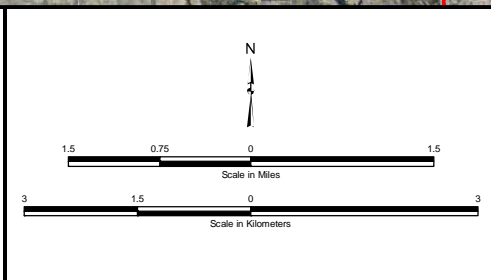


Williston to Tioga Transmission Project

**Exhibit B-5
Proposed Route
Avoidance Areas**



| LEGEND | | |
|-------------------|--|---|
| PROPOSED ROUTE | MUNICIPAL WATER WELLS | SCHOOL WITH 500 FT. BUFFER |
| PROPOSED CORRIDOR | ABANDONED MINES | LANDSLIDE AREAS |
| SUBSTATIONS | AIRPORT | IRRIGATED AREAS |
| MATCH LINE | RESIDENCE OR OTHER STRUCTURE WITH 500 FT. BUFFER | USACE WILDLIFE/GRASSLAND MANAGEMENT AREAS |
| TOWNSHIP | PLACE OF BUSINESS WITH 500 FT. BUFFER | STATE WILDLIFE MANAGEMENT AREAS |
| CITY/TOWN | | USFWS WATERFOWL PRODUCTION AREAS |



Williston to Tioga Transmission Project

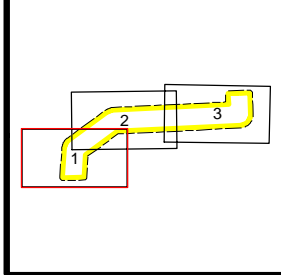
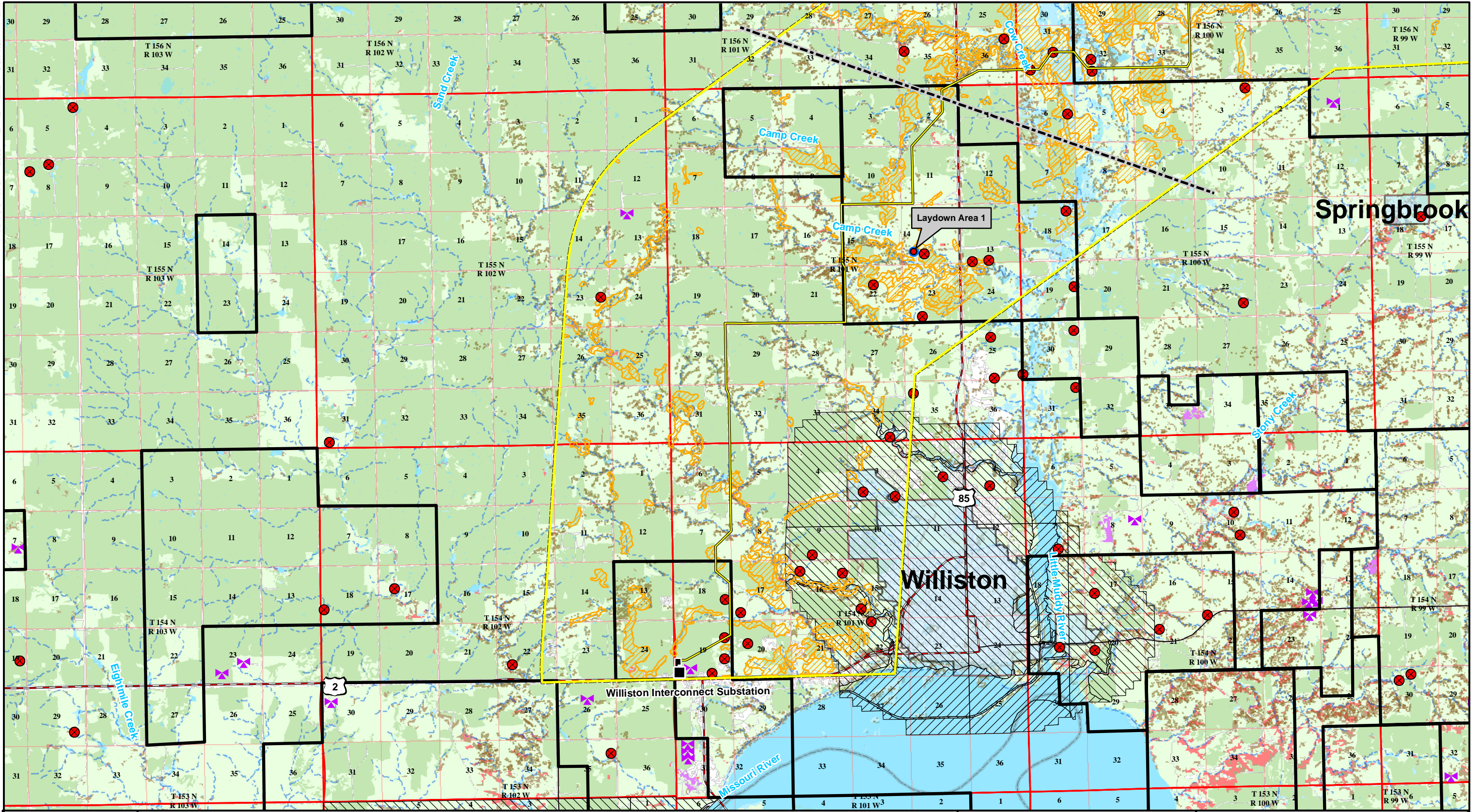
BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy Cooperative

WESTERN AREA POWER ADMINISTRATION

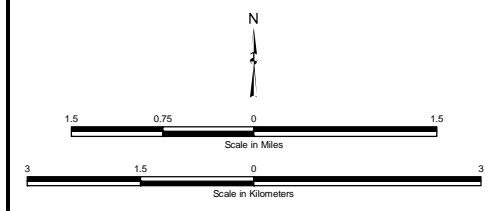
**Exhibit B-6
Proposed Route
Avoidance Areas**

Sources: Schools - USGS, GNIS; Residential/Business - NDDatahub; Geology - NDGS, 2004; Wildlife - NDGF, NDDatahub, USFWS; Water Supply - North Dakota State Water Commission

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| LEGEND | | | |
|--------|------------------------|--|---------------------------------|
| | PROPOSED ROUTE | | INTERMITTENT STREAMS |
| | PROPOSED CORRIDOR | | PERENNIAL STREAMS |
| | SUBSTATIONS | | HIGH IRRIGATION POTENTIAL |
| | MATCH LINE | | SECTIONS CONTAINING A GAS PLANT |
| | TOWNSHIP | | OIL FIELD BOUNDARY |
| | CITY/TOWN | | GRAVEL PIT |
| | Barren/Developed | | MICROWAVE OR RADIO TOWER |
| | Cultivated Crops | | |
| | Woodland | | |
| | Shrubland | | |
| | Grassland/Herbaceous | | |
| | Pasture/Hay | | |
| | Pond, Lake, or Wetland | | |
| | | | FEMA ZONES |
| | | | A |
| | | | AE |
| | | | X |
| | | | X500 |

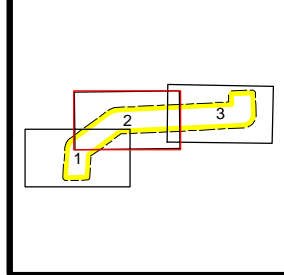
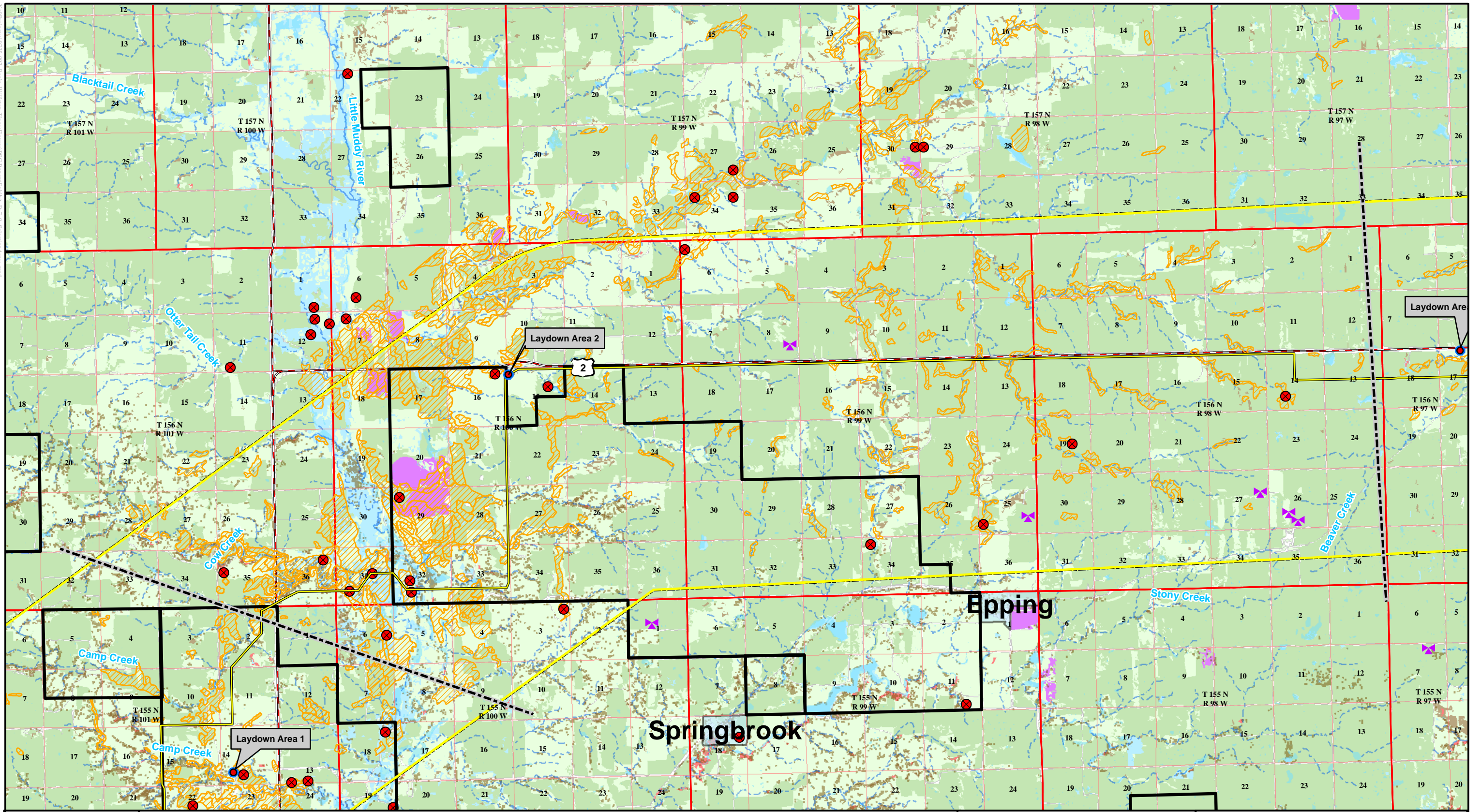


Williston to Tioga Transmission Project

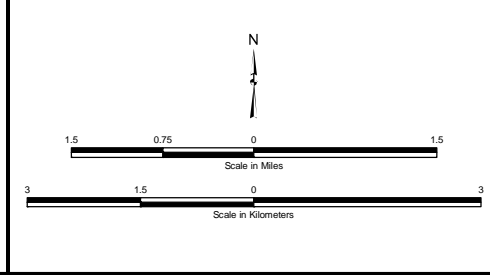
Exhibit B-7
Proposed Route
Selection Criteria

Sources: Landclass - NLCD 2001; Streams/Wetland - NWI, NHD; Oil/Gas - NDIC Oil and Gas Division 2008; Floodzones - FemaQ3 Data; Gravel Pits/Radio Towers - NDDatHub.

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| LEGEND | | | |
|--------|------------------------|--|---------------------------------|
| | PROPOSED ROUTE | | INTERMITTENT STREAMS |
| | PROPOSED CORRIDOR | | PERENNIAL STREAMS |
| | SUBSTATIONS | | HIGH IRRIGATION POTENTIAL |
| | MATCH LINE | | SECTIONS CONTAINING A GAS PLANT |
| | TOWNSHIP | | OIL FIELD BOUNDARY |
| | CITY/TOWN | | GRAVEL PIT |
| | Barren/Developed | | MICROWAVE OR RADIO TOWER |
| | Cultivated Crops | | |
| | Woodland | | |
| | Shrubland | | |
| | Grassland/Herbaceous | | |
| | Pasture/Hay | | |
| | Pond, Lake, or Wetland | | |
| | FEMA ZONES A | | |
| | FEMA ZONES AE | | |
| | FEMA ZONES X | | |
| | FEMA ZONES X500 | | |

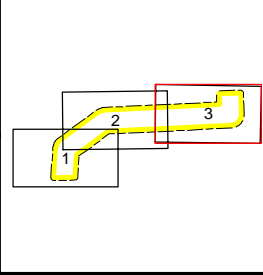
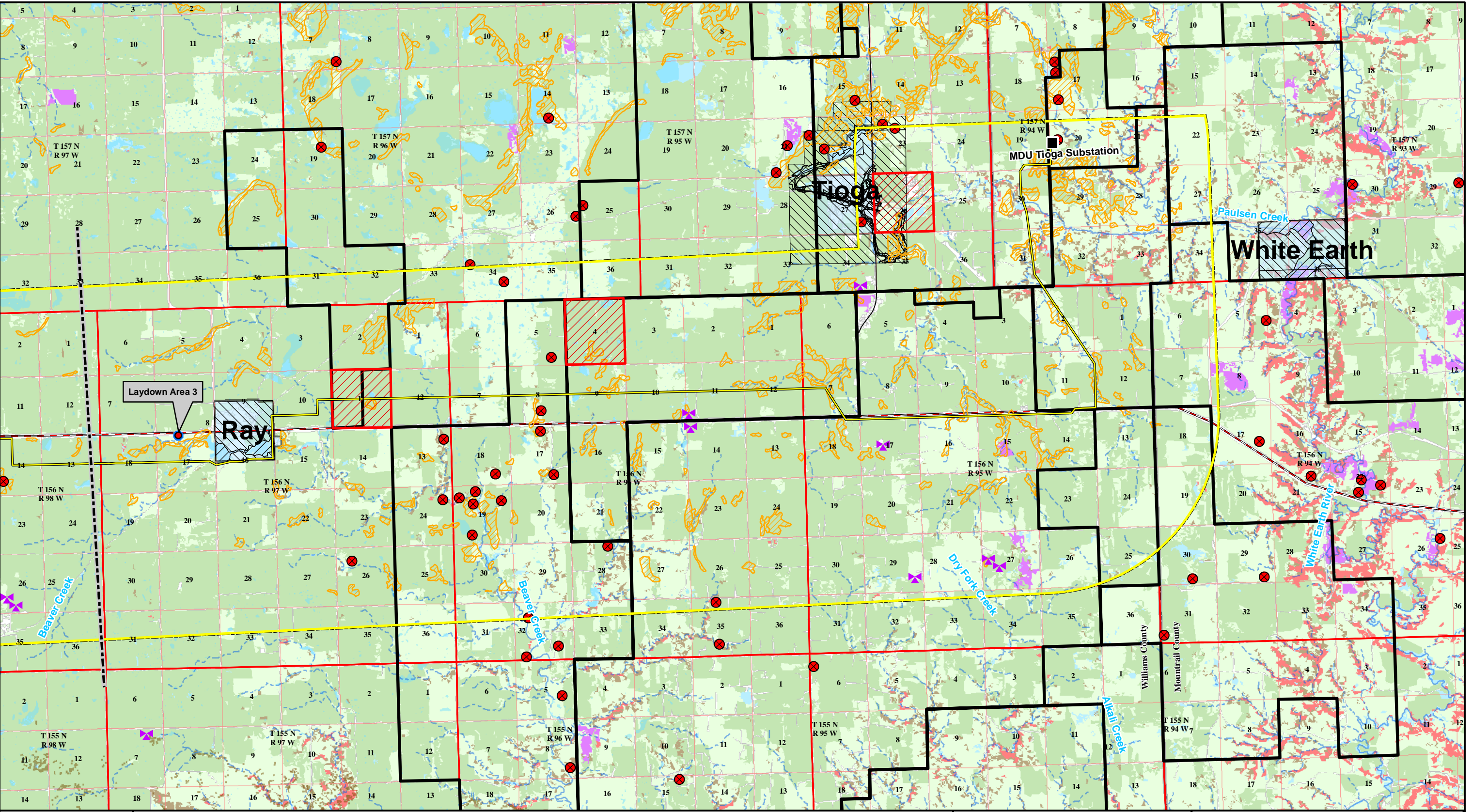


Williston to Tioga Transmission Project

Exhibit B-8
Proposed Route
Selection Criteria

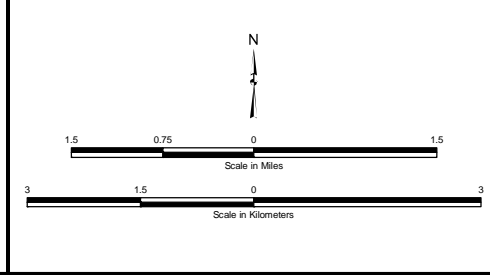
Sources: Landclass - NLCD 2001; Streams/Wetland - NWI, NHD; Oil/Gas - NDIC Oil and Gas Division 2008; Floodzones - FemaQ3 Data; Gravel Pits/Radio Towers - NDDatuhub.

X:\0706\01\0735-007_Basin_Williston-Tioga_Figures\FSC_Report\Figure_D-7_SelectionCriteria.mxd



LEGEND

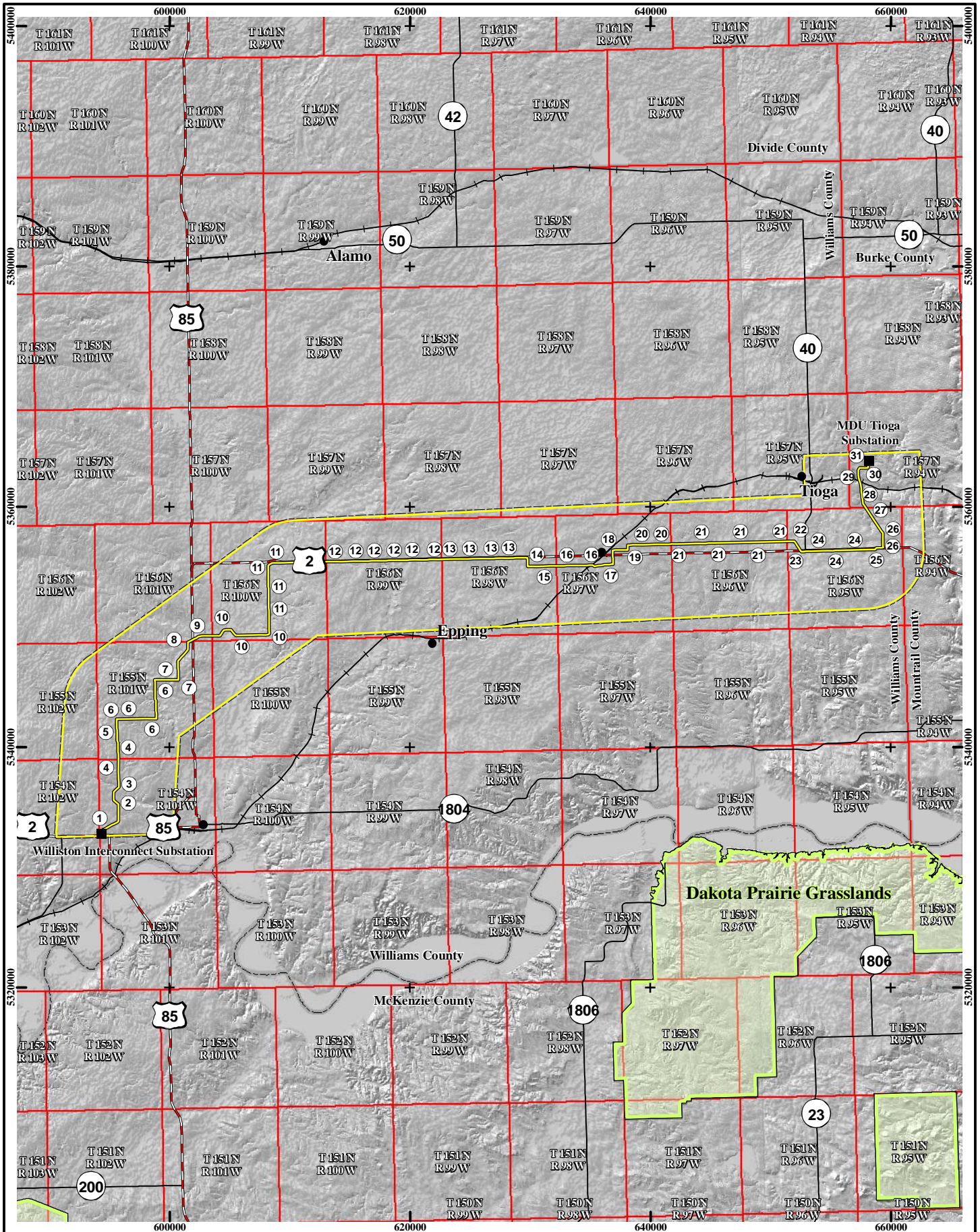
| | | | |
|-------------------|------------------------|---------------------------------|------------|
| PROPOSED ROUTE | Barren/Developed | INTERMITTENT STREAMS | FEMA ZONES |
| PROPOSED CORRIDOR | Cultivated Crops | PERENNIAL STREAMS | A |
| SUBSTATIONS | Woodland | HIGH IRRIGATION POTENTIAL | AE |
| MATCH LINE | Shrubland | SECTIONS CONTAINING A GAS PLANT | X |
| TOWNSHIP | Grassland/Herbaceous | OIL FIELD BOUNDARY | X500 |
| CITY/TOWN | Pasture/Hay | GRAVEL PIT | |
| | Pond, Lake, or Wetland | MICROWAVE OR RADIO TOWER | |



Williston to Tioga Transmission Project

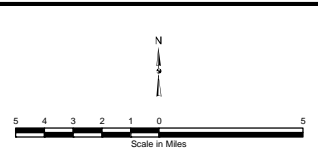
**Exhibit B-9
Proposed Route
Selection Criteria**

Sources: Landclass - NLCD 2001; Streams/Wetland - NWI, NHD; Oil/Gas - NDIC Oil and Gas Division 2008; Floodzones - FemaQ3 Data; Gravel Pits/Radio Towers - NDDatuhub.



LEGEND

| | |
|-------------------|-------------------------|
| PROPOSED ROUTE | U.S. NATIONAL GRASSLAND |
| PROPOSED CORRIDOR | TOWNSHIP |
| SUBSTATIONS | RAILROAD |
| CITY OR TOWN | |



Williston to Tioga Transmission Project

Exhibit C-1
Refined Routing Locations

Appendix A

Special Status Species

Appendix A Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|-------------------|-----------------------|---------------------|--|-------------------------------------|--|---|--------------------|-------------------------------------|
| Mammals | | | | | | | | |
| Arctic shrew | <i>Sorex arcticus</i> | ND Level III | Most commonly found in grass-sedge marshes, wet meadows, and other moist openings in and adjacent to boreal forests. Also present, in fewer numbers, in tamarack-spruce bogs and cedar swamps. Small globular nests are usually made aboveground under logs or other material. | Riparian | No | Yes. This species and its required habitat are not found within the Project area. | Mountrail | Hagen et al. 2005; NatureServe 2008 |
| Grey wolf | <i>Canis lupis</i> | FE; ND Level III | This species inhabits a wide range of habitats where large ungulates are found. It utilizes mixed hardwood-coniferous forests in wilderness and sparsely settled areas, to forest and prairie landscapes dominated by agricultural and pasture lands. | Any | Yes – The occurrence of this species in the Project area would be as a migrant only. | Yes. Migratory occurrence of this species is highly unlikely and the Project would not impact this species due to the fact that it is mobile. | Mountrail Williams | Hagen et al. 2005; USFWS 2008b |
| Long-eared myotis | <i>Myotis evotis</i> | ND Level III | This species typically roosts in rugged terrain in small groups or alone in rock crevices and under tree bark. It is associated with coniferous trees. This species hibernates in caves and abandoned mines. | Rugged terrain and coniferous trees | Yes – The occurrence of this species would be limited to foraging activities. | Yes. Use of the Project area by this species for foraging is unlikely. In addition, foraging would occur at night. Considering that construction activities would primarily occur within the day, and this species is mobile during foraging, the Project would not impact this species and is therefore not carried forward for detailed analysis. | Mountrail Williams | Hagen et al. 2005 |

Appendix A Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|------------------------------|----------------------------------|---------------------|--|-------------------------------------|---|---|-----------------------|--|
| Long-legged myotis | <i>Myotis volans</i> | ND Level III | This species typically roosts in rugged terrain in small groups or alone in rock crevices and under tree bark. It is also associated with coniferous trees. | Rugged terrain and coniferous trees | Yes – The occurrence of this species would be limited to foraging activities. | Yes. Use of the Project area by this species for foraging is unlikely. In addition, foraging would occur at night. Considering that construction activities would primarily occur within the day, and this species is mobile during foraging, the Project would not impact this species and is therefore not carried forward for detailed analysis. | Mountrail Williams | Hagen et al. 2005 |
| Pygmy shrew | <i>Sorex hoyi</i> | ND Level II | This species prefers moist areas and riparian woodlands associated with mixed and tall grass prairies. | Riparian Woodlands | No | Yes. The Project area is located outside of the range of this species. | Mountrail | Hagen et al. 2005; NatureServe 2008; A_S_M____ 2008 |
| Richardson's ground squirrel | <i>Spermophilus richardsonii</i> | ND Level II | This species prefers well grazed pastures of native or tame grass in areas of sandy loam or gravelly soils. It also can be found near agricultural fields which provide cereal grain as a food source. | Mixed-grass prairie | Yes | Yes. Individuals or evidence of this species was not detected in the vicinity of the Project area during 2008 survey efforts. | Mountrail Williams | Hagen et al. 2005 |
| Sagebrush vole | <i>Lemmiscus curtatus</i> | ND Level III | This species prefers semi-arid areas with loose soil; usually a combination of grass and sagebrush. | Semi-arid lands | No | Yes. The required habitat for this species (sagebrush) is not located in the vicinity of the Project area. | Mountrail Williams | Hagen et al. 2005 |

Appendix A Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|-----------------------------|--------------------------------|---------------------|--|-------------------------------------|---|---|-----------------------|-------------------|
| Swift fox | <i>Vulpes velox</i> | ND Level II | This species is found in short-, mid-, and mixed-grass prairies with gently rolling hills. Den sites are typically located on flat areas or along slopes or ridges that provide a good view. Dens are typically on sites dominated by blue grama or buffalo grass. | Grasslands | Yes – historic | Yes. This species is believed to be extirpated from North Dakota. | Mountrail Williams | Hagen et al. 2005 |
| Western small-footed myotis | <i>Myotis ciliolabrum</i> | ND Level III | This species typically roosts in rugged terrain in small groups or alone in rock crevices and under tree bark. It is only found in North Dakota's badlands and also are associated with coniferous trees. | Rugged terrain and coniferous trees | Yes – The occurrence of this species would be limited to foraging activities. | Yes. Use of the Project area by this species for foraging is unlikely. In addition, foraging would occur at night. Considering that construction activities would primarily occur within the day, and this species is mobile during foraging, the Project would not impact this species and is therefore not carried forward for detailed analysis. | Williams | Hagen et al. 2005 |
| Birds | | | | | | | | |
| American avocet | <i>Recurvirostra americana</i> | ND Level II | This species prefers ponds or lakes with exposed, sparsely vegetated shorelines. Peak breeding season: mid-May to early July. | Ponds or Lakes | Yes | No. However, the Project crosses a limited amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| American bittern | <i>Botaurus lentiginosus</i> | ND Level I | This species inhabits a variety of wetlands, particularly large wetlands with tall emergent vegetation. This migratory bird also will nest in tall, dense grassland. Breeding season: mid-June to late-July. | Wetlands and tall, dense grasslands | Yes | No. However, the Project crosses a limited amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |

Appendix A Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|------------------------|----------------------------------|---------------------|---|--|--------------------------------|---|--------------------|-------------------------------------|
| American white pelican | <i>Pelecanus erythrorhynchos</i> | ND Level I | This species nests in colonies on islands or peninsulas in large lakes and sometimes on rivers. These islands consist of gravel, sand, or soil substrate and little to no vegetation. Foraging habitat is located in shallow waters of lakes, marshes, and rivers. | Large lakes/ reservoirs | Yes | No. This species and its required habitat are found along the Missouri River and waterbodies throughout North Dakota. | Mountrail Williams | Hagen et al. 2005 |
| Baird's sparrow | <i>Ammodramus bairdii</i> | ND Level I | This species prefers extensive tracts of native prairie but will utilize idle, tame grasslands, and lightly to moderately grazed pastures. Stands of grasses with narrow leaves are readily used. Breeding season: early June to late-July. | Extensive tracts of native mixed grass prairie and lightly grazed pastures | Yes | No | Mountrail Williams | Hagen et al. 2005; NatureServe 2008 |
| Bald eagle | <i>Haliaeetus leucocephalus</i> | ND Level II | This species typically occurs near large bodies of water that support suitable roosting and foraging habitat. Nest sites typically occur in proximity to open water and generally are found in mature heterogeneous stands of multi-storied trees, but also may nest on cliffs. Winter habitat typically includes areas of open water, adequate food sources, and sufficient diurnal perches and night roosts. Breeding season: January through July. Winter roosting season: November 15 through March 15. | Large rivers and waterbodies | Yes | No. This species and its required habitat are found along the Missouri River and waterbodies throughout North Dakota. | Mountrail Williams | Hagen et al. 2005; USFWS 2008b |

Appendix A Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|---------------------|----------------------------------|---------------------|---|-----------------------------|--------------------------------|---|-------------------------------------|-------------------|
| Black tern | <i>Chlidonias niger</i> | ND Level I | This species prefers wetlands complexes of shallow wetlands with emergent vegetation and open water surrounded by grasslands. Areas of open water are used for foraging and nests are constructed on floating mats of residual vegetation within the emergent vegetation. Breeding season: early June to mid-July. | Shallow wetlands, grassland | Yes | No. However, the Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Black-billed cuckoo | <i>Coccyzus erythrophthalmus</i> | ND Level I | This species inhabits bushy margins or openings of woodlands, and thickets of small trees or shrubs on the prairie. Also uses riparian areas, shelterbelts and wooded areas of towns and farmsteads. Breeding season: mid-June to late-July. | Wooded areas | Yes | No. However, the Project crosses only a small amount of suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Bobolink | <i>Dolichonyx oryzivorus</i> | ND Level II | This species uses a variety of grasslands but prefers moderate to tallgrass prairie, hayland, and retired croplands. Breeding season: early June to mid-July. | Grasslands | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| Burrowing owl | <i>Athene cunicularia</i> | ND Level II | This migratory species inhabits open grasslands with short vegetation and bare ground. Relies exclusively on burrowing mammals to create burrows for nest sites. Breeding season: early May to mid-August. | Prairie dog colonies | Yes | No. This species was detected during 2008 survey efforts in the vicinity of the Project area. | Secondary Range: Mountrail Williams | Hagen et al. 2005 |
| Canvasback | <i>Aythya valisineria</i> | ND Level II | This species prefers deep wetlands, particularly semipermanent wetlands with emergent cover. Breeding season: mid-May to mid-August. | Open water | Yes | No. However, the Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |

Appendix A Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|----------------------------|------------------------------|---------------------|---|-----------------------------|--------------------------------|---|--------------------|------------------------------------|
| Chestnut-collared longspur | <i>Calcarius ornatus</i> | ND Level I | This species is described as a native prairie specialist. Level to rolling, open, arid, mixed-grass and shortgrass prairie is utilized. Breeding season: early May to mid-July. | Native prairie | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| Dickcissel | <i>Spiza americana</i> | ND Level II | This species uses a variety of grassland habitats but prefers areas with alfalfa, sweet clover, and other brushy grasslands. Breeding season: early June to mid-August. | Grasslands | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| Franklin's Gull | <i>Larus pipixcan</i> | ND Level I | This species nests in colonies in extensive prairie wetlands with emergent vegetation on floating mats of vegetation, on muskrat houses, or other debris. Foraging occurs over water or within agricultural fields. Breeding season: late-May to mid-July. | Large wetlands, Ag fields | Yes | No. The Project crosses a small amount of suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Ferruginous hawk | <i>Buteo regalis</i> | ND Level I | This species inhabits a variety of open country and shrublands. Usually avoids cultivated fields, heavily grazed pastures, high elevations, and forest interiors. May be associated with prairie dog towns. Breeding season: late-April to mid-July. | Open country and shrublands | Yes | No | Mountrail Williams | Hagen et al. 2005; Gomes (No Date) |
| Grasshopper sparrow | <i>Ammodramus savannarum</i> | ND Level I | This species inhabits grasslands of intermediate height, clumped vegetation, patches of bare ground, moderate litter depth, and sparse woody vegetation. Also uses native and tame grasslands, CRP, haylands, and croplands. Breeding season: early June to late-July. | Open country | Yes | No | Mountrail Williams | Hagen et al. 2005 |

Appendix A Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|-------------------------|--------------------------------|----------------------------|---|-----------------------------------|--------------------------------|--|--------------------|--|
| Greater Prairie Chicken | <i>Tympanuchus cupido</i> | ND Level II | This species occurs within native tallgrass prairie associated with agricultural land. Leks are located in areas of short vegetation and bare ground. Nests are found close to the lek site within dense vegetation and some association to water. Breeding season: late-April to early July. | Native Tallgrass prairie/cropland | No | Yes. This species is believed to be extirpated from most of North Dakota. Current distribution is limited to eastern North Dakota. | Mountrail Williams | Hagen et al. 2005; Svedarsky et al. 2003 |
| Horned Grebe | <i>Podiceps auritus</i> | ND Level I | This species breeds in shallow freshwater ponds and marshes with emergent vegetation and substantial amounts of open water. Breeding season: June to early August. | Ponds/wetlands | No | Yes. This species and its required habitat are not found within the Project area. | Mountrail Williams | Hagen et al. 2005 |
| Interior least tern | <i>Sterna antillarum</i> | FE ; ND Level II | This species utilizes sparsely vegetated shorelines and sandbars within lakes and rivers. Nests are constructed as a hollow scrape on the ground with foraging occurring close to the nesting colony. Breeding season: early June to mid-July. | Sandbars/shorelines | No | Yes. This species and its required habitat are not found within the Project area. | Mountrail Williams | Hagen et al. 2005; USFWS 2008b; NDNHI 2008 |
| Lark bunting | <i>Calamospiza melanocorys</i> | ND Level I | This species inhabits mixed-grass prairies and sagebrush communities. Weedy cropland, CRP, hayland, and pastures also are used. Breeding season: early June to early August. | Open country and shrubland | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| LeConte's sparrow | <i>Ammodramus leconteii</i> | ND Level II | This species prefers fens, wet meadows, and marshes of sedge grasses. Breeding season: late-May to mid-August. | Wetlands | Yes | No. The Project crosses a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |

Appendix A Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|-------------------------------|----------------------------|---------------------|---|---------------------------------------|--------------------------------|---|--------------------|------------------------------------|
| Loggerhead shrike | <i>Lanius ludovicianus</i> | ND Level II | This species prefers open country with thickets of small trees, shrubs, and shelterbelts. Breeding season: early May to mid-July. | Open country with tree clumps | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| Marbled godwit | <i>Limosa fedoa</i> | ND Level I | This species requires large expanses of short, sparse to moderately vegetated uplands for nesting and a variety of wetlands for foraging. Requires a high percentage of grass cover and wetlands. Breeding season: early May to late-June. | Prairie adjacent to wetlands | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Nelson's sharp-tailed sparrow | <i>Ammodramus nelsoni</i> | ND Level I | This species inhabits fens, shallow-marsh and wet meadow zones of wetlands. Breeding season: mid-June to early August. | Fens, wet meadows | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Northern harrier | <i>Circus cyaneus</i> | ND Level II | This species inhabits open grasslands and wetlands with tall, dense vegetation. This migratory bird will utilize native or tame vegetation in wet or dry grasslands, fresh to alkali wetlands, lightly grazed pastures, croplands, shrubby fields and fallow fields. Breeding season: early May to mid-July. | Grasslands, Agriculture, and wetlands | Yes | No. This species was detected during 2008 survey efforts. | Mountrail Williams | Hagen et al. 2005; Gomes (No Date) |
| Northern pintail | <i>Anas acuta</i> | ND Level II | This species prefers wetland complexes of open water and associated upland native prairie. Breeding season: early April to early July. | Open water | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |

Appendix A Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|-----------------------|-----------------------------------|----------------------------|---|------------------------|--------------------------------|---|-----------------------|--|
| Peregrine falcon | <i>Falco peregrinus</i> | ND Level III | This species uses open expanses of native prairie, badland complexes, rocky cliffs overlooking rivers, lakes, or other water in North Dakota. Nests on high ledges, cliffs, steep sides of buttes, and tall buildings. Only one breeding pair has been identified in Fargo, North Dakota. Breeding season: early May to late-July. | Cliffs | Yes – as a migrant only. | Yes. The only known nesting pair was located in Fargo, North Dakota, and was last observed in 1954. | Mountrail Williams | Hagen et al. 2005; Gomes (No Date) |
| Piping plover | <i>Charadrius melodus</i> | FT ; ND Level II | This species uses sandy or gravelly beaches and sandbars or alkaline wetlands. Breeding season: late-May to mid-July. | Sandy/gravelly beaches | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005; USFWS 2008b; NatureServe 2008 |
| Redhead | <i>Aythya americana</i> | ND Level II | This species uses a variety of wetland types but prefers semi-permanent and deep seasonal wetlands. Breeding season: early June to late-August. | Open water | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Red-headed woodpecker | <i>Melanerpes erythrocephalus</i> | ND Level II | This species prefers natural stands of mature deciduous trees along river bottoms, shelterbelts, and wooded areas of towns. Breeding season: early June to early August. | Deciduous tree stands | No | Yes. Shelterbelts and towns would be avoided. Habitat would not be affected. | Mountrail Williams | Hagen et al. 2005 |
| Sedge wren | <i>Cistothorus platensis</i> | ND Level II | This species prefers wet meadows of tall grasses and sedges. Breeding season: mid-June to early August. | Wet meadows | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |

Appendix A Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|---------------------|---------------------------------|---------------------|--|--|--------------------------------|---|--------------------|------------------------------------|
| Sharp-tailed grouse | <i>Tympanuchus phasianellus</i> | ND Level II | This species uses mixed grass prairie with patches of shrubs and small trees. CRP grasslands are important to this species. Nests in lightly grazed native prairie, haylands, CRP, and may be located close to the margin of a thicket of shrubs or small trees. Breeding season mid-May to early August. | Mixed grass prairie with patches of shrubs | Yes | No. No lek sites are known to occur near the proposed Project but individuals were observed during 2008 survey efforts. | Mountrail Williams | Hagen et al. 2005 |
| Short-eared owl | <i>Asio flammeus</i> | ND Level II | This species inhabits large expanses of open grassland and wetland areas. Uses native prairie, hayland, retired cropland, small grain stubble, shrub steppe, and wet meadow zones of wetlands. CRP land is important for this species. Breeding season: late-April to mid-July. | Open country | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| Sprague's pipit | <i>Anthus spragueii</i> | ND Level I | This species requires large native grasslands of intermediate height and sparse to intermediate vegetation density. Breeding season: early May to mid-August. | Large native grasslands | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| Swainson's hawk | <i>Buteo swainsoni</i> | ND Level I | This species inhabits open grasslands with scattered trees or shrubs. Also uses shortgrass, mixed-grass, tallgrass prairie, riparian areas, isolated trees, shelterbelts, pasture, hayland, cropland, and wetland borders. Breeding season: mid-May to late-July. | Open country with scattered trees and shrubs | Yes | No. This species was observed during 2008 survey efforts. | Mountrail Williams | Hagen et al. 2005; Gomes (No Date) |
| Upland sandpiper | <i>Bartramia longicauda</i> | ND Level I | This species inhabits native and tame grassland, wet meadows, hayland, pastures, CRP, cropland, highway and railroad ROWs. Often uses wooden fence posts for viewing. Breeding season: late-May to early July. | Open country Grasslands | Yes | No | Mountrail Williams | Hagen et al. 2005 |

Appendix A Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|--------------------|-----------------------------------|---------------------|--|---|---|---|-----------------------|--|
| Whooping crane | <i>Grus americana</i> | FE; ND Level III | Use of the Project would be limited to migration only. During migration, this species uses primarily wetlands and cropland ponds for roosting and feeding. Spring and fall migration through the Project regions generally occurs from April to mid-May and from mid-September to October. | Wetlands bordered by agricultural fields | Yes – Within primary migratory route through North Dakota | No | Mountrail Williams | Hagen et al. 2005; USFWS 2008b; NDNHI 2008 |
| Willet | <i>Cataprophorus semipalmatus</i> | ND Level I | Marshes, tidal mudflats, beaches, lake margins, mangroves, tidal channels, river mouths, coastal lagoons, sandy or rocky shores, and, less frequently, open grassland. Breeding season: late-May to mid-July. | Wetlands with sparse shorelines adjacent to native shortgrass prairie | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Wilson's phalarope | <i>Phalaropus tricolor</i> | ND Level I | This species uses wetlands with open water, emergent vegetation, and open shoreline for foraging and wet meadows, upland grasslands, and wetlands for nesting. Breeding season: late-May to early June. | Wetlands adjacent to upland grasslands | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Yellow rail | <i>Coturnicops noveboracensis</i> | ND Level I | This species uses fens or wet meadows with emergent vegetation, shallow water, and moist soil. Breeding season: early June to mid-July. | Fens, wet meadows | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005; NatureServe 2008 |

Appendix A Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|------------------------------|-------------------------------|---------------------|--|---------------------------|--------------------------------|---|--------------------|-------------------|
| Reptiles / Amphibians | | | | | | | | |
| Canadian toad | <i>Bufo hemiophrys</i> | ND Level I | This species inhabits margins of lakes, ponds, and a variety of wetlands that maintain a permanent water source. This species burrows in the soil with inactive. | Lakes, ponds and wetlands | Yes | No. The Project crosses only a small amount of suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Common snapping turtle | <i>Chelydra serpentina</i> | ND Level II | This species prefers warm water in permanent lakes or rivers with a muddy bottom and plenty of aquatic vegetation. This species buries itself in the mud at the margins of lakes, ponds, and rivers. | Lakes or rivers | Yes | No. The Project crosses only a small amount of marginally suitable habitat. | Mountrail Williams | Hagen et al. 2005 |
| Plains spadefoot | <i>Spea bombifrons</i> | ND Level I | This species inhabits dry, open grasslands with sandy or loose soils. Temporary wetlands without vegetation, such as those found in agricultural fields, are easily flooded and may provide tolerable breeding habitat. This species burrows underground or occupies rodent burrows when inactive. | Open grasslands | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| Short-horned lizard | <i>Phrynosoma douglassi</i> | ND Level II | This species prefers semi-arid, shortgrass prairie in rough terrain. This species burrows in the soil or occupies rodent burrows. | Arid landscapes | Yes | No. The Project crosses only a small amount of suitable habitat. | Williams | Hagen et al. 2005 |
| Smooth green snake | <i>Liochlorophis vernalis</i> | ND Level I | This species prefers grazed or ungrazed grassland, particularly the uplands of hills where grass is shorter. Moist meadows, native prairies, and occasionally woodland clearings also are used. This species also utilizes burrows. It has been documented hibernating in ant mounds. | Grassland, upland hills | Yes | No | Mountrail Williams | Hagen et al. 2005 |
| Western hognose snake | <i>Heterodon nasicus</i> | ND Level I | This species prefers dry, sandy or gravelly areas in grassland, open sand prairies, or sand dunes. Burrows into loose soil or small mammal burrows for cover. | Open sand prairies | Yes | No. The Project crosses only a small amount of suitable habitat. | Mountrail Williams | Hagen et al. 2005 |

Appendix A Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|------------------|----------------------------|---------------------|--|---|--------------------------------|--|--------------------|---|
| Fish | | | | | | | | |
| Blue sucker | <i>Cycleptus elongatus</i> | ND Level I | This species inhabits streams with swift currents and large turbid rivers. Found mostly in riffles or narrow chutes. Requires gravel bottoms free of sediment. | Large, turbid rivers with gravel bottoms free of sediment | Yes | Yes. No large rivers will be crossed by the proposed Project. | Mountrail Williams | Hagen et al. 2005; NatureServe 2008 |
| Finescale dace | <i>Phoxinus neogaeus</i> | ND Level III | This species inhabits boggy water of lakes and slow moving small streams. Bottom substrate is normally silted, sand, or gravel with vegetation present. | Boggy lakes and streams | Yes | Yes. One historic occurrence (1974) in Williams County is recorded by NDNHI 2008; however, the species is found only in the Tongue River in northeastern North Dakota. | Williams | Hagen et al. 2005; NDNHI 2008 |
| Flathead catfish | <i>Pylodictis olivaris</i> | ND Level III | This species occurs in pools and slow moving stretches of large rivers. Areas with debris and a hard bottom are preferred. Also found near impoundments where spawning habitat is available. | Large rivers with pools | No | Yes. No large rivers will be crossed by the proposed Project. | Mountrail Williams | Hagen et al. 2005 |
| Flathead chub | <i>Platygobio gracilis</i> | ND Level II | This species occurs in small creeks and the largest rivers that have turbid fluctuating water levels and unstable sand bottoms. This species relies on flood flows to spawn successfully. | Turbid rivers with sandy substrate | Yes | Yes. No large rivers will be crossed by the proposed Project. | Mountrail Williams | Hagen et al. 2005; NDNHI 2008; NatureServe 2008 |

Appendix A Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|------------------------|-----------------------------|---------------------------|---|------------------|--------------------------------|---|-----------------------|---|
| Northern redbelly dace | <i>Phoxinus eos</i> | ND Level II | This species inhabits slower moving stretches of rivers with clear water over silt bottoms. Vegetation is usually found in close proximity. Found to a lesser extent in pools and impoundments. | Rivers and ponds | Yes | Yes. One historic occurrence (1975) in Williams County is recorded by NDNHI 2008; however, in the Missouri River drainage, population are only known to occur in Brush, Apple, Beaver, and Antelope creeks, and the Cannonball, Knife, Heart, and Little Missouri rivers. | Williams | Hagen et al. 2005; NDNHI 2008 |
| Paddlefish | <i>Polyodon spathula</i> | ND Level II | This species inhabits slack water areas of rivers and areas of low flow. Areas such as behind sandbars, wing dams, or other structures are preferred. | Large Rivers | No | Yes. No large rivers will be crossed by the proposed Project. | Mountrail Williams | Hagen et al. 2005; NDNHI 2008; NatureServe 2008 |
| Pallid sturgeon | <i>Scaphirhynchus albus</i> | FE; ND Level II | This species is only found in the Missouri River and parts of the Yellowstone River. Usually in fast current areas with a firm sand or gravel bottom. | Large Rivers | No | Yes. No large rivers will be crossed by the proposed Project. | Mountrail Williams | Hagen et al. 2005; NatureServe 2008 |
| Sicklefin chub | <i>Macrhybopsis meeki</i> | ND Level I | This species inhabits large turbid rivers, usually with a sand or gravel bottom. | Large Rivers | No | Yes. No large rivers will be crossed by the proposed Project. | Williams | Hagen et al. 2005; NatureServe 2008 |
| Sturgeon chub | <i>Macrhybopsis gelida</i> | ND Level I | This species inhabits large slow-moving turbid rivers, usually with a sand or gravel bottom. | Large Rivers | No | Yes. No large rivers will be crossed by the proposed Project. | Williams | Hagen et al. 2005; NDNHI 2008; NatureServe 2008 |

Appendix A Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|----------------------|--------------------------|---------------------|---|--------------------------------|--------------------------------|---|-----------|---|
| Invertebrates | | | | | | | | |
| Dakota skipper | <i>Hesperia dacotae</i> | FC | <p>This species is an obligate resident of native prairie habitats and resides in two types of grassland habitats. The first is flat, moist, native bluestem grass prairie where three species of wildflowers are present and in flower during the adult (flight) stage.</p> <p>The second habitat is upland, dry prairie that is often on ridges and hillsides. Bluestem grasses and needle grasses dominate these drier habitats.</p> <p>The current distribution of this species includes the border between tall grass and mixed grass prairie in western Minnesota, Northeastern South Dakota, north-central North Dakota, and southern Manitoba, Canada (USFWS 2002).</p> | Large tracts of native prairie | No. | Yes. Only known to be east of the Project area. | Mountrail | USFWS 2008b; NatureServe 2008; USFWS 2002, 2007 |
| Plants | | | | | | | | |
| Dakota buckwheat | <i>Eriogonum visheri</i> | ND SOC | <p>This plant grows predominantly on barren, highly erodible, rock outcrops in badlands habitats. It also may be found on smaller erosion features in mixed grass prairie.</p> <p>Flowering Period: July-August. Elevation range: 1,900-3,100 feet.</p> | Barren land | No | Yes. Habitat for this species was not detected in the vicinity of the Project area. | Mountrail | NDNHI 2008; Ladyman 2006; Locklear 2008 |

Appendix A Special Status Species

| Species | Scientific Name | Status ¹ | Habitat Association | Primary Habitat | Occurrence Within Project Area | Eliminated from Detailed Analysis | Counties | Source |
|------------------------|---------------------------------|---------------------|---|--------------------------------|--------------------------------|--|-----------------------|---|
| Heart-leaved buttercup | <i>Ranunculus cardiophyllus</i> | ND SOC | Heart-leaved buttercup occurs in dry to moist meadows and seeps of the Rocky Mountains and western great plains. Its distribution in the Great Plains is concentrated in the Black Hills area of South Dakota. Flowering Period: June-July. Elevation Range: 1,970-11,150 feet. | Dry to moist meadows and seeps | Unknown | Yes. Habitat for this species was not detected in the vicinity of the Project area. The Project area falls at the lower end of the elevation tolerance for this species where it has rarely been documented. | Williams | NDNHI 2008; Efloras 2008; GPFA 1986; MNHP/MFWP 2008; Van Bruggen 1976 |
| Jointed-spike sedge | <i>Carex athrostachya</i> | ND SOC | Jointed-spike sedge is found on the margins of moist to wet meadows in the western U.S. Flowering Period: late spring-summer. Elevation Range: 1,900-8,800 feet. | Moist to wet meadows | Unknown | Yes. Habitat for this species was not detected in the vicinity of the Project area. The Project area falls at the lower end of the elevation tolerance for this species where it has rarely been documented. | Mountrail Williams | NDNHI 2008; GPFA 1986; Klinkenberg 2008 |

¹ **Species Status**

FE = Federally Endangered.

FT = Federally Threatened

FD = Federally Delisted.

FC = Federal Candidate.

ND Level I, II, III = North Dakota Level I, II, III Species of Conservation Priority.

ND SOC = North Dakota Species of Concern.

Appendix B

Notification

Williston to Tioga Transmission Project Notification List

Federal Agencies

U.S. Fish and Wildlife Services
Field Supervisor for Ecological Services
3425 Miriam Avenue
Bismarck, ND 58501-7926

U.S. Army Corps of Engineers
Omaha District
Col. David Press
District Commander
106 South 15th Street
Omaha, NE 68102-1618

Federal Emergency Management Agency
Regional Environmental Officer
Department of Homeland Security
P.O. Box 25267
Denver, CO 80225-0267

Federal Aviation Administration
Great Lakes Region
O'Hare Lake Office Center
2300 East Devon Avenue
Des Plaines, IL 60018

Federal Highway Administration
1471 Interstate Loop
Bismarck, ND 58503-0567

US Environmental Protection Agency
NEPA Program – 8EPR-N Mail Code
999 18th Street, Suite 300
Denver, CO 80202-2466

State Agencies

North Dakota NRCS State Office
220 East Rosser Avenue
Federal Building
Room 270
Bismarck, ND 58501

North Dakota State
Farm Service Agency
1025 28th Street S
Fargo, ND 58103-2372

North Dakota Department of Agriculture
600 E. Boulevard Ave., Dept. 602
Bismarck, ND 58505-0020

North Dakota Forest Service
Molberg Center
307 First Street East
Bottineau, ND 58318

North Dakota Game and Fish Department
100 N. Bismarck Expressway
Bismarck, ND 58505-0830

North Dakota State Historical Board
612 East Boulevard Avenue
Bismarck, ND 58505-0830

North Dakota Indian Affairs Commission
600 East Boulevard Avenue
1st Floor Judicial Wing
Room 3117
Bismarck, ND 58505

North Dakota State Land Department
1707 North 9th Street
P.O. Box 5523
Bismarck, ND 58506-5523

North Dakota Department of Commerce
Division of Community Services
Century Center
1600 East Century Avenue, Suite 2
Bismarck, ND 58503

North Dakota Department of Transportation
608 East Boulevard Avenue
Bismarck, ND 58505

North Dakota Public Service Commission
600 East Boulevard Ave., Dept. 408
Bismarck, ND 58505

North Dakota Transmission Authority
State Capitol, 14th Floor
600 E. Boulevard Ave., Dept. 405
Bismarck, ND 58505

North Dakota Department of Health
Environmental Health Section
918 East Divide Avenue
Bismarck, ND 58501

North Dakota Parks and Recreation
Department
1835 Bismarck Parkway
Bismarck, ND 58504

Elected Officials

The Honorable Earl Pomeroy
North Dakota Congressional Delegation
Room 328
Federal Building
220 East Rosser Avenue
Bismarck, ND 58501

The Honorable Byron Dorgan
North Dakota Congressional Delegation
312 Federal Building
P.O. Box 2579
Bismarck, ND 58502

The Honorable Kent Conrad
North Dakota Congressional Delegation
Federal Building
Room 228
220 East Rosser Avenue
Bismarck, ND 58501

Senator John M. Andrist
North Dakota State Legislature
P.O. Box E
Crosby, ND 58730-0660

Representative Bob Skarphol
North Dakota State Legislature
P.O. Box 725
Tioga, ND 58852-0725

Representative Dorvan Solberg
North Dakota State Legislature
11395 66th Street NW
Ray, ND 58849-9473

County

Mountrail County Farm Service Agency
21 1st Street SE
Standley, ND 58784

Williams County Farm Service Agency
1106 West 2nd Street
Williston, ND 58801

Martin Hanson
Williams County Commissioners
P.O. Box 2047
Courthouse
205 East Broadway
Williston, ND 58802-2047

Raymond Schmidt
Williams County Commissioners
P.O. Box 2047
Courthouse
205 East Broadway
Williston, ND 58802-2047

David Montgomery
Williams County Commissioners
P.O. Box 2047
Courthouse
205 East Broadway
Williston, ND 58802-2047

Dan Kalil
Williams County Commissioners
P.O. Box 2047
Courthouse
205 East Broadway
Williston, ND 58802-2047

Don Arnson
Williams County Commissioners
P.O. Box 2047
Courthouse
205 East Broadway
Williston, ND 58802-2047

Greg Boschee
Mountrail County Commissioners
101 North Main Street
P.O. Box 69
Stanley, ND 58784-0069

Arlo Borud
Mountrail County Commissioners
101 North Main Street
P.O. Box 69
Stanley, ND 58784-0069

David Hynek
Mountrail County Commissioners
101 North Main Street
P.O. Box 69
Stanley, ND 58784-0069

Municipalities

John Kautzman
City of Williston
P.O. Box 1306
Williston, ND 58802

Jamie Eraas
City of Tioga
1st Street NE
P.O. Box 218
Tioga, ND 58852-0218

Tribes

Ivan Posey, Chairman
Shoshone Business Council
P.O. Box 538
Fort Washakie, WY 82514

Arlen Shoyo
Shoshone Business Council
P.O. Box 538
Fort Washakie, WY 82514
Reba Theran
Shoshone Business Council
P.O. Box 538
Fort Washakie, WY 82514

Richard Brannan, Chairman
Arapahoe Business Council
P.O. Box 396
Fort Washakie, WY 82514

JoAnn White
Tribal Historic Preservation Officer
Northern Arapahoe Tribe
Fort Washakie, WY 82514

Eugene Little Coyote, President
Northern Cheyenne Tribal Council
P.O. Box 128
Lame Deer, MT 59043

Conrad Fisher
Tribal Historic Preservation Officer
Northern Cheyenne Tribe
P.O. Box 128
Lame Deer, MT 59043

Steven Brady
Traditional Spokesperson
Northern Cheyenne Tribe
P.O. Box 542
Lame Deer, MT 59043

Cecelia Firethunder
President
Oglala Sioux Tribal Council
P.O. Box H
Pine Ridge, SD 57570

Rodney Bordeaux, President
Rosebud Sioux Tribal Council
P.O. Box 430
Redbud, SD 57570

Russell Eagle Bear, THPO
Rosebud Sioux Tribe of Indians
P.O. Box 809
Rosebud, SD 57570

Herold Frazier, Chairman
Cheyenne River Sioux Tribal Council
P.O. Box 590
Eagle Butte, SD 57625

Albert Lebeau, THPO
Cheyenne River Sioux Tribe
P.O. Box 590
Eagle Butte, SD 57625

Ron His-Horse-is-Thunder
Chairman
Standing Rock Sioux Tribal Council
P.O. Box D
Fort Yates, ND 58538

Tim Mentz, THPO
Standing Rock Sioux Tribe
P.O. Box D
Fort Yates, ND 58538

Carle Venne, Chairman
Crow Tribal Council
P.O. Box 159
Crow Agency, MT 59022

Darrin Oil Coyote
Cultural Director
Crow Tribal Administration
P.O. Box 159
Crow Agency, MT 59022

John Morales, Chairman
Fort Peck Tribes
P.O. Box 836
Poplar, MT 59255

Curley Youpee, THPO
Fort Peck Tribes
P.O. Box 836
Poplar, MT 59255

Marcus D. Wells
Chairman
Three Affiliated Tribes Business Council
404 Frontage Road
New Town, ND 58763

Organizations

Ducks Unlimited
3502 Franklin Avenue
Bismarck, ND 58501

The Nature Conservancy
P.O. Box 1156
Bismarck, ND 58502-1156

Sierra Club, Dacotah Chapter
311 E. Thayer Ave.
Suite 113
Bismarck, ND 58501

Potentially Affected Landowners

1,000 + Individuals

Appendix C

Agency Correspondence



Department of Energy
Western Area Power Administration
Upper Great Plains Customer Service Region
P.O. Box 35800
Billings, MT 59107-5800

March 5, 2008

SUBJECT: Williston – Tioga 230-kV Transmission Line Project

Dear Interested Party:

Basin Electric Power Cooperative (Basin Electric) is proposing to construct a 230-kV transmission line from Western Area Power Administration's (Western) Williston Substation west of Williston, North Dakota, to the Tioga Substation east of Tioga, North Dakota. The proposed project, known as the Williston – Tioga 230-kV Transmission Line Project (Project) is needed to increase the load serving capacity in northwestern North Dakota.

Basin Electric has requested an interconnection with Western's transmission system at the Williston Substation. This interconnection request triggers a Federal National Environmental Policy Act (NEPA) review. Before Western can approve the construction and interconnection of the proposed Project, the potential environmental impacts must be assessed.

Western intends to prepare an Environmental Assessment (EA) for this project in accordance with NEPA. The EA will provide Western with a framework to analyze and judge the magnitude of expected environmental impacts from the construction and operation of the proposed Project. If Western finds that there are no significant environmental impacts, a "Finding of No Significant Impact" will be issued for the proposed Project. If the EA process identifies unmitigated significant impacts, an Environmental Impact Statement (EIS) process will be initiated to take a more detailed look at the impacts and alternative approaches to the proposed Project.

The proposed Project corridor would begin at Western's Williston Substation and proceed northeast approximately 47 miles to the Tioga Substation. The proposed transmission line would be constructed with steel H-frame structures. A fiber optic ground wire would be installed as one of two ground wires for Basin Electric's mobile radio communications in this remote area. Width of the right-of-way for the transmission line would be 125 feet.

Public involvement is an important and integral part of Western's NEPA process. Scoping involves actively acquiring input from interested Federal, State, tribal and local agencies, and the public. Information gained during scoping assists Western in identifying potential environmental issues, alternatives, and mitigation measures associated with constructing and operating the proposed Project. Scoping also helps narrow the scope of issues so the analysis of environmental impacts can focus on areas of highest interest and concern.

There will be a Western scoping period to ensure that interested members of the public; potentially affected landowners and lessees; and Federal, State, local, and tribal agencies have an opportunity to provide input on the scope of the EA and the alternatives that will be addressed in the EA. In conjunction with the scoping period Western will also hold public open-house scoping meetings near

the proposed Project area. At the scoping meetings Western staff will provide information about the proposed Project, answer questions, and take verbal and written comments from interested parties. Western wants you to comment on the proposed Project, offer suggestions to improve the proposal, and even suggest alternative actions. Western is also asking you to identify any issues of concern about potential environmental impacts.

Open-house public scoping meetings will be held at the following locations:

March 17, 2008
El Rancho Motor Hotel
1323 2nd Avenue West
Williston, North Dakota

March 18, 2008
Jungle Restaurant (former American Legion)
121 South Main Street
Tioga, North Dakota

You may attend any time between 4 p.m. and 7 p.m. You will have the opportunity to view proposed Project information and NEPA process displays. The open-house scoping meeting will be very informal, with Western and Basin Electric representatives available for discussion. Written comments may be left with Western's representative at the scoping meeting or provided by fax, e-mail, or the U.S. Postal Service to Mr. Rod O'Sullivan at the following address:

Rod O'Sullivan, Environmental Protection Specialist
Upper Great Plains Region
Western Area Power Administration
P.O. Box 35800
Billings, MT 59107-5800
Phone: (406) 247-7385
Fax: (406) 247-7408
E-mail: OSullivan@wapa.gov

Comments on the Project scope and alternatives should be received by April 18, 2008, to ensure consideration in defining the scope for the EA. Comments on other aspects of the proposed Project will be accepted and considered throughout the NEPA process. If you wish to be added to the Project mailing list and/or receive a copy of the Draft EA, please return the enclosed response sheet.

Western looks forward to your participation in the EA process. If you have any questions, concerns, or comments, please contact Mr. Rod O'Sullivan.

Sincerely,



Nicholas J. Stas
Environmental Manager

Enclosure

Fold 2

**Rod O'Sullivan
Western Area Power Administration
P.O. Box 35800
Billings, MT 59107-5800**

Fold 1

Williston to Tioga Transmission Project mailing list

To have your name added or removed from our mailing list for this project, please check the appropriate box and return this comment form to us. If you do not ask us to remove your name from our mailing list, we will send you future EA-related announcements.

- Add my name to the mailing list
 Remove my name from the mailing list

Sign up to receive the EA

To receive the Environmental Assessment for review when it is available, please check below.

- Send me the EA for review

Note: Fold the comment form on the lines with the return address showing, tape it closed and drop it in the mail to us. Additional sheets may be attached.

December 27, 2007

Terrance J. Gisvold
Assistant State Conservationist
Dickinson Area Office
135 Sims, Suite 210
Dickinson, ND 58601

Re: Request for Information – Basin Electric Williston to Tioga Transmission Line Project

Dear Mr. Gisvold:

Basin Electric Power Cooperative (Basin Electric) proposes to construct an approximately 50-to-60-mile-long, 230 kV, single-circuit transmission line from Williston to Tioga, North Dakota. The proposed transmission route would use H-frame structures and would be located within rural agricultural lands. A Route Permit is required from the North Dakota Public Service Commission (NDPSC) and an Environmental Assessment (EA) is required for Western Area Power Administration (Western) and Rural Utilities Service (RUS). Western is the lead Federal agency; RUS is a cooperating agency.

Alternative transmission line corridors will be identified in accordance with NDPSC and RUS permitting requirements. The corridors will be six-miles-wide (maximum width required by the NDPSC) which is compatible with a 60-mile-long corridor. Two or more potential alternative transmission line routes will be identified within the corridors. An EA will be prepared for the project.

In order to address potential impacts to biological resources, Western would like to request noxious weed species occurrence information for the project area. We also would like to present you with the opportunity to provide your recommendation for a reclamation seed mixture for the proposed project area. Western will obtain the soil surveys for the project corridors. If additional sensitive areas exist within the project area in relation to soils, please provide information accordingly. Shapefiles for the project area are available. Please notify Dirk Shulund if these would be useful and they will be provided electronically.

If you have any questions regarding this request, please call me at (406) 247-7402 or email at shulund@wapa.gov. Thank you in advance for your prompt response to this request.

Sincerely,

Dirk Shulund
Environmental Manager

Enc. Overview Project Map

December 27, 2007

Kathy Duttenhefner
North Dakota Parks & Recreation Department
1600 E. Century Avenue, Suite 3
Bismarck, ND 58503-0649
kgduttonhefner@nd.gov

Re: Request for Information – Basin Electric Williston to Tioga Transmission Line Project

Dear Ms. Duttenhefner:

Basin Electric Power Cooperative (Basin Electric) proposes to construct an approximately 50-to-60-mile-long, 230 kV, single-circuit transmission line from Williston to Tioga, North Dakota. The proposed transmission route would use H-frame structures and would be located within rural agricultural lands. A Route Permit is required from the North Dakota Public Service Commission (NDPSC) and an Environmental Assessment (EA) is required for Western Area Power Administration (Western) and Rural Utilities Service (RUS). Western is the lead Federal agency; RUS is a cooperating agency.

Alternative transmission line corridors will be identified in accordance with NDPSC and RUS permitting requirements. The corridors will be six-miles-wide (maximum width required by the NDPSC) which is compatible with a 60-mile-long corridor. Two or more potential alternative transmission line routes will be identified within the corridors. An EA will be prepared for the project.

Information Request

Enclosed with this email is an overview map of the corridors and corridor shapefiles. In North Dakota, the Project will be routed through portions of Williams and Montrail counties.

In order to address potential impacts to aquatic and terrestrial plant and animal species, we are requesting occurrence data for:

- Federally listed, proposed, and candidate species;
- Designated critical habitat of federally listed species;
- State listed or state sensitive species; and
- Unique ecosystems or sensitive communities.

Because of the mobility of wildlife species, Western would like to request sensitive wildlife information 3 miles surrounding the corridors. We also would like to request sensitive plant data 1 mile surrounding the corridors. If applicable, please send electronic files for our environmental analysis to: shulund@wapa.gov.

Western will also be contacting the U.S. Fish and Wildlife Service and the North Dakota Game and Fish Department to request sensitive species information and to obtain input regarding the

Kathy Duttonhefner
December 27, 2007
Page 2

corridors in North Dakota. If you have any questions regarding this request, please call me at (406) 247-7402. Thank you in advance for your prompt response to this request.

Sincerely,

Dirk Shulund
Environmental Manager

Enc. Overview Project Map
Shapefiles

cc: John Schumacher, NDGFD
Jeffrey Towner, USFWS

December 27, 2007

John Schumacher
North Dakota Game and Fish Department
100 N. Bismarck Expressway
Bismarck, ND 58501

Re: Request for Information – Basin Electric Williston to Tioga Transmission Line Project

Dear Mr. Schumacher:

Basin Electric Power Cooperative (Basin Electric) proposes to construct an approximately 50-to-60-mile-long, 230 kV, single-circuit transmission line from Williston to Tioga, North Dakota. The proposed transmission route would use H-frame structures and would be located within rural agricultural lands. A Route Permit is required from the North Dakota Public Service Commission (NDPSC) and an Environmental Assessment (EA) is required for Western Area Power Administration (Western) and Rural Utilities Service (RUS). Western is the lead Federal agency; RUS is a cooperating agency.

Alternative transmission line corridors will be identified in accordance with NDPSC and RUS permitting requirements. The corridors will be six-miles-wide (maximum width required by the NDPSC) which is compatible with a 60-mile-long corridor. Two or more potential alternative transmission line routes will be identified within the corridors. An EA will be prepared for the project.

Information Request

Enclosed is an overview map of the corridors and a CD containing corridor shapefiles. The Project will be routed through portions of Williams and Montrail counties.

Western would like to provide an opportunity for North Dakota Game and Fish Department (NDGFD) biologists and botanists to identify prominent terrestrial and aquatic resource issues or concerns that may occur within or adjacent to the project corridors, focusing on species that are either sensitive (e.g., state-listed), have high economic value (e.g., big game, waterfowl), or are considered important by the state (e.g., raptors, bats). Please forward this request to the applicable specialists (e.g., fisheries and/or wildlife biologists, habitat biologists, botanists, etc.) so they may provide information and input. Resource information provided by the NDGFD will be reflected in the environmental baseline description pertaining to the project. If applicable, please send electronic files for our environmental analysis to: shulund@wapa.gov.

Where it appears that possible or probable concerns relative to sensitive species or habitats may occur, please indicate whether surveys might be required, as well as the preferred methodology and level of effort you would consider acceptable for the surveys.

John Schumacher
December 27, 2007
Page 2

Western also is contacting the U.S. Fish and Wildlife Service (USFWS) and the North Dakota Parks and Recreation Department (NDPRD) to request sensitive species information. If you have any questions regarding this request, please call me at (406) 247-7402. Thank you in advance for your prompt response to this request.

Sincerely,

Dirk Shulund
Environmental Manager

Enc. Overview Project Map
Shapefiles

cc: Kathy Deuttenhefner, NDPRD
Jeffrey Towner, USFWS

December 27, 2007

Jeffrey Towner
U. S. Fish and Wildlife Service
North Dakota Field Office
3425 Miriam Avenue
Bismarck, North Dakota 58501-7926

Re: Request for Information – Basin Electric Williston to Tioga Transmission Line Project

Dear Mr. Towner:

Basin Electric Power Cooperative (Basin Electric) proposes to construct an approximately 50-to-60-mile-long, 230 kV, single-circuit transmission line from Williston to Tioga, North Dakota. The proposed transmission route would use H-frame structures and would be located within rural agricultural lands. A Route Permit is required from the North Dakota Public Service Commission (NDPSC) and an Environmental Assessment (EA) is required for Western Area Power Administration (Western) and Rural Utilities Service (RUS). Western is the lead Federal Agency; RUS is a cooperating agency.

Alternative transmission line corridors will be identified in accordance with NDPSC and RUS permitting requirements. The corridors will be six-miles-wide (maximum width required by the NDPSC) which is compatible with a 60-mile-long corridor. Two or more potential alternative transmission line routes will be identified within the corridors. An EA will be prepared for the project.

Species Information Request

Enclosed is an overview map of the corridors and a CD containing corridor shapefiles. In North Dakota, the Project will be routed through portions of Williams and Montrail counties.

In order to address potential impacts to aquatic and terrestrial plant and animal species, we are requesting species information for:

- Federally listed, proposed, and candidate species; and
- Designated critical habitat of federally listed species.

Where it appears that possible or probable concerns relative to sensitive species or habitats may occur, please indicate whether surveys might be required, as well as the preferred methodology and level of effort you would consider acceptable for the surveys. If appropriate, Western also would like to request that the USFWS designate a project lead through the consultation process for the Project.

Western also is contacting the North Dakota Game and Fish Department (NDGFD) and the North Dakota Parks and Recreation Department (NDPRD) for resource data and input on the

Jeffrey Towner
December 27, 2007
Page 2

proposed Basin Electric Williston to Tioga Transmission Line Project. If you have any questions regarding this request, please call me at (406) 247-7402 or email at shulund@wapa.gov. Thank you in advance for your prompt response to this request.

Sincerely,

Dirk Shulund
Environmental Manager

Enc. Overview Project Map
Shapefiles

cc: Kathy Deuttenhefner, NDPRD
John Schumacher, NDGFD



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501



MAR 26 2008

RECEIVED IN BILLINGS UGPCSR

MAR 31 2008

Mr. Nicholas J. Stas
Western Area Power Administration
Upper Great Plains Customer Service Region
P.O. Box 35800
Billings, Montana 59107-5800

Re: Williston-Tioga 230-kV Transmission
Line Project

Dear Mr. Stas:

This letter is in regards to Basin Electric Power Cooperative's (Basin Electric) request for an interconnection with the Western Area Power Administration's (WAPA) transmission system and proposal to construct a 230 kV transmission line from Williston Substation to the Tioga Substation in Williams County, North Dakota. We offer the following comments under the authority of and in accordance with the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.), the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.), and the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. 4321 et seq.). We may have more detailed comments as the NEPA process proceeds.

To minimize disturbance to fish and wildlife resources in the project area, the Service provides the following recommendations:

- Time construction so that it does not occur between April 1 and July 15 so as not to disrupt waterfowl or other wildlife during the nesting season, and to avoid high water conditions.
- Make no stream channel alterations or changes in drainage patterns.
- Locate construction to avoid placement of fill in wetlands along the route.
- Replace unavoidable loss of wetland habitat with functionally equivalent wetlands.
- Replant trees in naturally forested areas or riparian zones at a ratio of two trees planted for every one removed.

- Install and maintain appropriate erosion control measures to reduce sediment transport to adjacent wetlands and stream channels.
- Reseed disturbed areas with a mixture of native grass and forb species.

If construction routes intersect wetlands, streams, or rivers, the Corps of Engineers (Corps) may require a Department of the Army permit, for the placement of dredge or fill material into waters of the U.S., including wetlands, or other impacts to navigable waters. We suggest you contact Mr. Daniel Cimarosti, Regulatory Office, Corps of Engineers, 1513 South 12th Street, Bismarck, North Dakota 58504 (701-255-0015), to determine the Corps' permit requirements.

A list of federally endangered and threatened species that may be present within the proposed project's area of influence is enclosed. This list fulfills requirements of the Service under Section 7 of the Endangered Species Act. This list remains valid for 90-days.

If a Federal agency authorizes, funds, or carries out a proposed action, the responsible Federal agency, or its delegated agent, is required to evaluate whether the action "may affect" listed species. If the Federal agency or its delegated agent determines the action may likely adversely affect listed species, then the responsible Federal agency shall request formal section 7 consultation with this office, or work with this office to remove the likely adverse effects before proceeding. Your determination of effects to listed species and concurrence by the Service should be completed prior to making a final determination of whether or not to grant an interconnection to WAPA's system. If the evaluation shows a "no effect" determination to listed species, further consultation is not necessary. However, the Service does not believe that a "no effect" determination for the whooping crane is appropriate for this action. Please inform us of your determination of effects to federally listed species, including the whooping crane.

To minimize the electrocution hazard to birds, the Service, with support from the Rural Utilities Service, recommends that new or updated overhead power lines be constructed in accordance with the current guidelines for preventing bird electrocutions. The recommended guidelines can be found in "2006 Suggested Practices for Avian Protection on Power Lines". To increase power line visibility and reduce bird fatalities resulting from collisions with power lines, the Service recommends power lines in the major whooping crane migration zone as well as power lines that cross or run adjacent to rivers or large wetlands be modified according to "Mitigating Bird Collisions with Power Lines: The State of the Art in 1994". Both publications can be obtained by writing or calling the Edison Electric Institute, P.O. Box 266, Waldorf, Maryland 20604-0266, (1-800-334-5453) or visiting their website at www.eei.org.

Thank you for the opportunity to comment on this proposal. If you require further information or the project plans change, please have your staff contact Carol Aron of my staff or contact me directly at (701) 250-4481 or at the letterhead address above.

Sincerely,

Jeffrey K. Towner

Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

Enclosure

FEDERAL THREATENED AND ENDANGERED SPECIES
AND DESIGNATED CRITICAL HABITAT FOUND IN
WILLIAMS COUNTY, NORTH DAKOTA
March 2008

ENDANGERED SPECIES

Birds

Interior least tern (*Sterna antillarum*): Nests along midstream sandbars of the Missouri and Yellowstone Rivers.

Whooping crane (*Grus Americana*): Migrates through west and central counties during spring and fall. Prefers to roost on wetlands and stockdams with good visibility. Young adult summered in North Dakota in 1989, 1990, and 1993. Total population 140-150 birds.

Fish

Pallid sturgeon (*Scaphirhynchus albus*): Known only from the Missouri and Yellowstone Rivers. No reproduction has been documented in 15 years.

Mammals

Gray wolf (*Canis lupus*): Occasional visitor in North Dakota. Most frequently observed in the Turtle Mountains area.

THREATENED SPECIES

Birds

Piping plover (*Charadrius melodus*): Nests on midstream sandbars of the Missouri and Yellowstone Rivers and along shorelines of saline wetlands. More nest in North Dakota than any other state.

DESIGNATED CRITICAL HABITAT

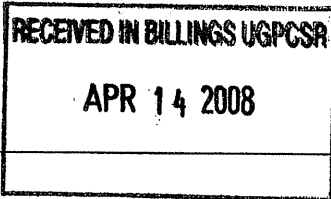
Birds

Piping Plover - Lake Sakakawea - Critical habitat includes sparsely vegetated shoreline beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with the water bodies.

1707 North 9th Street
PO Box 5523
Bismarck, ND 58506-5523
Phone: (701) 328-2800
Fax: (701) 328-3650



www.land.state.nd.us
www.nd.gov



Gary D. Preszler, Commissioner

April 11, 2008

ROD O'SULLIVAN ENVIRONMENTAL PROTECTION SPECIALIST
UPPER GREAT PLAINS REGION WESTERN AREA POWER ADMIN
PO BOX 35800
BILLINGS MT 59107-5800

Re: Williston-Tioga 230 Kv Transmission Line Project

Dear Mr. O'Sullivan:

The ND State Land Department manages land on behalf of the School Trusts that provide income for the schools and other institutions in North Dakota. The proposed northern route of the transmission line crosses several tracts of school trust land, including the following, all in Williams County:

- NE4 of Section 16, T155N, R101W
- S2 of Section 36, T156N, R101W
- W2 of Section 16 and S2SE4 of Section 9, T156N, R100W
- S2 and NE4 of Section 36, T157N, R99W
- S2 of Section 16, T157N, R95W

The amount of school trust land included in the proposed northern route consists of 12 leasing units on six sections of land, an unusually high percentage of the total ownership along the line. It appears the school trust land has been targeted for this project. These properties have a constitutional mandate to produce income for the trust beneficiaries and the potential impact of the transmission line on trust surface and mineral holdings must be considered.

Enclosed are maps showing potential gravel deposits and potential oil well locations. Not all of the potential oil well locations will be used. The most critical locations are within 800 feet of the section corners or quarter corners. Four of the proposed transmission line routes cross the school trust land on a diagonal which causes severance of the property.

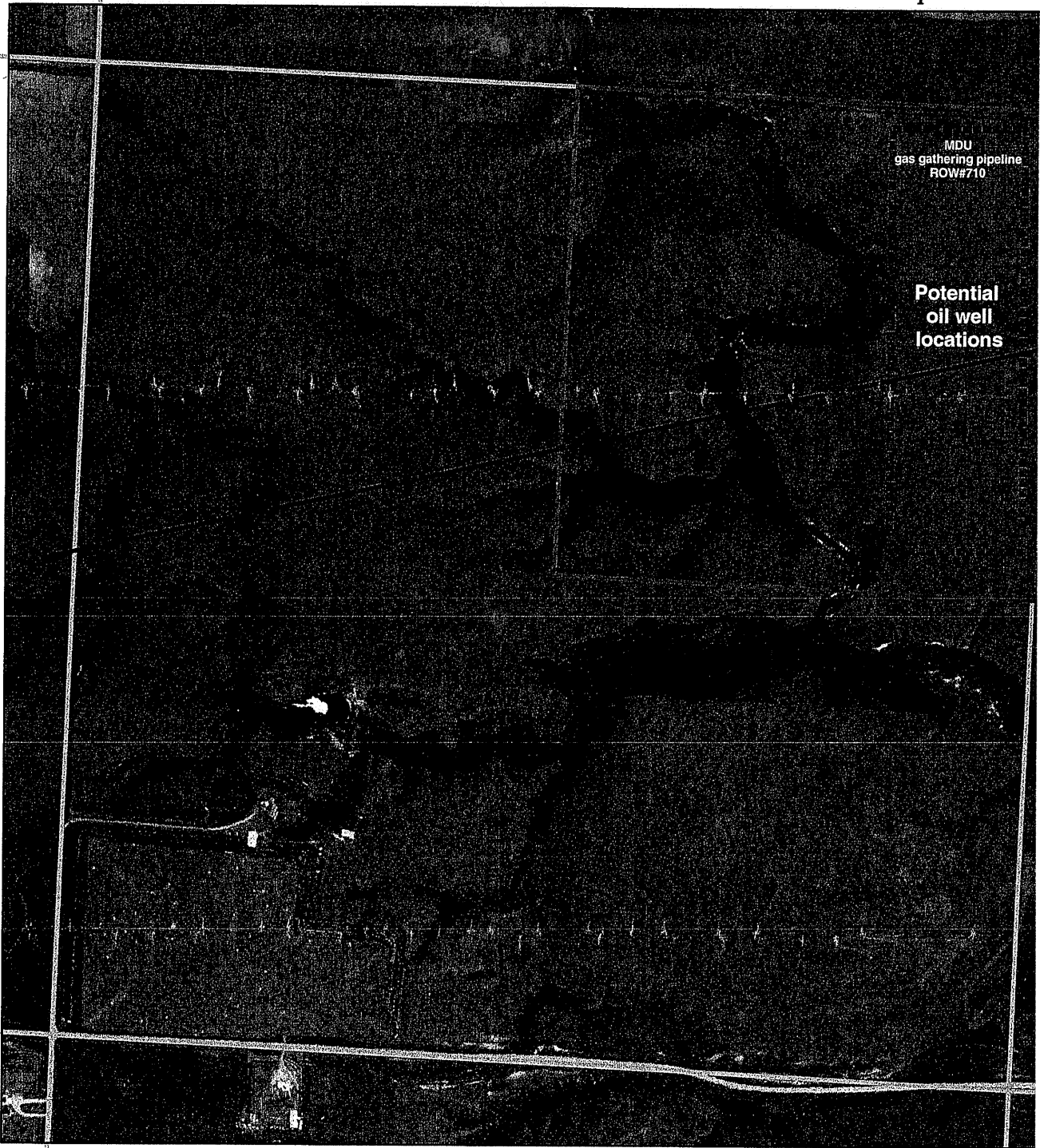
We understand that you are considering an alternate route that would parallel the Highway 2 right of way line. This would be our preferred route. When you are ready to identify a specific route, please contact us so that we can review the specific impacts to the school trust lands.

Sincerely,

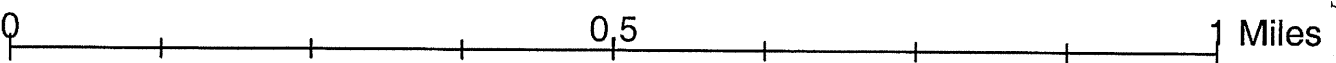
Michael L. Haupt, CPRM
Land Management Professional

16-T155-R101

Williams Co
Township: Missouri



Map Datum is WGS 84 (same as NAD 83)



Printed: 4/3/2008 -- ND State Land

36-T156-R101

Williams Cou
Township: Ty



Map Datum is WGS 84 (same as NAD 83)



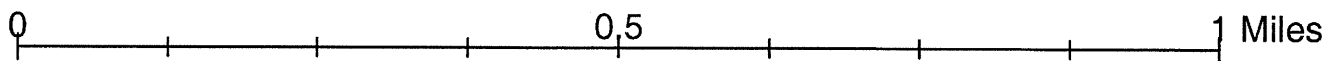
Printed: 4/3/2008 -- ND State Land I

9-T156-R100

Williams Cou
Township: East



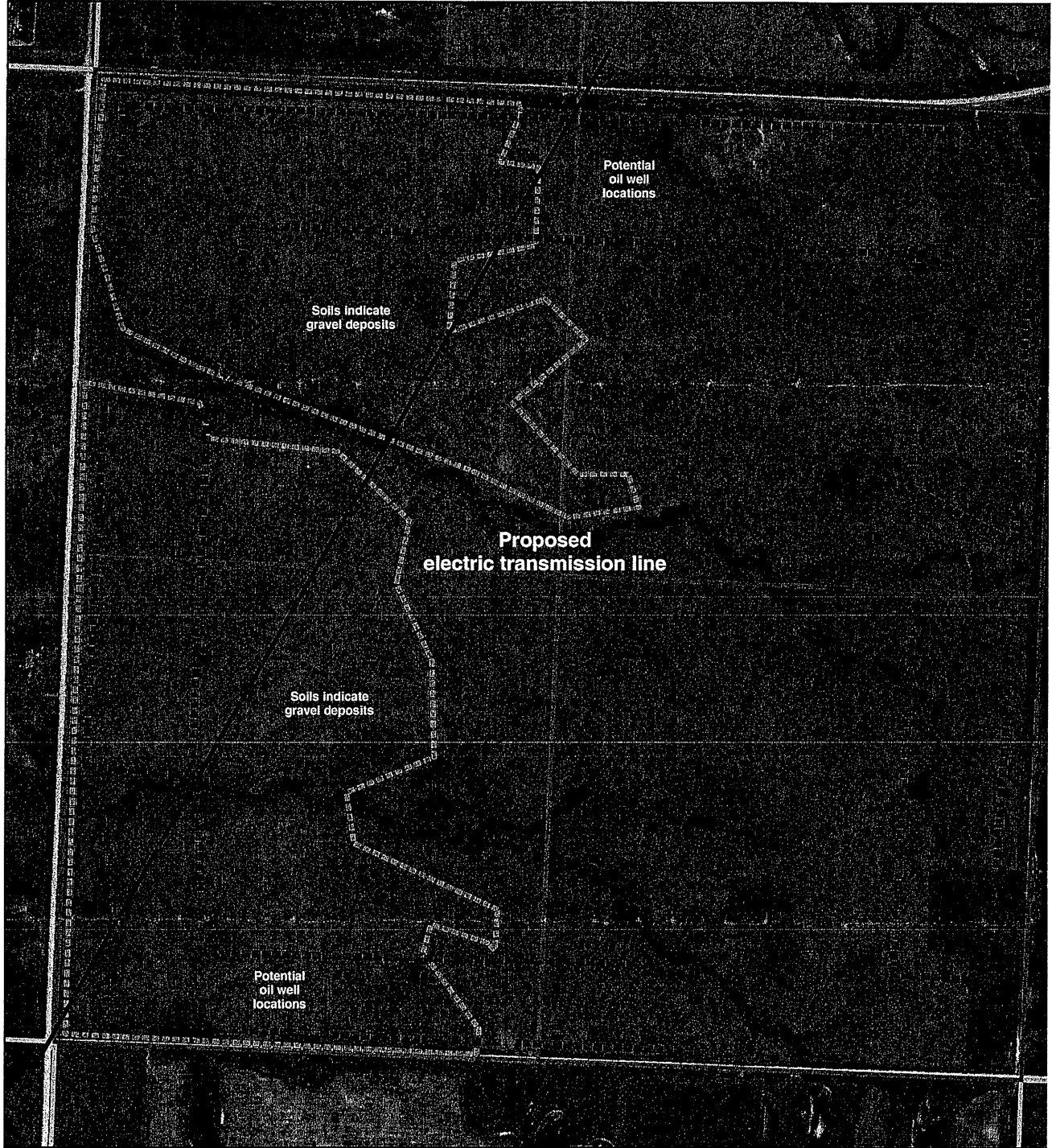
Map Datum is WGS 84 (same as NAD 83)



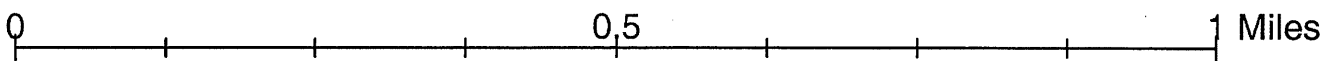
Printed: 4/3/2008 -- ND State Land

16-T156-R100

Williams Cou
Township: East



Map Datum is WGS 84 (same as NAD 83)



Printed: 4/3/2008 -- ND State Land I

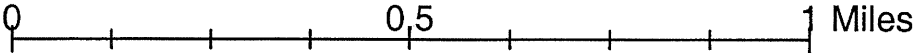
36-T157-R99

Williams Cou

Township: D



Map Datum is WGS 84 (same as NAD 83)

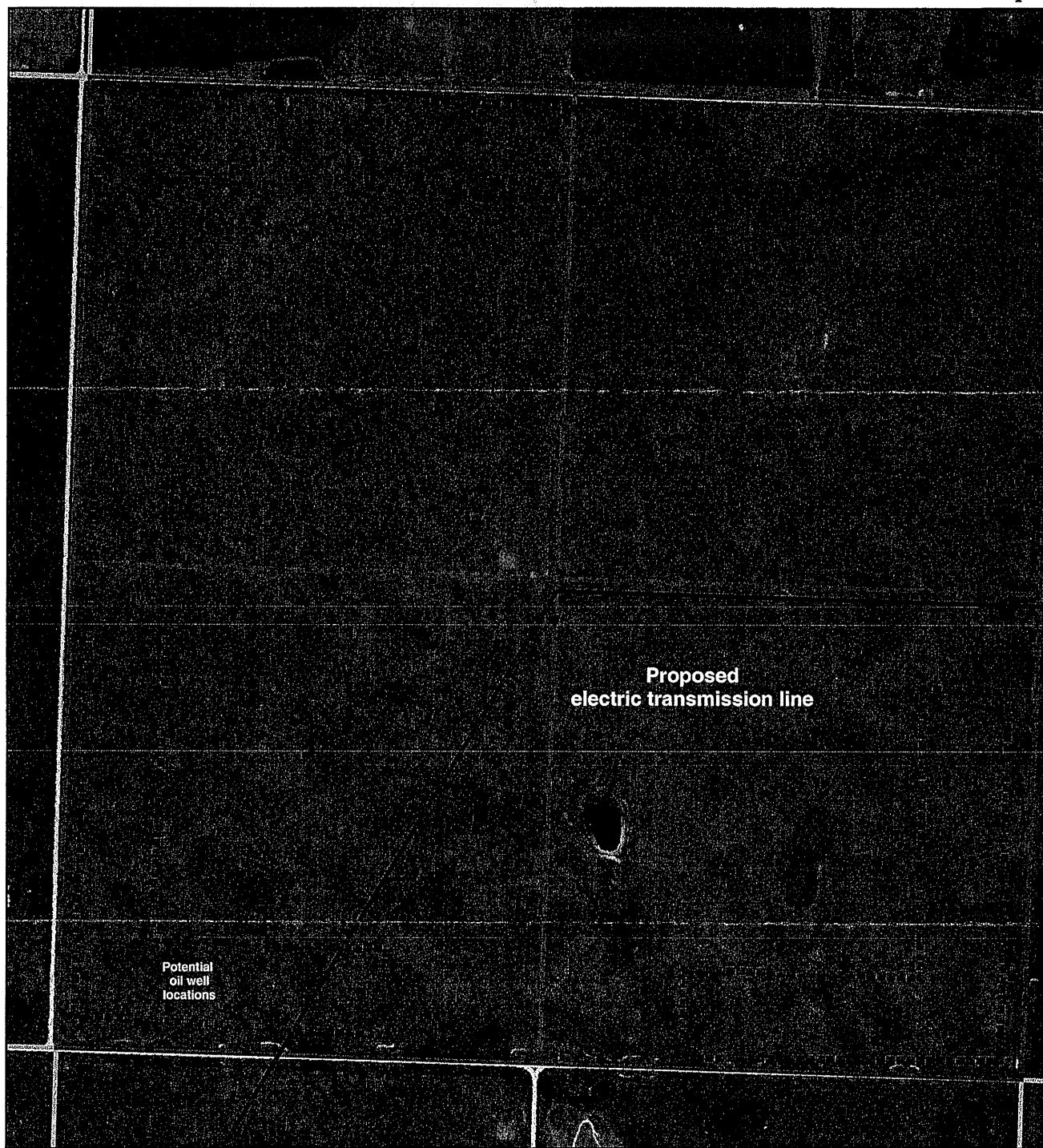


Printed: 4/3/2008 -- ND State Land

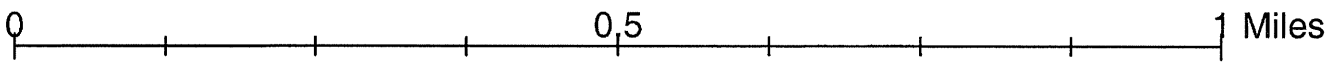
16-T157-R95

Williams Cou

Township: 7



Map Datum is WGS 84 (same as NAD 83)





North Dakota Department of Transportation

Francis G. Ziegler, P.E.
Director

John Hoeven
Governor

RECEIVED IN BILLINGS UGPCSR

APR 21 2008

April 15, 2008

Rod O'Sullivan
Environmental Protection Specialist
Upper Great Plains Region
Western Area Power Administration
PO Box 35800
Billings, MT 59107-5800

WILLISTON – TIOGA 230-kV TRANSMISSION LINE, WILLIAMS COUNTY, STANLEY,
NORTH DAKOTA

We have reviewed your March 5, 2008, letter.

This project should have no adverse effect on the North Dakota Department of Transportation highways; however, NDDOT asks that all efforts be made to locate this transmission line off of the DOT right-of-way in a longitudinal installation. Vehicles at times do leave the roadway and for safety reasons, we try to minimize the amount of obstacles in recovery areas.

Additionally, if any work needs to be done on highway right-of-way, appropriate permits and risk management documents will need to be obtained from the Department of Transportation District Engineer, Walter Peterson at 701-774-2700.

RONALD J. HENKE, P.E., DIRECTOR - OFFICE OF PROJECT DEVELOPMENT

57:rjh:js

c: Walter A. Peterson, Williston District



NORTH DAKOTA
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION
Gold Seal Center, 918 E. Divide Ave.
Bismarck, ND 58501-1947
701.328.5200 (fax)
www.ndhealth.gov



March 25, 2008

Mr. Rod O'Sullivan
Environmental Protection Specialist
Upper Great Plains Region
Western Area Power Administration
P.O. Box 35800
Billings, MT 59107-5800

RECEIVED IN BILLINGS UGPCSR
MAR 31 2008

Re: Williston – Tioga 230 kV Transmission Line Project, Williams County

Dear Mr. O'Sullivan:

This department has reviewed the information concerning the above-referenced project submitted under date of March 5, 2008, with respect to possible environmental impacts.

This department believes that environmental impacts from the proposed construction will be minor and can be controlled by proper construction methods. With respect to construction, we have the following comments:

1. All necessary measures must be taken to minimize fugitive dust emissions created during construction activities. Any complaints that may arise are to be dealt with in an efficient and effective manner.
2. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.
3. Projects disturbing one or more acres are required to have a permit to discharge storm water runoff until the site is stabilized by the reestablishment of vegetation or other permanent cover. Further information on the storm water permit may be obtained from the Department's website or by calling the Division of Water Quality (701-328-5210). Also, cities may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system. Check with the local officials to be sure any local storm water management considerations are addressed.

Environmental Health
Section Chief's Office
701.328.5150

Division of
Air Quality
701.328.5188

Division of
Municipal Facilities
701.328.5211

Division of
Waste Management
701.328.5166

Division of
Water Quality
701.328.5210

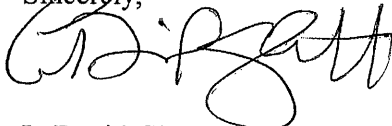
4. Noise from construction activities may have adverse effects on persons who live near the construction area. Noise levels can be minimized by ensuring that construction equipment is equipped with a recommended muffler in good working order. Noise effects can also be minimized by ensuring that construction activities are not conducted during early morning or late evening hours.

The department owns no land in or adjacent to the proposed improvements, nor does it have any projects scheduled in the area. In addition, we believe the proposed activities are consistent with the State Implementation Plan for the Control of Air Pollution for the State of North Dakota.

These comments are based on the information provided about the project in the above-referenced submittal. The U.S. Army Corps of Engineers may require a water quality certification from this department for the project if the project is subject to their Section 404 permitting process. Any additional information which may be required by the U.S. Army Corps of Engineers under the process will be considered by this department in our determination regarding the issuance of such a certification.

If you have any questions regarding our comments, please feel free to contact this office.

Sincerely,



L. David Glatt, P.E., Chief
Environmental Health Section

LDG:cc
Attach.



Construction and Environmental Disturbance Requirements

These represent the minimum requirements of the North Dakota Department of Health. They ensure that minimal environmental degradation occurs as a result of construction or related work which has the potential to affect the waters of the State of North Dakota. All projects will be designed and implemented to restrict the losses or disturbances of soil, vegetative cover, and pollutants (chemical or biological) from a site.

Soils

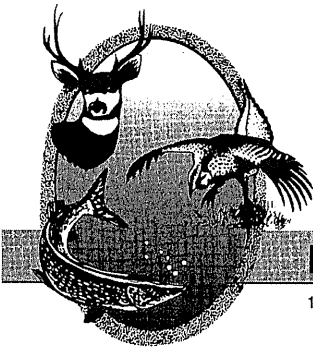
Prevent the erosion of exposed soil surfaces and trapping sediments being transported. Examples include, but are not restricted to, sediment dams or berms, diversion dikes, hay bales as erosion checks, riprap, mesh or burlap blankets to hold soil during construction, and immediately establishing vegetative cover on disturbed areas after construction is completed. Fragile and sensitive areas such as wetlands, riparian zones, delicate flora, or land resources will be protected against compaction, vegetation loss, and unnecessary damage.

Surface Waters

All construction which directly or indirectly impacts aquatic systems will be managed to minimize impacts. All attempts will be made to prevent the contamination of water at construction sites from fuel spillage, lubricants, and chemicals, by following safe storage and handling procedures. Stream bank and stream bed disturbances will be controlled to minimize and/or prevent silt movement, nutrient upsurges, plant dislocation, and any physical, chemical, or biological disruption. The use of pesticides or herbicides in or near these systems is forbidden without approval from this Department.

Fill Material

Any fill material placed below the high water mark must be free of top soils, decomposable materials, and persistent synthetic organic compounds (in toxic concentrations). This includes, but is not limited to, asphalt, tires, treated lumber, and construction debris. The Department may require testing of fill materials. All temporary fills must be removed. Debris and solid wastes will be removed from the site and the impacted areas restored as nearly as possible to the original condition.



"VARIETY IN HUNTING AND FISHING"

NORTH DAKOTA GAME AND FISH DEPARTMENT

100 NORTH BISMARCK EXPRESSWAY BISMARCK, NORTH DAKOTA 58501-5095 PHONE 701-328-6300 FAX 701-328-6352

RECEIVED IN BILLINGS UGPCSR

APR 17 2008

April 14, 2008

Rod O'Sullivan
Environmental Protection Specialist
Upper Great Plains Region
Western Area Power Administration
P.O. Box 35800
Billings, MT 59107-5800

Dear Mr. O'Sullivan:

RE: Williston - Tioga 230-kV Transmission Line Project

The North Dakota Game and Fish Department has reviewed this project for wildlife concerns. Our primary concern is the possible disturbance of native prairie, riparian corridors, and wetland areas associated with construction of the steel H-frame structures. We ask that work within these areas be avoided to the extent possible, above-ground appurtenances not be placed in wetland areas, and disturbed areas be reclaimed to pre-project conditions.

We would appreciate being kept informed as this project progresses, and would like to receive a copy of the Draft Environmental Assessment when it becomes available.

Sincerely,

(fos)

Michael G. McKenna
Chief
Conservation & Communication Division

js



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501



JUN 18 2008

Mr. Nicholas J. Stas, Environmental Manager
Western Area Power Administration
Upper Great Plains Customer Service Region
P.O. Box 35800
Billings, Montana 59107-5800

Dear Mr. Stas:

This letter is in response to your May 19, 2008, request for information related to threatened and endangered species, and critical habitat for a proposed Basin Electric Cooperative (Basin) transmission line from Western Area Power Administration's (Western) Williston Substation in Williams County, to the Tioga Substation in Mountrail County, North Dakota. Basin has requested an interconnection with Western's transmission system at the Williston Substation. This interconnection request is a Federal action which requires a National Environmental Policy Act (NEPA) review. Western plans to prepare an Environmental Assessment (EA) for the construction and interconnection of Basin's proposed 230-kilovolt (kV) transmission line. The Service requests the opportunity to review the Draft EA. We offer the following comments under the authority of and in accordance with the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.).

A current list of federally endangered and threatened species that may be present within the proposed project's area of influence is enclosed. As the lead Federal agency for section 7 consultation, Western will complete biological surveys for the proposed action and provide the U.S. Fish and Wildlife Service with their determination of effects to threatened and endangered species.

If you require further information or the project plans change, please have your staff contact Terry Ellsworth of my staff or contact me directly at (701) 250-4481, or at the letterhead address above.

Sincerely,

Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

Enclosure

cc: Director, ND Game and Fish Dept., Bismarck
(Attn: M. McKenna)

References

- McCabe, T.L. 1981. The Dakota skipper, *Hesperis dacotae* (Skinner): range and biology, with special reference to North Dakota. *Journal of the Lepidopterist' Society* 35(3):179-193.
- Royer, R.A. and G.M. Marrone. 1992. Conservation status of the Dakota skipper (*Hesperis dacotae*) in North and South Dakota. Unpublished report, U.S. Fish and Wildlife Service, Denver, CO. 15 March 1992. 44+pp.

FEDERAL THREATENED, ENDANGERED, AND CANDIDATE SPECIES
AND DESIGNATED CRITICAL HABITAT FOUND IN
MOUNTRAIL COUNTY, NORTH DAKOTA
June 2008

ENDANGERED SPECIES

Birds

Interior least tern (*Sterna antillarum*): Nests along midstream sandbars of the Missouri and Yellowstone Rivers.

Whooping crane (*Grus Americana*): Migrates through west and central counties during spring and fall. Prefers to roost on wetlands and stockdams with good visibility. Young adult summered in North Dakota in 1989, 1990, and 1993. Total population 140-150 birds.

Fish

Pallid sturgeon (*Scaphirhynchus albus*): Known only from the Missouri and Yellowstone Rivers. No reproduction has been documented in 15 years.

Mammals

Gray wolf (*Canis lupus*): Occasional visitor in North Dakota. Most frequently observed in the Turtle Mountains area.

THREATENED SPECIES

Birds

Piping plover (*Charadrius melodus*): Nests on midstream sandbars of the Missouri and Yellowstone Rivers and along shorelines of saline wetlands. More nest in North Dakota than any other state.

CANDIDATE SPECIES

Invertebrates

Dakota skipper (*Hesperia dacotae*): Found in native prairie containing a high diversity of wildflowers and grasses. Habitat includes two prairie types: 1) low (wet) prairie dominated by bluestem grasses, wood lily, harebell, and smooth camas; 2) upland (dry) prairie on ridges and hillsides dominated by bluestem grasses, needlegrass, pale purple and upright coneflowers and blanketflower.

DESIGNATED CRITICAL HABITAT

Birds

Piping Plover - Lake Sakakawea - Critical habitat includes sparsely vegetated shoreline beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with the water bodies.

FEDERAL THREATENED AND ENDANGERED SPECIES
AND DESIGNATED CRITICAL HABITAT FOUND IN
WILLIAMS COUNTY, NORTH DAKOTA
June 2008

ENDANGERED SPECIES

Birds

Interior least tern (*Sterna antillarum*): Nests along midstream sandbars of the Missouri and Yellowstone Rivers.

Whooping crane (*Grus Americana*): Migrates through west and central counties during spring and fall. Prefers to roost on wetlands and stockdams with good visibility. Young adult summered in North Dakota in 1989, 1990, and 1993. Total population 140-150 birds.

Fish

Pallid sturgeon (*Scaphirhynchus albus*): Known only from the Missouri and Yellowstone Rivers. No reproduction has been documented in 15 years.

Mammals

Gray wolf (*Canis lupus*): Occasional visitor in North Dakota. Most frequently observed in the Turtle Mountains area.

THREATENED SPECIES

Birds

Piping plover (*Charadrius melodus*): Nests on midstream sandbars of the Missouri and Yellowstone Rivers and along shorelines of saline wetlands. More nest in North Dakota than any other state.

DESIGNATED CRITICAL HABITAT

Birds

Piping Plover - Lake Sakakawea - Critical habitat includes sparsely vegetated shoreline beaches, beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with the water bodies.



John Hoeven, Governor
Douglass A. Prchal, Director

1600 East Century Avenue, Suite 3
Bismarck, ND 58503-0649
Phone 701-328-5357
Fax 701-328-5363
E-mail parkrec@nd.gov
www.parkrec.nd.gov

August 4, 2008

Nicholas J. Stas
Department of Energy-WAPA
Upper Great Plains Customer Service Region
P.O. Box 35800
Billings, MT 59107-5800

RE: Request for Information – Basin Electric Williston to Tioga Transmission Line Project

Dear Mr. Stas:

As requested, the North Dakota Parks and Recreation Department has compiled a list of the plant and animal species of concern and significant ecological communities within the project area. Please see the attached spreadsheet and map for more information on these species. We defer further comments regarding animal species to the North Dakota Game and Fish Department and the United States Fish and Wildlife Service.

Because this information is not based on a comprehensive inventory, there may be species of concern or otherwise significant ecological communities in the area that are not represented in the database. The lack of data for any project area cannot be construed to mean that no significant features are present. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

We appreciate your commitment to rare plant, animal and ecological community conservation, management and inter-agency cooperation to date. For additional information please contact me or Chris Dirk (cdirk@nd.gov).

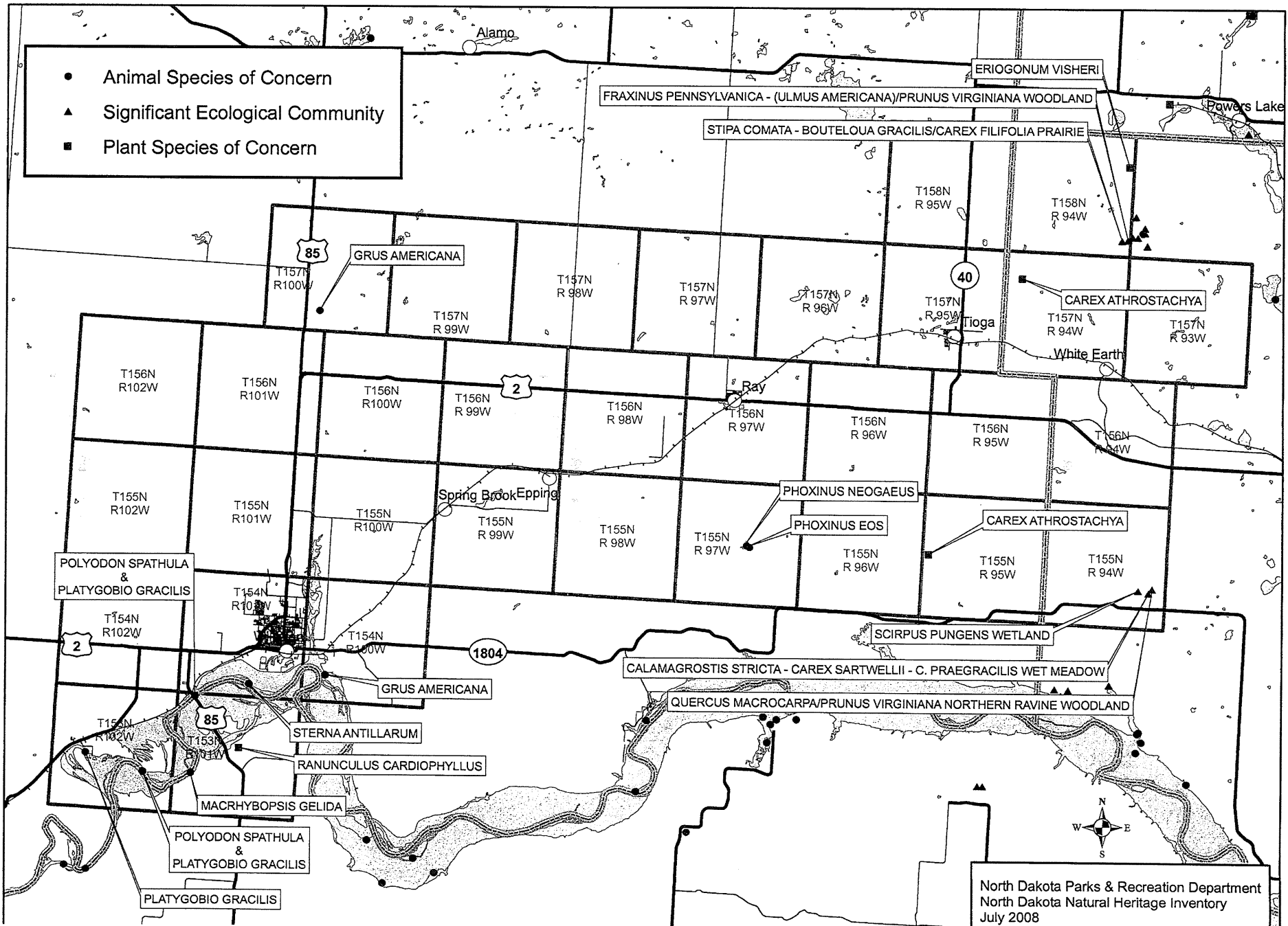
Sincerely,

Kathy Duttenhefner
North Dakota Parks and Recreation Department
kgduttonhefner@nd.gov

R.USNDNHI*2034

.....
Play in our backyard!

North Dakota Natural Heritage Inventory Species of Concern and Significant Ecological Communities



North Dakota Natural Heritage Inventory
Species of Concern and Significant Ecological Communities

| State Scientific Name | State Common Name | Township & Range | Section | TRS Notes | State Rank | Global Rank | Federal Status | Last Observation |
|---|---------------------------------------|------------------|---------|----------------|------------|-------------|----------------|------------------|
| POLYODON SPATHULA | PADDLEFISH | 153N101W | 6 | NW | S? | G4 | | 1994-09-30 |
| PLATYGOBIO GRACILIS | FLATHEAD CHUB | 153N101W | 6 | | S? | G5 | | 1994-08-23 |
| RANUNCULUS CARDIOPHYLLUS | HEART-LEAVED BUTTERCUP | 153N101W | 15 | | S1 | G4G5 | | 1967-06-25 |
| MACRHYBOPSIS GELIDA | STURGEON CHUB | 153N101W | 19 | | S2 | G3 | | 1994-09-21 |
| PLATYGOBIO GRACILIS | FLATHEAD CHUB | 153N102W | 20 | | S? | G5 | | 1994-09-20 |
| POLYODON SPATHULA | PADDLEFISH | 153N102W | 26 | | S? | G4 | | 1993-10-04 |
| PLATYGOBIO GRACILIS | FLATHEAD CHUB | 153N102W | 26 | | S? | G5 | | 1993-08-06 |
| GRUS AMERICANA | WHOOPING CRANE | 154N100W | 29 | | SX | G1 | (LE,XN) | 1963-10-19 |
| STERNA ANTILLARUM | LEAST TERN | 154N101W | 34 | | S1 | G4 | (PS:LE) | 1992-07 |
| CALAMAGROSTIS STRICTA - CAREX SARTWELLII - C. PRAEGRACILIS WET MEADOW | BRACKISH WET MEADOW | 155N094W | 22 | SEC 27 | S2S3 | | | 1987-07-02 |
| SCIRPUS PUNGENS WETLAND | WESTERN THREE-SQUARE MEADOW | 155N094W | 26 | | S1 | | | 1987-09-02 |
| QUERCUS MACROCARPA/PRUNUS VIRGINIANA NORTHERN RAVINE WOODLAND | BUR OAK UPLAND WOODLAND | 155N094W | 26 | SEC 23 | S3 | | | 1987-09-02 |
| CAREX ATHROSTACHYA | JOINTED-SPIKE SEDGE | 155N095W | 30 | | S3 | G5 | | 1970-07-30 |
| PHOXINUS EOS | NORTHERN REDBELLY DACE | 155N097W | 15 | SEC.22 | S4 | G5 | | 1975-06-17 |
| PHOXINUS NEOGAEUS | FINESCALE DACE | 155N097W | 15 | SEC 22 | SU | G5 | | 1974-08-08 |
| CAREX ATHROSTACHYA | JOINTED-SPIKE SEDGE | 157N094W | 15 | | S3 | G5 | | 1971-08-05 |
| GRUS AMERICANA | WHOOPING CRANE | 157N100W | 33 | N2, SEC.28 NE4 | SX | G1 | (LE,XN) | 1979-04-20 |
| ERIOGONUM VISHERI | DAKOTA BUCKWHEAT | 158N094W | 12 | | S2S3 | G3 | | 1970-08-05 |
| STIPA COMATA - BOUTELOUA GRACILIS/CAREX FILIFOLIA PRAIRIE | NEEDLE-AND-THREAD MIXED GRASS PRAIRIE | 158N094W | 25 | 36 | S2 | | | 1985-07-02 |
| FRAXINUS PENNSYLVANICA - (ULMUS AMERICANA)/PRUNUS VIRGINIANA WOODLAND | GREEN ASH UPLAND WOODLAND | 158N094W | 36 | SEC 21 | | | | |
| | | 158N093W | 30 | SEC 31 | S3 | | | 1985-07-02 |

North Dakota Natural Heritage Inventory Biological and Conservation Data Disclaimer

The quantity and quality of data collected by the North Dakota Natural Heritage Inventory are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in North Dakota have never been thoroughly surveyed, and new species are still being discovered. For these reasons, the Natural Heritage Inventory cannot provide a definite statement on the presence, absence, or condition of biological elements in any part of North Dakota. Natural Heritage data summarize the existing information known at the time of the request. Our data are continually upgraded and information is continually being added to the database. This data should never be regarded as final statements on the elements or areas that are being considered, nor should they be substituted for on-site surveys.

Appendix D

Public Comments and Transmission Line Routing

Summary of Key Public Comments

Agricultural Impacts

- Preference to the transmission line located south of Springbrook, Epping, and Ray to reduce crossing cropland.
- Transmission line routing should consider interference with crop spraying.
- Concern about transmission line interference with AM-radio.

Routing Alternatives

- Preference to the northernmost route because it is straight alignment.

Biology Resources

- Consider potential impacts to a well-established prairie dog colony on the 20-acre parcel south of NW 53rd Street in Sand Creek, west of the Williston Airport.

Cultural

- Commenter noted two stone circles on hilltops in SE1/4 Section 27 T99 R156N and the SE1/4 of Section 15 T99 R156N.
- The transmission line route should avoid tipi rings located in Section 34, T155, R101.
- Concern about the construction of the transmission line affecting Native Americans, since the Cheyenne historically and traditionally travelled and camped with the Mandan in the North Dakota region.

Public Safety

- Concerns about health and safety issues for those living near transmission lines and the potential effects to pregnant women.

Recreation

- Consideration should be considered to stray bullets from hunters hitting the transmission lines.

Land Use

- Landowner noted on Sheet Map 1 of 3 a Verizon cell tower in Section 26.
- Concern expressed about the transmission line route in the northern corridor affecting state school trust lands and impacts to potential oil drilling on trust lands, which is a large income producer for the school trust.
- Landowner expressed concern about potential impacts to future residential and wind farm development on a 20-acre parcel south of NW 53rd Street in Sand Creek and west of the airport.
- Transmission line should not be routed on Segment 20 to avoid landowner's property in order to maintain current property value.
- Landowner prefers transmission line not be routed on their property (Missouri Ridge TWP ~ 2 NWSE T155 R101, Section 34) to avoid impacts to site of future home.

- Landowner request that the transmission line be routed along the section line instead of crossing property at an angle.
- Prefers Segments 30 – 60 and that the transmission line be routed along section lines in Sections 18 and 19.
- Concern expressed about routing the transmission line through farmsteads north of Williston.
- Transmission line routing should avoid future runway expansion in Segment 14.
- Concern expressed about impacts to the airport approach zone height restrictions northwest of Williston.
- Prefers Segment 130 and 140 to Segment 40.
- Prefers the most northern route because it is straighter.
- Concern about the transmission lines impact to oil and gas exploration; questions about distance a drilling rig and seismograph from the transmission line.
- Transmission line route should avoid the Soine/Pioneer Cemetery south/southeast of Ray, North Dakota.
- The North Dakota Department of Transportation expressed no concerns about the transmission line route; however, requested the transmission line be located off the right-of-way in a longitudinal installation for public safety purposes.
- Transmission line route should avoid croplands in NEWNW Sec. 11-155-01.

Vegetation

- Potential impacts to native prairie grasses on 20-acre parcel south of NW 53rd Street in Sand Creek, west of the airport in Williston.
- Concern about disturbance to native prairie, riparian corridors, and wetlands associated with the construction of H-frame transmission line structures.
- All aboveground appurtenances should avoid wetland areas.
- Following construction, disturbed areas should be reclaimed to pre-project conditions.

Visual Resources

- Segments 100 to the north and Segment 40 to the south could impact views from residence.

Route Selection and Analysis Summary (see Exhibit C-1 for Route Segments)

| Map # | Section | Township | Range | Routing Rationale/Discussion |
|--------------|----------------|-----------------|--------------|---|
| 1 | 19 | 154 | 101 | Western is adding a new 230-kV bay on the north side of their existing substation. Existing lines and industrial development limit the space available to route the proposed new line. The proposed route diagonals northeast to the section line before proceeding north. |
| 2 | 18 | 154 | 101 | The proposed route proceeds north along the east section line. An elk farm is avoided as well as houses east and west of the route. At the north end of the section, the line diagonals 0.25 mile west to accommodate a house proposed by the landowner. |
| 3 | 7 | 154 | 101 | The proposed route continues north 0.5 mile before turning back to the section line in the north 1/2 of the section. |
| 4 | 6 31 | 154 155 | 101 101 | The land use is pasture and cropland as the proposed route proceeds north along the section line. |
| 5 | 30 | 155 | 101 | Land use is pasture and cropland. The proposed route continues along the county road. If zoning regulations allow, the route will be as close to the road ROW edge as possible. |
| 6 | 19, 20, 21, 16 | 155 | 101 | Extensive field reconnaissance and landowner interviews were done to determine a route in this difficult area. Residences in Sections 13, 17, 19, and 20 make routing the line difficult. The proposed route follows the south edge of Sections 20 and 21 and the east edge of Sections 21 and 16. Land use is innately pasture with some cropland. Rough terrain in the middle of Sections 16 and 21 is avoided. Also, a landing strip and residence in the southwest corner of Section 16 is avoided. |
| 7 | 10, 11 | 155 | 101 | To minimize the impact on cropland, the proposed route is adjacent to the south edge of Section 10. The route turns north 0.25 mile into Section 11 in order to follow a property line at the request of the landowner. |

Route Selection and Analysis Summary (see Exhibit C-1 for Route Segments)

| Map # | Section | Township | Range | Routing Rationale/Discussion |
|--------------|------------------------|-----------------|--------------|--|
| 8 | 2 | 155 | 101 | A U.S. Highway 2 crossing location at the northeast corner of Section 2 was selected. A suitable crossing was difficult to find because of rough terrain, residences, and businesses. This proposed crossing has high ground on both sides and is not close to a residence or business. The route proposed through Section 2 minimizes impact on cropland and follows a property line where possible. |
| 9 | 36 | 156 | 101 | The land use in this section is pasture. The line diagonals 0.25 mile north to avoid a school and two pipelines. |
| 10 | 31 ,32, 33 | 156 | 100 | The proposed route heads east, 0.25 mile north of the section line to follow a property line. An irrigation system is planned in Section 31. The line was routed around the proposed irrigation. At the east edge of Section 33, the line turns north and follows the section line. |
| 11 | 28, 21, 16, 15 | 156 | 100 | The proposed route continues to follow the section line. At the north end of Section 15, the line turns east and parallels U.S. Highway 2. The line would be adjacent to the edge of the highway ROW to minimize the impact on the adjoining field. |
| 12 | 14, 13, 18, 17, 16, 15 | 156 | 99 | The proposed route is adjacent to the U.S. Highway 2 ROW. Land use is mainly pasture. No residences exist on this side of the highway. Also, the area north of U.S. Highway 2 is cropland where lentils and peas are grown. These crops require use of aerial spraying. A transmission line would interfere with the crop spraying. Discussions were held with the crop spraying pilots and they prefer the route along the highway and said the line would not be a problem for them. |
| 13 | 18, 17, 16, 15 | 156 | 98 | The proposed route continues along the highway ROW edge. The land use is cropland and pasture. See write-up for T156N, R99W, for why the line is adjacent to the highway. |
| 14 | 14 | 156 | 98 | The line continues along the highway ROW for 0.5 mile, then turns south. The proposed route turns south to avoid residences along the highway and the city of Ray. Land use is cropland. The proposed route follows the 1/4 line, which is the borderline between fields minimizing the impact on farming. |

Route Selection and Analysis Summary (see Exhibit C-1 for Route Segments)

| Map # | Section | Township | Range | Routing Rationale/Discussion |
|--------------|---------------------|-----------------|--------------|---|
| 15 | 13 | 156 | 98 | The proposed route continues along the 1/4 line for 3 miles. The line would be on field boundaries, and residences along the highway are avoided. |
| 16 | 18, 17 | 156 | 97 | The proposed route continues along the 1/4 line for 3 miles. The line would be on field boundaries, and residences along the highway are avoided. At the east edge of Section 17, the line angles around a wetland area and a cultural site. |
| 17 | 16 | 156 | 97 | As the proposed route approaches the south edge of the Ray golf course, the route angles to the south side of the road to avoid the golf course. Just past the golf course at about the center of the section, the proposed route angles slightly north, then parallels the 1/4 line to the east edge of the section. The line then turns north and follows the section line. The NW1/4 of Section 16 is owned by the city of Ray. The city agrees with the proposed route. |
| 18 | 9 | 156 | 97 | The proposed route continues into Section 9 along the east section line for 0.25 mile. Then the route would turn east along a property line. |
| 19 | 10 | 156 | 97 | The proposed route continues along a property line for one mile then turns north at the section line for 0.25 mile to the 1/4 line. |
| 20 | 11, 12 | 156 | 97 | The route continues along the 1/4 line. Land use is cropland. The proposed route is mostly on the property line to minimize the impact. The line cannot run adjacent to the highway in this area because of residences and an existing water pipeline. |
| 21 | 7, 8, 9, 10, 11, 12 | 156 | 96 | The route continues along the 1/4 line. Land use is cropland. The proposed route is mostly on the property line to minimize the impact. The line cannot run adjacent to the highway in this area because of residences and an existing water pipeline. |
| 22 | 7 | 156 | 95 | The proposed route extends 0.5 mile into Section 7 before it diagonals to the south side of the highway. The route goes back to the highway to avoid residences and businesses along State Highway 40 just south of Tioga. |
| 23 | 18 | 156 | 95 | The proposed route enters Section 18 as it crosses U.S. Highway 2 and immediately turns east along the highway ROW. A residence and oil well are avoided. |

Route Selection and Analysis Summary (see Exhibit C-1 for Route Segments)

| Map # | Section | Township | Range | Routing Rationale/Discussion |
|--------------|----------------|-----------------|--------------|--|
| 24 | 17, 16, 15 | 156 | 95 | The proposed route continues along the south side of the highway ROW. Residences on the north side are avoided. Land use is cropland. Impact to cropland would be minimal. |
| 25 | 14 | 156 | 95 | The proposed route continues along the south side of the highway for about 1/3 mile. It then crosses the highway to avoid a residence. |
| 26 | 11, 12 | 156 | 95 | The proposed route runs parallel to U.S. Highway 2 on the north side. In the SE corner of the section, it would pass between the highway and a group of tanks. Land use is cropland. The line would cross over into Section 12 before turning north for about 0.5 mile. Here the route would turn to the NW and go back into Section 11. The location of this turn was selected to avoid cropland in Section 1 and minimize impact to cropland in Section 11. This angle point location is preferred by the landowner. |
| 27 | 2 | 156 | 95 | The land use in this section is pasture. Cropland is avoided by going diagonally through the section. The elevation of the structure tops was reviewed relative to the Tioga Airport. The proposed route meets clearance requirements for the airport. |
| 28 | 31 | 157 | 94 | The proposed route goes diagonally to the center of the section and then proceeds north on the 1/4 line. The line also meets regulations regarding the Tioga Airport. |
| 29 | 30 | 157 | 94 | The proposed route is on the N-S 1/4 line and field line through this section. Land use is pasture and cropland. The impact on farming is minimal because the line will be on the boundary between fields. The landowner prefers this route. |
| 30 | 19 | 157 | 94 | The proposed route enters the section at the south 1/4 corner and proceeds east along a grass strip adjacent to cropland. The line would parallel an existing line within this grass strip. The angle point was selected to avoid a wetland. |
| 31 | 20 | 157 | 94 | The proposed route turns north on the west edge of the section and would proceed north to the Tioga Substation. The line would parallel an existing distribution line and enter the substation from the west. |

Appendix E

Mitigation Measures, Reclamation, and Best Management Practices

Williston to Tioga 230-kV Transmission Project Mitigation and Reclamation Measures

1. Jurisdictions, Land Use, and Agricultural Practices

Land Use

- The movement of crews and equipment will be limited to the ROW and areas that have been surveyed for cultural, historical and biological resources. The construction contractor will limit movement on the ROW so as to minimize damage to rangeland, cropland, or property.
- The proposed transmission line will be routed 500 feet or more away from inhabited structures.

Agricultural Practices

- The proposed transmission line will span fields to the extent feasible.
- The proposed transmission line will be routed along section and mid-section lines to avoid diagonal crossings of fields, when possible.
- Where practical, construction activities will be scheduled during periods when agricultural activities would be minimally affected or the landowner will be compensated accordingly.
- Fences, gates, and similar improvements that are removed or damaged will be promptly repaired or replaced. New gates will be installed, for access to the ROW.
- ROW will be purchased through negotiations with each landowner affected by the proposed project and payment will be made of full value for crop damages or other property damage during construction or maintenance.
- When weather and ground conditions permit all deep ruts that are hazardous to farming operations and to movement of equipment would be eliminated or compensation will be provided as an alternative if the landowner desires. Such ruts will be leveled, filled, and graded, or otherwise eliminated in an approved manner. Ruts, scars, and compacted soils from construction activities in cropland or rangeland will be loosened and leveled by scarifying, harrowing, discing, or other appropriate method. Damage to ditches, terraces, roads, and other features of the land will be corrected. The land and other features will be restored as nearly as practicable to their original conditions.

2. Physiography, Topography, Soils, Geology, and Minerals

Soils

- The majority of soil will be spread in the vicinity of the structures. Any excess soils will be disposed off-site at an approved landfill.
- Erosion and sediment controls will be established prior to construction, then maintained and controlled through application of storm water prevention plans.
- Sediment control measures (e.g., installation of silt fences) will be used, where appropriate, to prevent sediment from moving off-site and into water bodies.
- Maintenance operations will be scheduled during periods of minimum precipitation to minimize the potential of surface runoff and to reduce the risk of erosion, rutting, sedimentation, and soil compaction. However, emergency repairs to the proposed transmission line may occur during periods of inclement weather.

- Staging areas will be located in previously disturbed areas and areas previously surveyed for cultural and biological resources.

Geology

- Transmission line structures will not be sited on any potentially active faults.
- Transmission line structures will not be sited on active landslide areas.

3. Hydrology and Drainage

- A 100-foot buffer will be established adjacent to wetlands and creeks, where practicable, to prevent or minimize impacts to those ecosystems. Construction vehicles and equipment will not traverse through wetlands and riparian areas, thereby avoiding direct impacts to these sensitive areas.
- Transmission line structures will be sited so that streams and drainages are spanned and remain undisturbed.
- Staging areas and refueling areas will not be located near surface water bodies.
- Areas that need to be cleared during construction will be revegetated with an approved native seed mix as soon as technically feasible to minimize soil erosion and sediment runoff.
- A Spill Prevention Control and Countermeasure Plan (SPCC) is required for the storage of 1,320 gallons of oil-based products (greater than 1,320 gallons) at a site. The plan will include a procedure for storage of hazardous materials and refueling of construction equipment outside of riparian zones, spill containment and recovery plan, and notification and activation protocols.
- Refueling of construction vehicles will occur at commercial fueling facilities and at staging areas, if onsite fuel storage is needed for refueling.
- A SWPPP will be developed and implemented prior to initial construction activities. This plan will include an analysis of materials that will be utilized and site activities that could potentially impact storm water and the associated mitigation measures to minimize that potential. Plan implementation will include regular inspections of areas under construction, material storage and laydown areas, and structural devices for storm water management. All construction personnel will be trained on the plan and will be required to comply with its requirements and the maintenance of all mitigation measures. The SWPPP will be maintained until final stabilization of all disturbed areas is completed.

4. Vegetation Resources

- In areas where wooded areas cannot be avoided, the proposed transmission line will be placed in areas with the lowest density of trees, whenever feasible, thereby reducing the number of trees that will require removal within the construction ROW.
- Woody species (i.e., trees and shrubs) removed (i.e., cut or mowed) during construction will be replaced at a 2:1 ratio (i.e., 2 plants would be planted for every plant removed, as required by the NDPSC). If possible, the replacement trees would be planted in the same watershed where trees were removed. Suitable sites would be identified through cooperation with landowners and appropriate State or local agencies.
- Prior to construction, a woody (e.g., trees and shrubs) species inventory will be conducted in areas where vegetation will be removed (i.e., cut or mowed) to determine the numbers, sizes, and locations of woody species present in these areas. A Woody Species Inventory Report will be developed, which will summarize the information collected during the woody species inventory. In addition, a Woody Species Planting Plan will be developed that will provide detailed information regarding the numbers, sizes, and locations of species that will be replanted and methods used to plant these species. Numbers, sizes, locations, and

species to be replanted will be determined through consultation with appropriate state or local agencies.

- All vegetative materials resulting from clearing operations will either be chipped on-site, or removed and disposed in a permitted facility.
- Existing native vegetation within the construction ROW will be preserved whenever feasible.
- Surface disturbance areas will be reclaimed using native species and will be planted at the appropriate times, as recommended by agencies or landowners, to reestablish native vegetative cover and minimize the potential for invasion by non-native species.
- Wetland and riparian communities will be spanned by the proposed transmission line thereby avoiding impacts to these ecosystems.
- Erosion and sedimentation controls will be implemented to minimize indirect impacts to wetlands and riparian areas.

5. Wildlife and Fisheries

- Prior to surface disturbance activities during the migratory bird (not including raptors) breeding season (April 15 through July 15), a qualified biologist would survey within suitable habitat (i.e., noncultivated land) for nesting activity and other evidence of nesting (e.g., mated pairs, territorial defense, birds carrying nest material, transporting food). If active nests are located, or other evidence of nesting is observed, appropriate protection measures, including establishment of buffer areas and constraint periods, would be implemented until the young have fledged and dispersed from the nest area. These measures will be implemented on a site-specific and species-specific basis, in coordination with Western.
- If construction is to occur during the breeding season for raptors (February 1 through August 15), prior to construction activities, raptor breeding surveys will be conducted by a qualified biologist through areas of suitable nesting habitat to identify any active nest sites within 0.5 mile (1.0 mile for bald eagles) from the Project area. If applicable, appropriate protection measures, including seasonal constraints and establishment of buffer areas will be implemented at active nest sites until the young have fledged and have dispersed from the nest area. These measures will be implemented on a site-specific and species-specific basis, in coordination with Western.
- Standard measures to minimize avian collision risk with overhead transmission lines, as outlined in *Mitigating Bird Collisions with Power Lines* (APLIC 1994), will be examined and appropriate measures will be developed in coordination with the USFWS.
- Adequate raptor proofing designs, as described in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006), will be implemented on the structures in coordination with the USFWS to minimize raptor use of these structures.
- Holes that are drilled or excavated for pole placement or foundation construction and left unattended overnight will be marked and secured with temporary fencing and plywood covers to reduce the potential for livestock and wildlife entering the holes and for public safety.

6. Special Status Species and Noxious Weeds

Special Status Species

- BEPC will implement additional mitigation measures developed during section 7 consultations, as specified by the USFWS.

Noxious Weeds

- Prior to the initiation of construction activities, construction vehicles and equipment would be thoroughly cleaned to prevent the possible spread of noxious weed seeds within the project area.
- Noxious weeds present within proposed disturbance areas will be controlled prior to the initiation of construction to prevent the potential spread of noxious weeds.
- If noxious weeds are observed in the surface disturbance areas, populations will be controlled with the application of herbicides, which will be applied by a certified herbicide applicator in accordance with label instructions and state and local County Weed Board regulations. Biological control methods (i.e., use of spurge beetles, etc.) also may be used for weed control.
- Herbicides will not be used near surface water.
- The construction ROW and other surface disturbance areas will be monitored for noxious weeds for a 3-year period following construction and reclamation.
- Landowners will be consulted regarding all noxious weed control measures and issues.
- Herbicide applications will occur in late spring or early summer to eradicate or control noxious weeds before they mature.

7. Archaeological and Historic Resources

- A Class III cultural resources inventories have been conducted within the proposed disturbance area. Results of the inventories will be documented in a cultural resources inventory report and submitted to Western and the North Dakota State Historic Preservation Office (SHPO) for review and concurrence. Any potentially eligible sites, including unevaluated sites, will be avoided by spanning the proposed transmission line over the sites or by rerouting the proposed transmission line.
- If any previously unknown cultural resources or human remains are discovered during project construction, all work within 200 feet of the discovery that might adversely affect the cultural resource will cease until Western, in consultation with the appropriate parties, could evaluate the discovery. Western will be notified immediately (within 24 hours) and will have a cultural resource specialist or a Tribal monitor with the proper expertise for the suspected resource type on-site as soon as possible. Construction will not proceed until authorized by Western.

8. Paleontological Resources

- If paleontological resources are observed during construction, construction activities in the area will cease and Western will be contacted to discuss the importance of the paleontological resources and develop appropriate mitigation.

9. Transportation

- The transportation of materials and equipment will be conducted in accordance with North Dakota Department of Transportation regulations.
- All necessary provisions will be made to conform to safety requirements for maintaining the flow of public traffic. Construction operations will be conducted to offer the least possible obstruction and inconvenience to public traffic.
- Public roads, section lines and existing trails will be used, to the extent practicable, to access the proposed transmission line.

10. Socioeconomic Values

- Potential impacts to populations and housing within the project area will be minimized.

11. Hazardous Materials and Solid Waste

- The proposed project will likely be subject to the requirements associated with hazardous waste management as a small quantity generator as described in 40 CFR 262.

12. Meteorology and Air Quality

- The contractors will apply standard environmental protection measures associated with construction.
- Fugitive dust emissions generated as a result of surface disturbance activities and vehicle use of access roads will be controlled by the periodic application of water, if necessary.
- Vehicles and equipment will be properly maintained to avoid excessive emission of exhaust gases due to poor engine adjustments.
- The speed of vehicles traveling on unpaved roads will be limited, to the extent practicable, to reduce the generation of fugitive dust.
- Burning or burying waste materials within the ROW site will not be permitted and all waste materials will be disposed at permitted waste disposal areas or landfills.

Appendix F

Data Design Report

DESIGN DATA REPORT

WILLISTON TO TIOGA TRANSMISSION PROJECT
CASE NUMBER PU-07-671

JULY 2009

| <u>Design Component</u> | <u>Value</u> |
|---|--|
| Voltage | 230 kilovolts |
| ROW width | 125 feet |
| Average span | 800 feet |
| Typical height of structures | 110 feet |
| Average number of structures (per mile) | 6.6/mile |
| Temporary disturbance per structure (approximately 125-foot x 100-foot area) | 12,500 ft ² |
| Permanent disturbance per structure (approximately 3-foot diameter per structure leg) | 7 ft ² |
| Minimum conductor ground clearance to agricultural land at 100°C | 26 feet |
| Minimum conductor-ground clearance to rural roads at 100°C | 28 feet |
| Minimum conductor-ground clearance to paved highways at 100°C | 31 feet |
| Circuit configuration | Vertical |
| Line capacity | 320 MVA (million volt-amperes) |
| Conductor | 1272 Thousand Circular Mils Aluminum, Steel Reinforced Dia = 1.345 inches |

