APPLICATION

Consolidated Certificate of Corridor Compatibility and Route Permit

BEULAH PIPELINE

Submitted to the
North Dakota Public Service Commission

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This is a joint application for a Certificate of Corridor Compatibility and a Route Permit as well as an accompanying Request for a Waiver of Procedures and Time Schedules.

This joint application has been prepared in compliance with the Application Guidelines for a Certificate of Corridor Compatibility, Route Permit and Waiver of Procedures and Time Schedules issued by the North Dakota Public Service Commission (NDPSC) in accordance with Chapter 49-22 of the North Dakota Century Code (N.D.C.C.) Energy Conversation and Transmission Facility Siting Act and Article 69-05 of the North Dakota Administrative Code (N.D.A.C.).

1.1 TYPE

This section describes the type of transmission facility addressed in this application. The description includes the purpose of the facility and the technology to be employed.

Basin Transload, LLC ("Basin Transload") seeks approval to construct, own, and operate an approximately 4-mile-long, 10-inch-diameter steel crude oil pipeline (Project) within western Mercer County, North Dakota (Project Area). The pipeline would be owned and operated by Tesoro High Plains Pipeline Company. This Project would provide infrastructure needed to transport crude oil produced from several oil fields in the area. The pipeline would connect Tesoro's High Plains Pipeline Zap valve station in Section 1-T143N-R89W with an oil storage facility in Section 19-T144N-R88W of Mercer County. All funds used to construct, own, operate and maintain this facility are private. No federal funds, stipends, loans or grant money will be used for any aspect of the Project. See Figure 1-1.

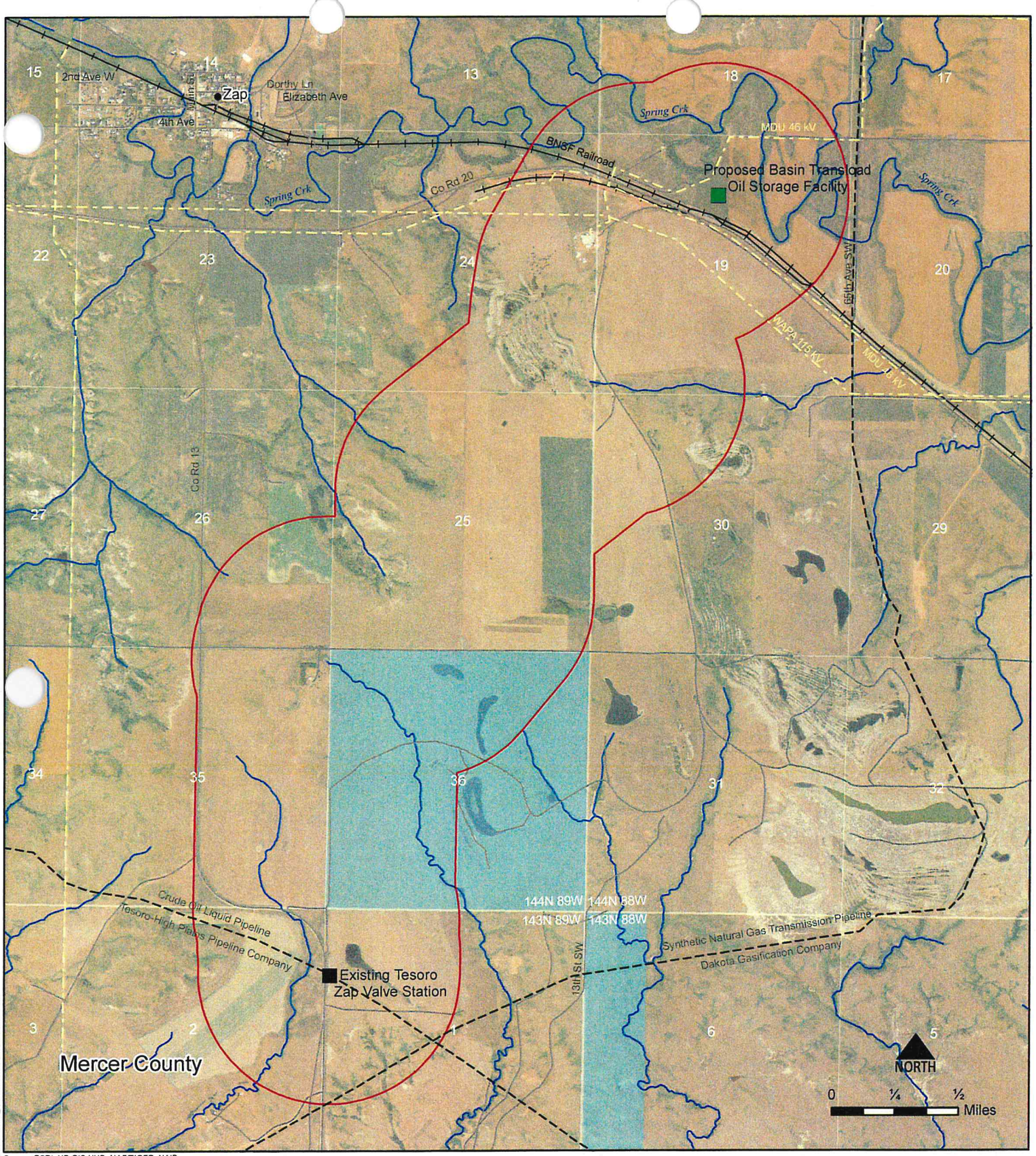
1.1.1 Purpose

Existing pipelines for transmitting crude oil are near capacity. The Project will provide critical pipeline infrastructure connecting oil storage facilities and will create an additional means of transporting crude oil to refineries. The pipeline will provide a more environmentally sensitive method of transporting crude oil than trucking to a new facility which will open new markets, and benefit the producers in the Bakken Oil Fields, landowners, citizens of the State of North Dakota, local municipalities, and mineral interest owners.

The estimated in-service date for the Project is September 2013.

1.1.2 Technology

The proposed pipeline is a 10-inch diameter, steel crude oil pipeline buried a minimum of 48 inches in depth. Basin Transload's facilities will be designed, constructed, tested, operated, and maintained in accordance with applicable requirements of the U.S. Department of Transportation (USDOT), regulations in 49 C.F.R. §195, U.S. Department of Labor regulations, Occupational Safety and Health Administration requirements, and other applicable federal and state regulations. Among other design standards, 49 C.F.R. § 195 specifies pipeline material selection; minimum design requirements; protection from internal, external, and atmospheric corrosion; and qualification procedures for welding and operations personnel.



Source: ESRI, ND GIS HUB, MAF/TIGER, NAIP

- 1-Mile Wide Project Study Corridor
- Existing Facility
- Proposed Facility
- Existing Pipelines
- Transmission Lines
- Roads
- Railways
- Streams
- State Trust Land

Figure 1-1

THPP Beulah Lateral Pipeline
Project Corridor

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1.1.2.1 Open Trench Technology

Typical pipeline open trench technology will be used for the installation of a majority of the proposed pipeline. Basin Transload will excavate trenches to a depth sufficient to provide the minimum cover required by USDOT specifications. For the proposed 10-inch pipeline a trench approximately 4 feet deep will be excavated. The trench will be approximately 2 feet wide for most of the Route. The pipe will be strung, welded, x-rayed, coated, and jeeped above ground. The pipeline will then be lowered into the trench with side booms and backfilled with no one needed in the trench. Additional trench width may be required to maintain stability of trench walls for the safety of pipeline workers and equipment. In agricultural areas, Basin Transload may increase the depth of cover to avoid interfering with land use activities. Spoil will typically be stored next to the trench on the opposite side of the working area and over existing easements where possible. Based on past experiences in the Study Area, Basin Transload does not anticipate that blasting will be required during construction of the Project.

If trench dewatering is necessary, trench water will be discharged in accordance with Basin Transload's Storm Water Pollution Prevention Plan (SWPPP), in a manner that does not cause erosion and does not result in heavily silt-laden water. The water will typically be discharged into an energy dissipation/sediment filtration device, such as a geotextile filter bag or straw bale structure, to minimize the potential for erosion and sedimentation. The dewatering structures will be sized to handle the volume of water in the trench.

1.1.2.2 Horizontal Directional Drilling Technology

At all railroad and county road crossings, and where necessary in wetland areas determined to be jurisdictional under Section 404 of the Clean Water Act the pipeline will be installed using Horizontal Directional Drilling (HDD) to avoid any surface disturbance. HDD would require specialized equipment and personnel for a three-step process: 1) drilling a pilot hole on an arc-shaped path that typically extends 10 to 50 feet beneath the railbed, roadway or waterbody; 2) enlarging the pilot hole with a series of reamers to accommodate the pipeline; and 3) pulling a prefabricated section of pipe through the hole.

Drilling the pilot hole establishes the ultimate position of the installed pipeline. The head of the pilot drill string contains a pivoting head that can be controlled by an operator at the surface as the drill progresses. Typically, the pilot hole is directed downward at an angle until the proper depth is achieved, then turned and directed horizontally for the required distance, and finally angled upward back to the surface. Throughout the process of drilling and enlarging the hole, a mud slurry consisting of bentonite and water will be pressurized and pumped through the drill stem to lubricate the drill bit, maintain the hole, and remove drill cuttings. Bentonite is the commercial name for a mixture of non-toxic clays and rock particles consisting of about 85 percent montmorillonite clay, 10 percent quartz and feldspars, and 5 percent accessory materials, such as calcite and gypsum. This slurry, referred to as drilling mud or drilling fluid, has the potential of being inadvertently released to the surface if fractures or fissures are encountered in the substrate during drilling.

The potential for an inadvertent release of drilling mud (also referred to as a frac-out) is generally greatest during drilling of the pilot hole when the pressurized drilling mud is seeking the path of least resistance. The path of least resistance is typically back along the path of the

drilled pilot hole. However, if the drill path becomes temporarily blocked or encounters other areas such as large fractures or fissures then an inadvertent release could occur. Basin Transload will monitor the Route and the circulation of drilling mud throughout drilling for indications of an inadvertent release, and will immediately implement corrective actions if a release is observed or suspected.

Once the pilot hole exits in an acceptable location, the reaming operation is initiated. During the reaming phase, a reaming head will be attached to the drill pipe and pulled back through the pilot hole to enlarge it. Several reaming passes will be made with incrementally larger reaming heads to enlarge the hole to about 1.5 times the diameter of the pipeline. As the drill path becomes larger, the potential for an inadvertent release generally decreases as the path of least resistance becomes increasingly well-established along the drill hole. Pressurized drilling fluid will continue to be jetted through the reaming head to float out drill cuttings and debris, to cool the drilling head, and to provide a cake wall to stabilize the hole. Once the drill hole is enlarged to the proper diameter, the pipe will be pulled back through the reamed hole.

Each HDD crossing will require temporary workspaces for drilling equipment, pipe assembly, supplies and materials, temporary mud pits and tanks, support vehicles, and access to the drilling sites and areas to turn equipment around. All water required for mixing the drilling mud or hydrostatic pressure testing of the pipeline will be obtained from private sources under contract either via an existing private well or municipal water supply or water tanks.

Erosion control measures will be installed in accordance with the Basin Transload SWPPP to prevent sediment-laden water from leaving the temporary work areas. After HDD is completed, drilling mud will be disposed of at an approved facility.

1.2 PRODUCT

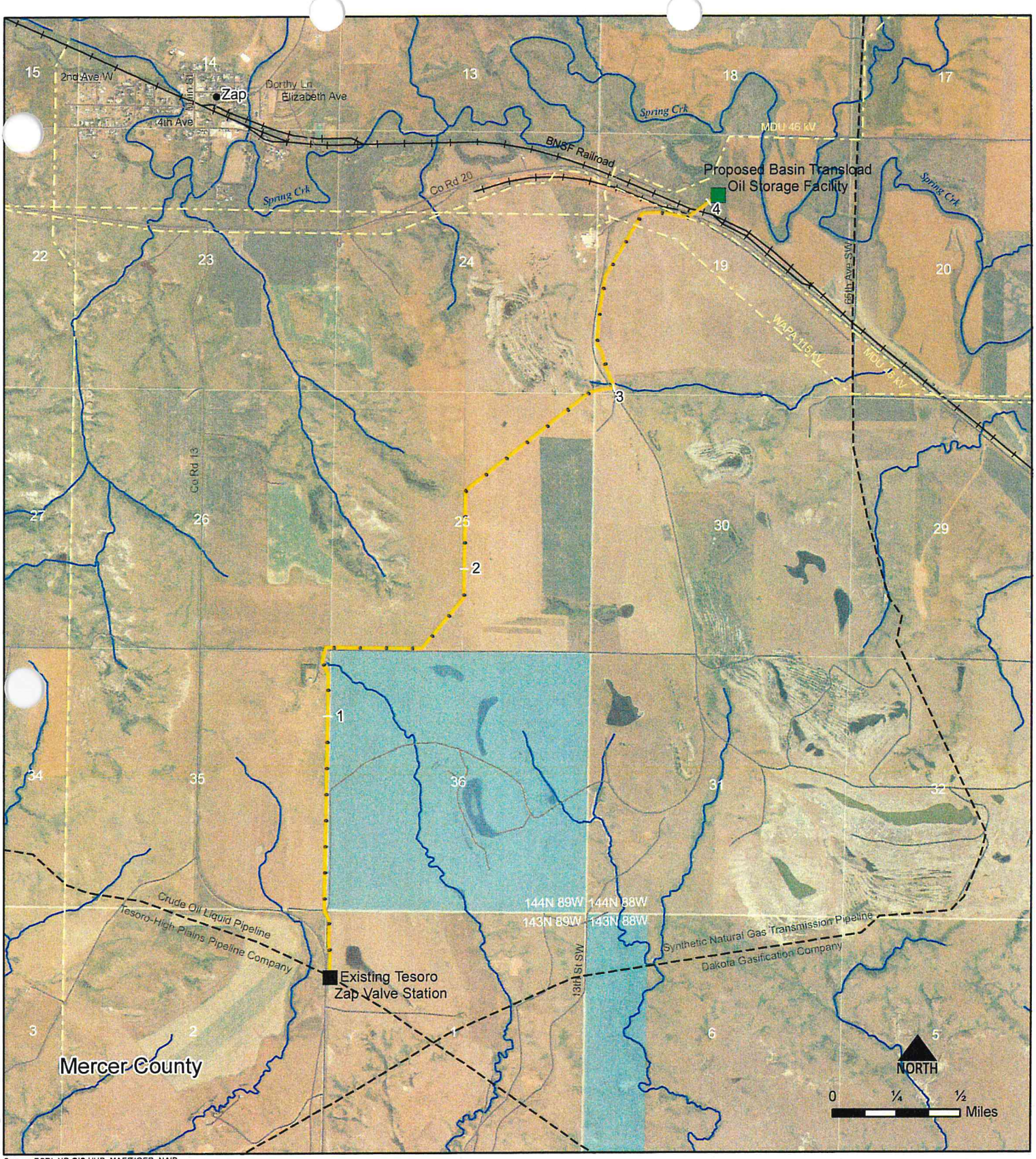
This section describes the type, source, and final destination of the product to be transmitted by the proposed facility.

Crude oil extracted from the Williston Basin will be transported from Tesoro's Zap valve station, which connects to Tesoro's existing High Plains pipeline, through the proposed 4-mile pipeline to a storage facility in Section 19-T144N-R88W. The crude oil will ultimately be transported to out of state destinations such as St. James, Louisiana; Anacortes, Washington; Albany, New York; or Stroud, Oklahoma.

1.3 SIZE AND DESIGN

This section provides a description of the size and design of the right of way including discussion on the right of way, distance between surface structures, pipe size, length, design, flow and the general location of terminating facilities. See Figure 1-2.

The 4-mile-long, ten-inch diameter steel pipeline will be located within permanent right of way (ROW) that is 70 feet wide for 1.75 miles of the Route and 25 feet wide for 2.25 miles of the Route. The location of the pipeline within the permanent ROW may vary, depending on terrain, the presence of other existing facilities, and landowner concerns. Basin Transload has acquired



Source: ESRI, ND GIS HUB, MAF/TIGER, NAIP

- Existing Facility
- Proposed Facility
- Proposed 10" Pipeline Route (with mile posts)
- Existing Pipelines
- Transmission Lines
- Roads
- Railways
- Streams
- State Trust Land

Figure 1-2

THPP Beulah Lateral Pipeline
Project Route

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all necessary easements along the Route and has made application for the necessary crossing permit from the Burlington Northern Santa Fe Railroad. See Appendix A.

The pipeline is designed for a maximum operating pressure of 1480 psi and maximum temperature of 120 degrees Fahrenheit. The pipeline will typically operate at 60 degrees Fahrenheit and 1,110 psig. The pipeline may transport up to 80,000 barrels per day for an annual capacity of 29,200,000 barrels. There will be no surface structures along the 4 mile pipeline between termination points other than a rectifier for cathodic protection. There are no compressors or pumping stations within the 4-mile length of the proposed pipeline. Surface structures would exist on the southern terminus at the Tesoro Zap valve station in Section 1-T143N-R89W and the northern terminus at the oil storage facility under development by Basin Transload in Section 19-T144N-R88W.

1.4 TIME SCHEDULE

This section provides the anticipated time schedule for the accomplishment of key events.

1.4.1 Certificate of Corridor Compatibility Application

The application for the Certificate of Corridor Compatibility is included herein.

1.4.2 Route Permit Application

The application for a Route Permit is included herein.

1.4.3 Certificate of Corridor Compatibility and Route Permit

By this application, Basin Transload is requesting a Waiver of Procedures and Time Schedules including the following schedule elements:

1. The requirement to hold separate hearings in accordance with N.D.C.C. § 49-22-08, § 9-22-08.1, and § 49-22-13. Basin Transload requests that the Commission hold a single consolidated hearing on this Application for a Certificate of Corridor Compatibility and Route Permit.
2. The requirement for a three-month processing period specified in N.D.C.C. § 49-22-08(5) for a Certificate of Corridor Compatibility.
3. The requirement for the six-month processing period specified in N.D.C.C. § 49-22-08.1(5) for a Route Permit.
4. The requirement to file separate applications for a Certificate of Corridor and Route Permit in accordance with N.D.C.C. § 49-22-08 and § 49-22-08.1.

Should the NDPSC see fit to grant a waiver of these procedures and time schedules, Basin Transload respectfully requests that a Route Permit be granted within 30 days for an anticipated receipt of June 14, 2013.

1.4.4 Right-of-way Acquisition Complete

All of the right-of-way for the Project Route has been acquired.

1.4.5 Construction State Date

With a Route Permit expected June 15, 2013 construction is anticipated to begin in early July 2013.

1.4.6 Construction Completion

Construction of the proposed 4 mile pipeline Project is anticipated to extend 3 to 5 weeks. With an anticipated construction start date of July 1, 2013, construction is anticipated to be completed by September 1, 2013.

1.4.7 Test Operations

Test operations for the proposed pipeline would take place immediately prior to in-service. Testing is anticipated in September 2013.

1.4.8 In-Service Date

The proposed pipeline is anticipated to begin service on or before September 30, 2013.

On October 1, 2012 notice of the proposed pipeline Project was sent to affected agencies and officers as required by N.D.A.C. §69-06-01-05. In addition, federal agencies including the US Fish and Wildlife Service and the US Army Corps of Engineers were notified. Comments were requested of these agencies with respect to the anticipated effects and proposed mitigation measures. The following is a table summary of the agencies solicited and their associated response. Detailed response letters may be found in Appendix B.

This section provides a copy of the evaluative studies or assessments of the environmental impact of the proposed facility. Detailed studies can be found in Appendix C.

Table 2-1 Agency Responses

Agency Contact	Attention	Response Received
Parcel Land Owners		Private easement agreements have been obtained from individual landowners for the pipeline installation.
ND Aeronautics Commission		No Response
ND Dept. of Agriculture	Dane Braun	Responded — No Comment
ND Dept. of Career and Technical Education	Wayne Kutzer	Responded — No Comment
ND Dept. of Commerce Division of Community Services	Paul Govig	Responded — No Comment
ND Dept. of Commerce Economic Development & Finance Division	Paul Lucy, Director	No Response
ND Department of Health	L. David Glatt, PE	Commented that the environmental impacts are anticipated to be minor and can be controlled by proper construction methods. Specifically, dust control, testing for erionite for road materials, spill prevention, minimal disturbance, vegetation restoration, storm water control, and proper vehicle maintenance.
ND Dept. of Human Services	Maggie Anderson, Interim Executive Director	Responded — No Comment
ND Dept. of Labor	Ms. Haugen	Responded — No Comment
ND Department of Trust Lands	Mike Haupt, Land Management Professional	Mr. Haupt responded that there were no comments as long as the proposed pipeline continues on the adjacent section of privately owned land and does not traverse the state owned parcel in Section 36, T144N, R89W
NDDOT	Robert Fode, PE Director – Office of Project Development	Responded that the Project should have no adverse effect on the North Dakota Department of Transportation highways.
Energy Infrastructure and Impact Office		No Response

Agency Contact	Attention	Response Received
ND Indian Affairs Commission	Scott Davis Director	No Response
ND Game and Fish Department (NDGFD)	Steve Dyke, Conservation Section Supervisor (Response by Greg Link, Chief Conservation & Communication Division)	Requested that work within native prairie areas be avoided to the extent possible and disturbed areas be reclaimed to pre-Project conditions. Also, that wetlands be protected and placement of above-ground appurtenances within wetlands should be avoided.
ND Geological Survey Division	Edward C. Murphy, State Geologist	Provided a review of the aerial photographs within the project area. Expressed some concerns with differential settlement within the northeast quarter of Section 25 and the southeast sectionline of 35/southwest section line of 36 in the project area. Indicated that the issue would be best addressed by the Mine Reclamation Division of the North Dakota Public Service Commission that may or may not share the concern.
Job Service North Dakota	Randy Kaiser, Administrative Staff Officer III	Responded — No Comment
ND Attorney General	Wayne Stenehjem	Responded — No Comment
Office of Governor State of North Dakota		Responded — No Comment
ND Parks and Recreation Department	Kathy Duttenhefner	Responded that a review of the conservation database has indicated that no plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the Project Area. The department requested that the Project be accomplished with minimal impacts and that disturbed areas be re-vegetated as appropriate with species native to the Project Area.
State Historical Society of North Dakota	Merlan E. Paaverud, Jr.	Concurrence with the recommended determination of "*No Historic Properties Affected*"
ND State Soil Conservation Committee	Scott Hochhalter, State Soil Specialist	Responded — Contact the Public Service Commission
ND State Water Commission	Linda Weispfenning	Identified that there are no floodplains within the Project Area, all associated permits are the responsibility of the developer, all waste material must disposed of properly and no sole source aquifers have been designated in ND. Beyond these, the Commission identified no other concerns associated with the Project.

Agency Contact	Attention	Response Received
NRCS Area Office	Jon Stika	If no federal funds are being used for the proposed Project, the NRCS has no comment except to request that care be used to not drain or fill any wetlands.
Burlington Northern Santa Fe Railroad BNSF Railroad, Geographical Area 9	Camille Barbosa (Region 6)	Responded — Submit a Permit Request
U.S. Corps of Engineers	Todd J. Lindquist P.E. Operations Project Manager	Work may proceed in accordance with the terms and conditions of the Nationwide 12 Permit, as conditions apply.
United States Fish & Wildlife Service (USFWS) North Dakota Field Office	April Simnor, Biological Technician	Responded — No significant impact on fish and wildlife resources. No threatened or endangered species known to occupy the area or are not likely to be adversely affected.
Montana-Dakota Utilities Co.	Craig Lohstreter, Electric Superintendent	No permitting is required for underground crossing. Coordination underway
Western Area Power Administration		Coordination underway
Mercer County Planning Administrator	Gary Emter	Responded — will await PSC application to review

Source: ECI, 2012

2.1 DEMOGRAPHICS

2.1.1 Description of Resources

The Study Area is located in Mercer County, North Dakota. As of the 2010 Census, Mercer County had a median household income (MHI) of $60,191, which is approximately 29 percent more than the North Dakota MHI of $46,781. The poverty level in Mercer County is 6.2% compared to the overall rate of 12.3% state-wide. The racial characteristics of the county are generally homogeneous. Table 2-2 provides the diversity characteristics as reflected in the 2010 Census.

Table 2-2 Demographics

Race	Mercer County	North Dakota
White Persons[a]	95.6%	90.4%
Black Persons[a]	0.3%	1.3%
American Indian / Alaska Native Persons[a]	2.6%	5.5%
Asian Persons[a]	0.4%	1.1%
Native Hawaiian/Other Pacific Islander Persons[a]	0.1%	0.1%
Hispanic or Latino Persons[b]	1.6%	2.2%
Persons reporting two or more races	1.1%	1.7%

Source: 2010 US Census

a – Includes persons reporting only one race
b – Hispanics may be of any race, so also are included in applicable race categories

There are no known plans for residential developments or other construction within the proposed Corridor or Route. Although it is not unreasonable to expect that some new developments could

occur, discussions with landowners during ROW negotiations for the Project have indicated no such plans.

2.1.2 Impacts

There is no indication that any minority or low-income population is concentrated in any one area of the Corridor, or that the pipeline ROW will be placed in an area occupied primarily by any minority group. The limited permanent agricultural land conversion associated with the pipeline structure placement will constitute a small socioeconomic impact to those landowners along the Route.

The creation of construction jobs within the Project Area and use of current businesses such as restaurants and hotels could temporarily benefit local communities. If local contractors are used, construction of the pipeline will provide a temporary increase in the total personal income of the area. However, the number of permanent jobs created is anticipated to be low, which means the economic expansion experienced during pipeline construction may be short-term. Personal income will also be generated by the circulation and recirculation of dollars paid out as business expenditures and state and local taxes. Labor relations within the Project Area will not be affected.

By virtue of the local ownership structure of Basin Transload, it is anticipated that the development of this Project will contribute to economic growth near the Project Area and vicinity. The resulting pipeline network will provide a means for transportation of oil resources to markets being actively developed in North Dakota.

Up to 61 acres of agricultural land may be temporarily removed from production during pipeline construction, not including potential impacts as a result of other additional temporary work spaces needed for construction activities.

2.1.3 Mitigation

Socioeconomic impacts associated with the Project will be primarily positive, due to an influx of wages and expenditures made at local businesses during the Project construction and an increase in the county's tax base from operation of the transmission line. Basin Transload will use local labor and contractors when practicable. Impacts to landowners will be minimized when practicable by negotiating easements that are at or above market rates, and by maintaining landowner communications throughout the Project. Agricultural lands disturbed during construction will be restored following construction and permanent agricultural impacts are not expected from the construction of the Project. Landowner compensation for any crop damages has been negotiated as part of the easement agreements.

2.2 LAND USE

2.2.1 Description of Resources

The Study Area is located in central North Dakota within Mercer County. No municipalities lie within the one-mile-wide Corridor. The land within the Corridor and Route is primarily agricultural including open grasslands with the exception of areas utilized for existing facilities

such as roadways, railways, or utilities as well as existing creeks, drainages, and waterways. There are no areas of critical habitat or special designated land use within the Corridor or Route.

2.2.2 Impacts

The majority of the land impacted by the construction of the pipeline is used for agriculture. During construction of the Project, additional areas may be temporarily disturbed within the pipeline Route for use as staging areas. Possible land use impacts resulting from pipeline construction include temporary interruption of agricultural use within the construction ROW; disturbance to landscape features such as watercourses; physical landscape changes due to spoil heaps; and other signs of on-going construction. The majority of the area surrounding the construction ROW will remain in agricultural use and can still be used by the landowner during pipeline construction.

2.2.3 Mitigation

Basin Transload will work closely with the landowners to coordinate the concurrent use of the area during construction activities. To minimize land use disruptions, Basin Transload will work closely with the landowners regarding the pipeline alignment within the ROW and the location of any temporary access areas required for periodic inspections or maintenance. Any disturbed areas will be returned as near as possible to original contours and condition. Non-agricultural areas will be reseeded with area appropriate native vegetation. All other areas will be returned to agricultural use following installation of the pipeline.

2.3 PUBLIC SERVICES

2.3.1 Description of Resources

The Study Area is located in rural central North Dakota. Within this area there are established transportation and utility networks that provide access and necessary services. No municipalities are located within the one-mile-wide Corridor. The Project is located approximately 2 miles southeast of Zap, ND. Zap has a local retail services as well as a voluntary fire department. Beulah, located 5 miles east of the Corridor, has retail services, emergency services, including fire departments, ambulance service, hospitals, and police. Bismarck, located approximately 60 miles southeast of the Corridor, is the largest city located near the Project.

Two overhead high voltage transmission lines exist within the Corridor; the Route will traverse one of these lines. Small distribution lines provide electricity throughout the area but do not traverse the Corridor.

Low traffic volume county roads exist within the Project Area. The Corridor crosses Mercer County Road 20 in Section 19-T144N-R88W. Primary local surface transportation within the Corridor is usually by interconnecting gravel or unimproved roads.

The Corridor and Route cross one railroad. BNSF operates this line through Section 19-T144N-R88W.

This township has limited public infrastructure services, which is typical of most townships in rural North Dakota. Homes within the study area typically utilize septic systems and water wells for their household needs. There are no identified communication facilities within the Corridor.

2.3.2 Impacts

A 115 kV transmission line owned by Montana-Dakota Utilities Co. (MDU) and a 115 kV line owned by Western Area Power Administration will be crossed by the proposed Route. Construction operations and underground crossing of this facility will be coordinated with MDU and Western to eliminate impacts to the operation of this facility.

County Road 20 will be crossed via HDD to avoid any damage to the surface of the roadway and prevent any disruption to traffic. It is expected that this road crossing will be completed within one day. All traffic will be permitted to continue use of the roadway during construction, limiting any disturbance to the traffic flow. The pipeline construction is expected to have limited and temporary impact on normal traffic operations.

The BNSF railroad crossing will be traversed via HDD to avoid any surface impact to the railroad operations. A crossing permit application has been filed for this crossing. See Appendix A.

No impact to area wells or disruption of any septic systems will occur as a part of the Project.

The Project will not cause any impacts to radio and television reception, or other communication or electronic control facilities.

2.3.3 Mitigation

Impacts to area infrastructure are expected to be minor and temporary. All activities will be coordinated with adjacent landowners and existing facility owners where crossings are required at the county road, railroad, and power line. No additional mitigation measures are anticipated.

2.4 HUMAN HEALTH AND SAFETY

2.4.1 Description of Resources

Most pipelines are underground systems used for transporting liquid and gas products. The United States is crisscrossed with thousands of miles of underground pipelines delivering products such as oil, gasoline, home heating oil, natural gas, and industrial gases. By the definitions outlined in 49 C.F.R. § 195.2, hazardous liquids include petroleum, petroleum products, and anhydrous ammonia. Section 195 details the design requirements, construction, pressure testing, operation and maintenance, and qualification of pipeline personnel pertaining to pipelines transporting hazardous liquids.

2.4.2 Impacts

The transportation of crude oil by pipeline involves some risk to the public in the event of an accident and the subsequent release of product into the environment. The greatest potential hazard is a fire or explosion following a major pipeline rupture.

2.4.3 Mitigation

The USDOT pipeline standards are published in 49 C.F.R. §§ 190–199. For example, 49 C.F.R. § 195 specifically addresses the transport of hazardous liquids by pipeline. Facilities associated with the Project will be designed, constructed, operated, and maintained in accordance with USDOT standards, including the provisions for written emergency plans and emergency shutdowns.

Proper safeguards will be implemented during construction and operation of the pipeline and aboveground facilities. The Project will be designed to meet federal, local, state, and Basin Transload safety standards. Construction crews will comply with these standards when installing the pipeline and associated facilities.

2.5 NOISE

2.5.1 Description of Resources

Noise is comprised of a variety of sounds with different intensities spanning the entire frequency spectrum. A human perceives sound when sound pressure waves encounter auditory components in the ear. These components convert pressure waves into perceivable sound. Noise is measured in units of decibels (dB) on a logarithmic scale. Because human hearing is not equally sensitive to all frequencies of sound, certain frequencies are given more "weight." The A-weighted decibel (dBA) scale corresponds to the sensitivity range for human hearing. Noise levels capable of being heard by humans are measured in dBA. A noise level change of 3-dBA is imperceptible to human hearing. A 5-dBA change in noise level, however, is clearly noticeable. A 10-dBA change in noise levels is perceived as a doubling of loudness, while a 20-dBA change is considered a dramatic change in loudness.

Generally, background noise levels in rural areas vary between 40 and 50 dBA, while in suburban areas these levels increase to 50 to 60 dBA. In urban areas, noise levels vary between 60 and 70 dBA. Most of the Corridor has background levels consistent with rural areas. The windy conditions in this region tend to increase ambient noise levels, as compared to other rural areas. Additionally, higher levels exist near roads and other areas of human activity. Railroads can be a significant source of noise near portions of the northern end of the Route. Rail cars traveling at 50 mph, 100 feet away have noise levels of approximately 75 dBA. Train horns sounded at crossings vary between 95 and 115 dBA.

2.5.2 Impacts

The ambient sound level of a region is defined by the total noise generated within the specific environment, and it is usually comprised of sounds emanating from natural and artificial sources. At any location, both the magnitude and frequency of environmental noise may vary considerably over the course of a day and throughout the week. This variation is caused in part by changing weather conditions and the effect of seasonal vegetative cover.

Pipeline construction is similar to an assembly line, with crews conducting separate but sequential activities, each generally proceeding at rates ranging from several hundred feet to one mile per day. Construction of the pipeline will include the following noise-generated activities:

ROW preparation, soil stripping, trenching, pipe stringing, welding, laying pipe, and backfilling. There does not appear to be potential for rock outcroppings near the surface, so blasting is not likely to be required. Construction activities may occur on an intermittent basis. Construction equipment would be operated on an as-needed basis during the construction period and is not expected to be a significant noise factor.

Because the pipeline crosses through primarily rural and agricultural areas, there will usually be only a few people near the pipeline Corridor at any given time along the roadways or in the fields. A warehouse operation is located near the north side of the Corridor and a storage building is located near the south side of the Corridor. There are no residences located within the Corridor. Noise will be generated during construction of the pipeline.

Typically, the attenuation rate for linear noise sources is approximately -4 dB per distance doubled. In other words, the farther from the generation point a person is, the less noise they will hear. The Route was sited to be at least 500 feet from the warehouse operation as this has an occupied office area. This siting will minimize the noise that individuals will hear along the Route. At 500 feet and farther from the pipeline Route, any pipeline construction noise will be below the background noise levels and is not expected to be perceptible.

2.5.3 Mitigation

During construction, noise levels will be minimized by ensuring that construction equipment is equipped with mufflers in good working order. Construction activities will generally be limited to the hours of 7 a.m. to 7 p.m. Additional mitigation measures are not anticipated to be employed, due to the nominal noise impact anticipated from the Project.

2.6 AESTHETICS

2.6.1 Description of Resources

The degree of visual impact that may result from a proposed project is typically determined by considering the general character of the existing landscape and the visual features of the proposed facilities. Visual resources within the Project Area are a function of geology, climate, and historical processes, and they include topographic relief, vegetation, water, wildlife, land use, and human uses and development. The topography in the Project Area is characterized by nearly level to gently rolling hills and small shallow prairie potholes. Vegetation in the Project Area consists primarily of grassland and cropland.

2.6.2 Impacts

Construction and operation of the proposed pipeline may affect visual resources by altering the terrain and vegetation patterns during construction or maintenance. During construction, the cleared and graded ROW and temporary extra workspaces, as well as the construction equipment, may be visible to surrounding community residences from local roads within the Corridor. Because of the topography of the Project Area, dust generated from these activities, as well as the presence of equipment and construction vehicles, may be observed from some distance in the surrounding areas.

Although the Route is located outside of any municipalities, it may be visible to some residents traveling near the area. Visual impacts will be most evident to passing motorists and recreationists where the Route parallels or crosses roads, especially while traveling along Mercer County Roads 13 and 20. Any effects to visual resources are expected to be minor and temporary.

2.6.3 Mitigation

Impacts to aesthetics will be minimized by positioning the Route through rural agricultural areas where establishment of vegetation following construction is generally achieved in less than three years. Long-term visual changes will be minor and limited to permanent pipeline markers that may be visible at locations where the pipeline crosses County Road 20 and the BNSF Railroad. The right of way will be restored in accordance with individual landowner agreements.

2.7 CULTURAL

In September of 2012, Basin Transload contracted Ethnoscience, Inc. to conduct a Class I file search and a Class III pedestrian survey of the Project. See Appendix C.

2.7.1 Description of Resources

The cultural setting of the Project Area is associated with the Knife River Study Unit. The cultural setting is described in detail in the *North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component.* State Historical Society North Dakota (SHSND) 2008.

The Project Area is in uplands dissected by small steams that drain into named creeks. The primary drainage near the Project Area is Spring Creek, north of the Project Area. Approximately 70 percent of the Project Area is previously disturbed. The topographic maps indicate mining was an important activity in the Project Area; however, the aerial photographs show the Project Corridor occurs in an area that has been reclaimed and no longer conveys its historic use. Currently, the majority of the disturbance is associated with cultivation.

Game animals that would have been found in the area prior to cultivation and fencing include bison, elk, mule deer, whitetail deer and pronghorn antelope. Moose and caribou may also have been present at certain times. Plant resources available to prehistoric groups may have included acorns from bur oak trees and berries from chokecherry, juneberry, and buffaloberry shrubs. The preferred lithic materials appear to be Knife River flint and Swan River chert. To a lesser extent, petrified wood, chert, moss agate, and jasper were used. Granite cobbles were also used for manufacturing heavy stone tools. SHSND 2008.

A Class I file search was conducted at the North Dakota State Historical Society of each Section crossed by the Corridor. The file search identified seven previous cultural resource investigations that were conducted within these Sections. The Corridor crosses over one site 32ME2246 (Northern Pacific Railroad) which leads to another site 32MEX455 (Zap Colliery mine).

A Class III field inventory was conducted of an area approximately 4 miles in length by 120 to 200 feet wide. Although ground surface visibility was relatively low (5-25 percent), animal

burrows and cattle trails provided greater visibility in some locations. The investigation observed one previously recorded site, the Northern Pacific Railroad (32ME2246). Site 32ME2246 consists of a railroad grade and rails of the Northern Pacific Railroad. The SHSND provides information regarding railroads in the state. The only structure associated with Site 32ME2246 in the Project Area is the ballast and rails. The environment has changed significantly through time. When the railroad was first constructed, the landscape was a frontier/rural landscape. Strip mining subsequently altered the landscape to the south of the Project Area. The segment of the railroad located in the Project Corridor is not recommended as a contributing element of the site.

The railroad site leads to a strip mine in the Project Area (32MEX455). The strip mine (32MEX455) is reclaimed and no structures remain within the Corridor.

2.7.2 Impacts

A recommendation of ***No Historic Properties Affected*** was made for the Project based on the field review. On October 10, 2012, the State Historical Society of North Dakota concurred with this recommendation. See Appendix B.

2.7.3 Mitigation

Based on the concurrence of the ***No Historic Properties Affected***, no further mitigation is anticipated for cultural resources.

2.8 RECREATION

2.8.1 Description of Resources

The Project Area is primarily agricultural in nature and does not include any national, state or local parks. There are no rivers within the Corridor. There are no designated state game refuges, nature preserves, wildlife management or protection areas within the Corridor. There are no identified Private Lands Open to Sportsmen (PLOTS) within the Corridor. Recreational uses of the Project Area would generally include cross country travel along County Road 20.

2.8.2 Impacts

In general, recreational impacts for the Project Area would be limited to temporary visual impacts realized by individuals traveling through the area or enjoying recreation on adjacent private property. Any impacts are anticipated to be minimal and temporary in duration. No significant impacts are expected to any surrounding public use or recreation.

2.8.3 Mitigation

Since it is anticipated that recreational resources will not be removed from service by implementation of the Project, mitigation is not anticipated to be necessary within the Corridor or along the Route.

2.9 ECONOMICS

2.9.1 Description of Resources

The majority of the Corridor is cultivated farmland, upland prairie and grasslands. Prime farmland is an important factor of crop production for Mercer County. Prime farmland is defined as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops.

The National Resource Conservation Service (NRCS) includes two classifications for Prime Farmland. The first classification includes all areas of the soil series, and the second includes only the drained areas of the soil series.

The NRCS also identifies farmland of statewide and local importance, which is defined as land that is important for the production of food, feed, fiber, forage, and oilseed crops. Farmlands of statewide or local importance also include those lands that are considered nearly prime soils and produce high yields of crops in an economic manner when treated and managed according to acceptable farming methods. Some of these soils may produce as high a yield as Prime Farmland soils, if conditions are favorable. There is no Unique Prime Farmland within the Project Corridor.

Figure 2-1 shows the Prime Farmland soil distribution along the Route and Table 2-3 reflects the acres of Prime Farmland within the Corridor.

Table 2-3 Prime Farmland

Category	Acres	Length (mi)
Prime and Unique Farmland	0.0	0.0
All areas are Prime Farmland	3.0	0.2
Farmland of statewide importance	19.7	1.3
Remaining Areas - Not Prime Farmland	37.9	2.5
Total Area of Temporary Disturbance*	60.6	4.0

*125-ft temporary disturbance width assumed

2.9.2 Impacts

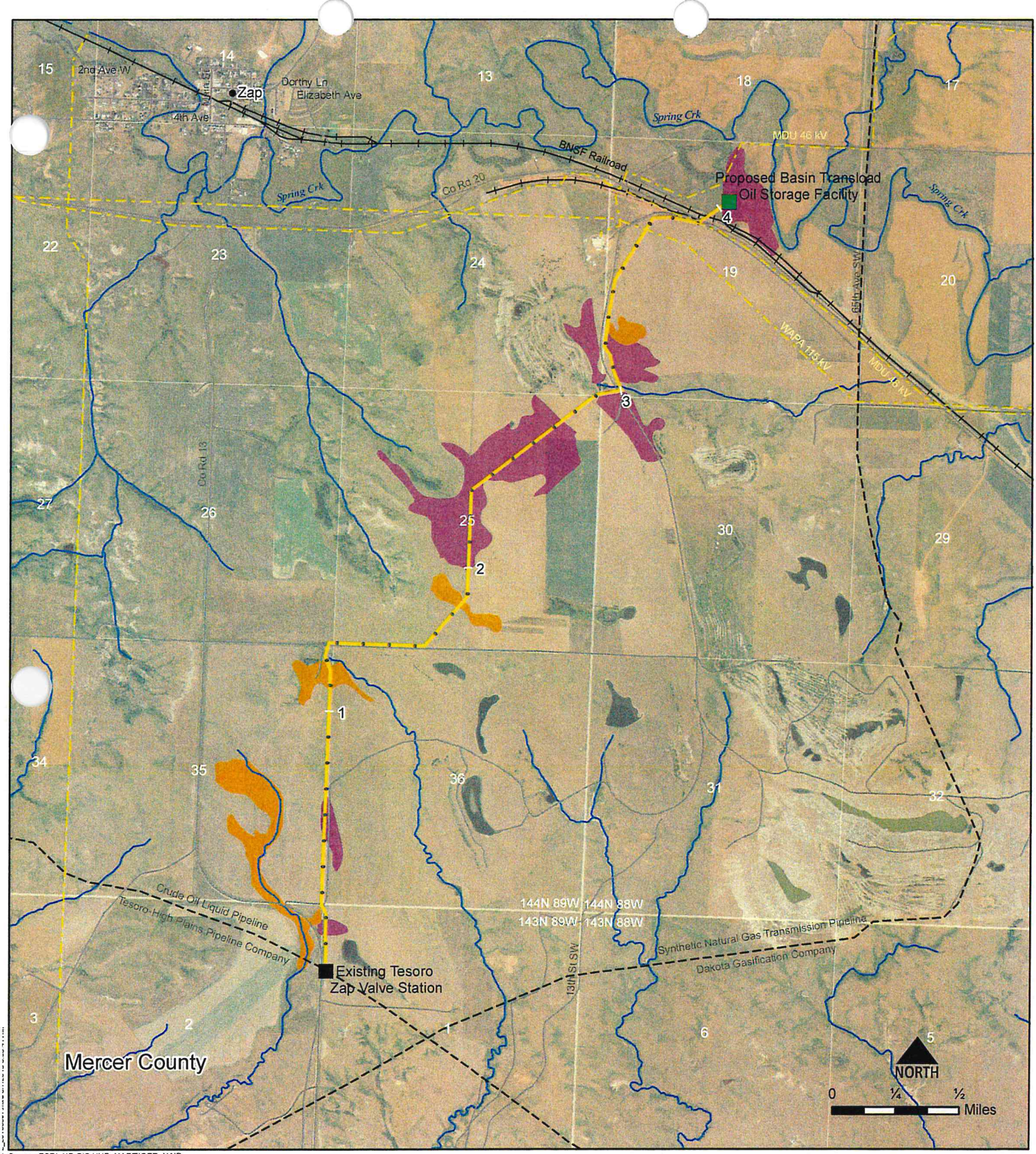
Permanent above-ground impacts are not anticipated. All areas within the Corridor will be available for usual farming activities after construction is completed. Short-term impacts on agricultural areas would include soil disturbance, possible compaction of farm soils, the loss of standing crops within the construction work area, and disruption of farming operations in the vicinity of construction for the growing season, during the year of construction. The use of heavy equipment on agricultural soils may cause soil compaction. This is a concern where construction equipment use is intense, even during a relatively short duration, such as the construction period needed for pipeline installation.

Construction of the Project could affect grazing lands by removing vegetation, reducing the carrying capacity of an area, damaging or removing fences or other natural barriers used for livestock control, or cutting water lines used to supply watering sources.

Although N.D.A.C. § 69-06-08-2(2)(h) exempts underground transmission facilities, such as buried pipelines, from analysis for impacts to irrigated land, according to the North Dakota State Water Commission, there are no irrigation facilities within the area.

2.9.3 Mitigation

Basin Transload will coordinate with landowners during construction to minimize any impacts to the surrounding agricultural operations. Where necessary, compacted soils will be disked



Source: ESRI, ND GIS HUB, MAF/TIGER, NAIP

- Existing Facility
- Proposed Facility
- Proposed 10" Pipeline Route (with mile posts)
- Existing Pipelines
- Transmission Lines
- Roads
- Railways
- Streams
- All areas are prime farmland
- Farmland of statewide importance

Figure 2-1

THPP Beulah Lateral Pipeline
Prime Farmland

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following construction, and landowners will be compensated for damages including any resulting lost crop production. Basin Transload will also repair, replace, or compensate landowners for any other damages that occur as a result of construction. Adverse impacts to irrigation permit areas within the Corridor are not anticipated.

2.10 SOILS

2.10.1 Description of Resources

Information from three U.S. Department of Agriculture NRCS sources was used to identify the general soil map units occurring in the Corridor and Route. These resources include the Soil Survey for Mercer County, the State Soil Geographic Database (ND-STATSCO), and the Soil Survey Geographic Database (SSURGO). See Figure 2-2 for a map of the soils in the Project Area.

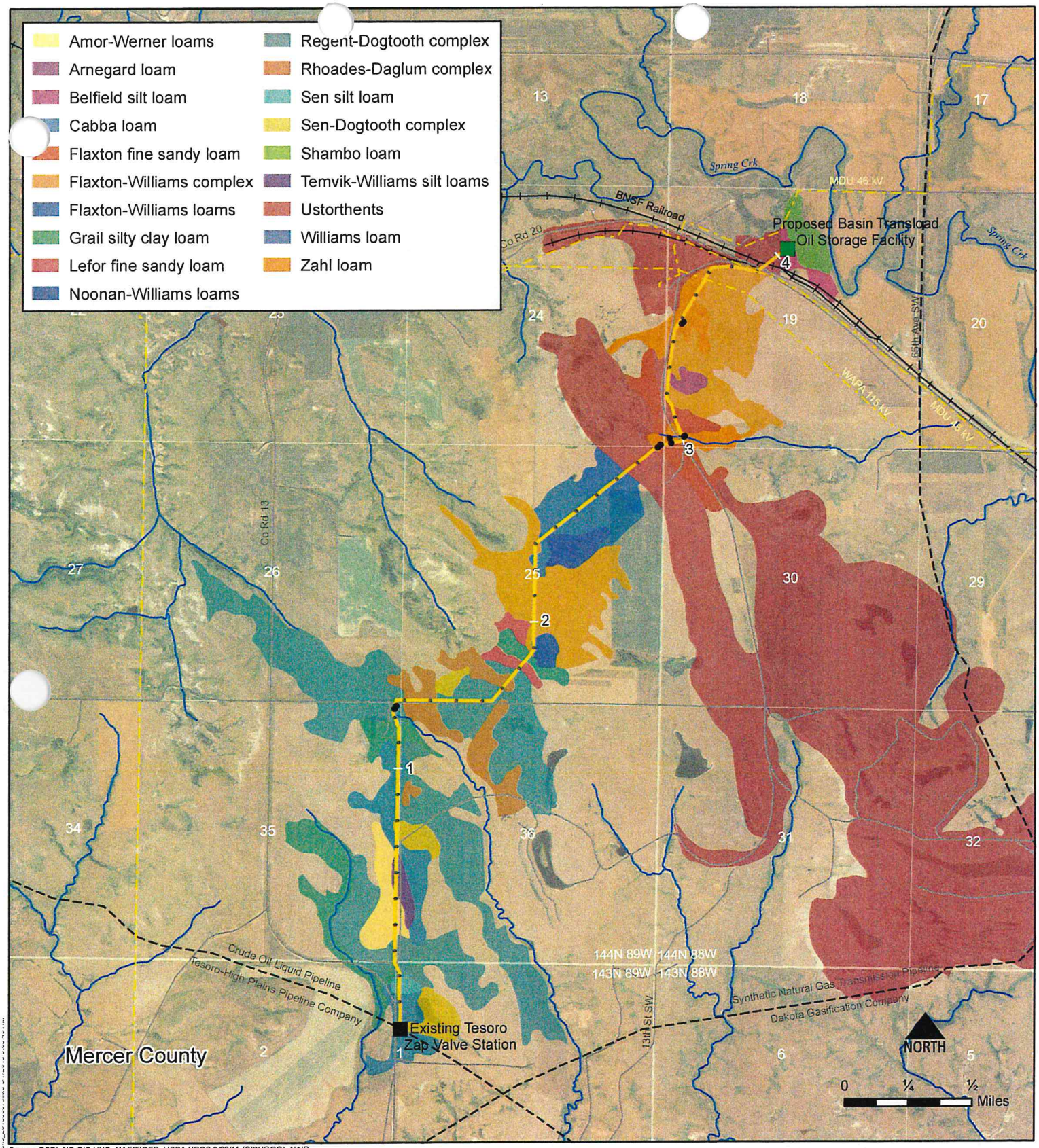
Table 2-4 Soils by Type

Soil Type	Acres	Length (mi)
Amor-Werner loams	2.5	0.2
Arnegard loam	0.4	0.0
Belfield silt loam	0.5	0.0
Cabba loam	5.8	0.4
Flaxton fine sandy loam	2.7	0.2
Flaxton-Williams complex	10.6	0.7
Flaxton-Williams loam	2.0	0.1
Grail silty clay loam	2.1	0.1
Lefor fine sandy loam	0.6	0.0
Noonan-Williams loams	0.8	0.1
Regent-Dogtooth complex	10.2	0.7
Rhoades-Daglum complex	2.9	0.2
Sen silt loam	1.0	0.1
Sen-Dogtooth complex	0.9	0.1
Temvik-Williams silt loams	2.3	0.2
Ustorthents	5.9	0.4
Williams loam	4.5	0.3
Zahl loam	5.0	0.3
Total Area of Temporary Disturbance*	**60.6**	**4.0**

*125-ft temporary disturbance width assumed

2.10.2 Impacts

Temporary impact to soils in the area will be limited to the ROW. Additional temporary work spaces may be needed for construction activities to minimize overall impacts to cultivated lands. Temporary impacts to soils such as grading and equipment traffic are anticipated during



Source: ESRI, ND GIS HUB, MAF/TIGER, USDA NRCS 3/22/11 (S/SURGO), NAIP

- Existing Facility
- Proposed Facility
- Proposed 10" Pipeline Route (with mile posts)
- Existing Pipelines
- Transmission Lines
- Roads
- Railways
- Streams
- Wetland Delineation Soil Pits*

* Wenck Wetland Delineation Field Survey September 2012

Figure 2-2

THPP Beulah Lateral Pipeline
Soils

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construction in the areas immediately surrounding the Route. Soils crossed by the Route may be susceptible to contamination from spills or leaks of fuels, lubricants, and coolants from construction equipment. Loss of topsoil through dust in association with construction activities could affect the soil resources of the area.

2.10.3 Mitigation

All necessary measures will be taken to minimize fugitive dust emissions created during construction activities. Basin Transload's contractor will control dust during construction by applying water to the ROW as necessary. All equipment will be maintained and kept in good working order to prevent soil contamination from spills or leaks of fuels, lubricants and coolants. A standard Spill Prevention Control and Countermeasure (SPCC) Plan will be in place to mitigate any inadvertent discharge.

2.11 GEOLOGY AND GROUNDWATER RESOURCES

2.11.1 Description of Resources

2.11.1.1 Geology

The surficial geology of North Dakota is largely a result of glacial activity. Although surface material is influenced by modern rivers and lakes, great ice sheets scraped and ground deep furrows into the landscape during the Pleistocene Era. As the glaciers advanced, materials extracted from the underlying bedrock were transported and eventually deposited. As temperatures increased, the ice melted. The melting ice sheets left mixed sediments of all sizes and produced a relatively flat topography with small transient depressions, called potholes. Glacial tills, consisting of unconsolidated sand, gravel, silt, and clay, are remnants of the Pleistocene Epoch.

The Project Area lies in the Great Plains Physiographic Province in North Dakota. It is located in the eastern portions of North Dakota and contains both glaciated and non-glaciated landforms. The Great Plains Physiographic Province can be further divided into four regions that display similar landform characteristics. They are: the Missouri Coteau, the Coteau Slope, the Missouri Plateau (also known as the Missouri Slope Upland), and the Little Missouri Badlands. The Missouri Coteau and the Coteau Slope separate the Lowlands of North Dakota on the east, from the Great Plains on the west.

Although the Project Area is within the glaciated section of the Missouri Plateau, glacial sediments in the area generally range from 0 to ten feet thick and are commonly comprised of bedrock surface with scattered boulders. The Project Area is primarily comprised of silt/sandstone from the Fort Union Group, with a small area of thin deposits of alluvium and slope wash of recent age that overlie the shallow bedrock.

The following are descriptions of the geology in the Study Area and its occurrence from youngest to oldest (top to bottom):

Oahe Formation (Quaternary) — Dark, obscurely bedded clay and silt (overbank sediment); generally overlying cross-bedded sand (channel sediment); as thick as ten meters (30 feet); on flood plains of modern streams.

Sentinel Butte Formation (Tertiary) — Gray-brown silt, sand, clay, sandstone, and lignite; river, lake, and swamp sediment; as thick as 200 meters (600 feet).

Known mineral resources within the Corridor are limited to coal deposits. There are no known economic occurrences of cement rock, clay, petroleum, salt, uranium, volcanic ash, or sand and gravel within the Corridor.

Several economic coal deposits are located in Mercer County. Economic coal deposits are defined as those that meet the minimum criteria established by coal companies operating surface mines in North Dakota. These economic criteria include defined minimum cumulative coal thickness and maximum coal depths. According to the Lignite Reserves Map from the North Dakota Geological Survey (NDGS), Medicine Butte and Zap 24k Quadrangles, there are two economic coal deposits, and one area of mined coal in the Project Area.

2.11.1.2 Groundwater

Groundwater is a valuable natural resource in North Dakota. Groundwater found beneath the surface of North Dakota is obtainable from two major sources or rock: unconsolidated deposits and bedrock. Unconsolidated deposits are characterized by loose beds of gravel, sand, silt, and clay of glacial origin. Bedrock, consisting primarily of sandstone and shale, underlies the unconsolidated deposits throughout most of North Dakota. Subsurface voids that contain water are called aquifers. These areas are saturated geologic formations that yield a usable quantity of water to a well or spring. Aquifers created by unconsolidated glacial outwash deposits are referred to as glacial drift aquifers. They are often more productive than the underlying bedrock aquifers in North Dakota. The principal method of aquifer recharge is a combination of precipitation, melting snow, and seepage from area streams and lakes into the subsurface.

2.11.2 Impacts

2.11.2.1 Geology

Construction and operation of the pipeline will not materially alter the geologic conditions of the area. Effects from construction could include disturbances to the natural topography within the Corridor, due to trenching and grading activities. Over most of the area, alteration of topographic contours would consist of minimal grading of the construction ROW to provide a safe level work surface.

The majority of the Project Route passes through either geologically undifferentiated or previously mined areas. According to the NDGS Lignite Reserves Maps, approximately 0.5 miles of the Project crosses an area containing economic coal deposits, with 0.3 miles of that parallel to existing roadways. The construction and operation of the Project will have no effect on existing mineral resource extraction and minimal impact to future mineral resource extraction. No geological hazards are expected to be created, provided the contractor uses prudent engineering design and construction practices.

2.11.2.2 Groundwater

There are no wells identified within the Corridor. Impacts to any area aquifers are not anticipated. Correspondence received from the North Dakota State Water Commission indicates

that there are no other concerns in the immediate area associated with groundwater resources. See Appendix B.

2.11.3 Mitigation

Following construction, Basin Transload will restore areas to their preconstruction contours, to the extent possible. A standard SPCC Plan will be in place to mitigate any inadvertent discharge.

2.12 WATER RESOURCES

In September of 2012, Basin Transload contracted Wenck Associates, Inc. to conduct a Wetland Delineation within the Project Corridor. See Appendix C.

2.12.1 Description of Resources

Five wetland areas were identified within the Project Corridor. Wetland 1 was created due to a dugout and berm. Wetlands 2 through 5 were created due to presence of berms. Wetland 2 continues to the south and east out of the Project Area. Wetland 3 had water flowing into it from the running well situated uphill and to the south. See Figure 2-3.

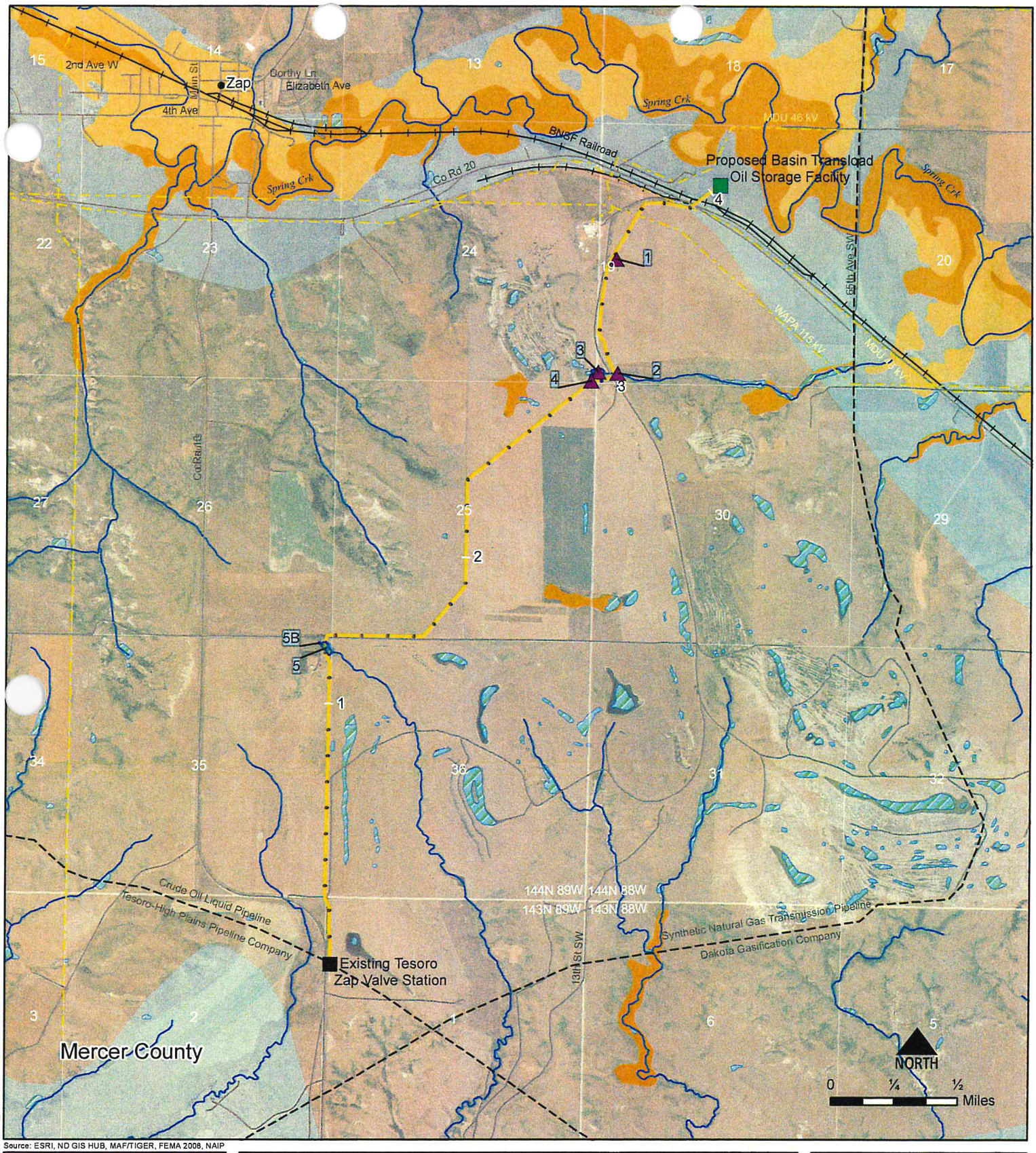
The wetland areas were primarily vegetated by broad-leaf cat-tail (*Typha latifolia*), large barnyard grass (*Echinochloa crus-galli*), freshwater cord grass (*Spartina pectinata*), fox-tail barley (*Hordeum jubatum*), curly dock (*Rumex crispus*) and water smartweed (*Persicaria amphibia*). Common non-hydrophytic vegetation observed was smooth brome (*Bromus inermis*), yellow sweet-clover (*Melilotus officinalis*), Kentucky blue-grass (*Poa pratensis*), common snowberry (*Symphoricarpos albus*), Canada thistle (*Cirsium arvense*), curly-cup gumweed (*Grindelia squarrosa*), western-wheat grass (*Pascopyrum smithii*), Missouri goldenrod (*Solidago missouriensis*), biennial wormwood (*Artemisia biennis*), and annual ragweed (*Ambrosia artemisiifolia*).

Soil investigations in the wetland areas revealed many redoximorphic features. Soils were saturated in most of the wetland transect points, confirming the presence of hydrology. Hydrology indicators present in many of the wetland areas included presence of reduced iron, inundation visible on aerial imagery, surface water, saturation and geomorphic position.

2.12.2 Impacts

Wetlands 1, 3, 4, 5, and 5B appear to be isolated basins. Wetland 2 appeared to be an isolated basin that would outlet to the east, outside of the Project Corridor. Visual inspection of the area to the east of Wetland 2 indicated that it was an upland swale. Due to lack of property access to the east of the wetland, it was not determined if wetland indicators are present and it is unknown if there is a hydrologic connection that would require a Section 404 permit.

Subsequent to the field evaluation, a Jurisdictional Determination (JD) request was sent to the Omaha District of the U.S. Army Corps of Engineers (USACOE). A JD was made on February 12, 2013 indicating that Wetlands 2, 3 and 4 are jurisdictional wetlands. Should the Project result in dredge or fill material in these waters, a Corps permit, pursuant to Section 404 of the Clean Water Act would be required. The remaining wetlands (1, 5 and 5B) have been determined to be non-jurisdictional.



Source: ESRI, ND GIS HUB, MAF/TIGER, FEMA 2008, NAIP

- Existing Facility
- Proposed Facility
- Proposed 10" Pipeline Route (with mile posts)
- Roads
- Railways
- Streams
- Area of ACOE Jurisdiction
- Delineated Wetlands*
- NWI Wetlands
- Surficial Aquifers

Flooding Frequency

- Occasional
- Rare

*Wenck Wetland Delineation Field Survey September 2012

Figure 2-3

THPP Beulah Lateral Pipeline
Wetlands

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A Nationwide Permit 12 of the USACE covers "utility lines," which include pipelines. Nationwide Permit 12 also covers "waters of the U.S." where wetland loss of less than 0.5 acres results from a single project. If the total wetland loss of "waters of the U.S." for a single project is greater than or equal to 0.5 acres, an individual Section 404 Permit is required by the USACE. It is anticipated that through HDD of jurisdictional crossings that are unavoidable with Route adjustments (Wetland 2 & 3), a Nationwide Permit 12 will be sufficient for the Project.

Wetlands 1, 4 and 5B will be avoided through Route adjustments to allow for open trench pipe installation resulting in no impact to these wetland areas. Wetland 5 will be traversed using open trench construction technology as it has been deemed non-jurisdictional.

2.12.3 Mitigation

Traditional Best Management Practices (BMPs) in accordance with Basin Transload's SWPPP will be employed to reduce any impacts to adjacent wetlands. In addition, vegetation will be replaced on any disturbed area as soon as reasonably possible after construction is complete. Open trench work will be conducted during the winter months or during the dry seasons of the year to lessen any resulting impacts to adjacent wetlands.

2.13 VEGETATION

2.13.1 Description of Resources

Specific land cover types found within the Corridor and Route were determined using the North Dakota Gap Analysis (GAP) Land Cover mapping from the United States Geological Survey, 2004. The Corridor generally crosses three vegetative land cover types including Cultivated Cropland, Lowland grasslands, and prairie and Pasture/Hay lands. There are minimal disturbed or modified areas and interspersed open water areas that exist within the Corridor as well. See Figure 2-4.

Noxious weeds are defined as plant species that are difficult to control, spread easily, and are injurious to public health, crops livestock, land, or other property. Eleven species are listed by the North Dakota Department of Agriculture as noxious weeds within the state. These include absinth wormwood, Canada thistle, diffuse knapweed, leafy spurge, musk thistle, purple loosestrife, Russian knapweed, spotted knapweed, yellow toadflax, Dalmatian toadflax, and saltcedar.

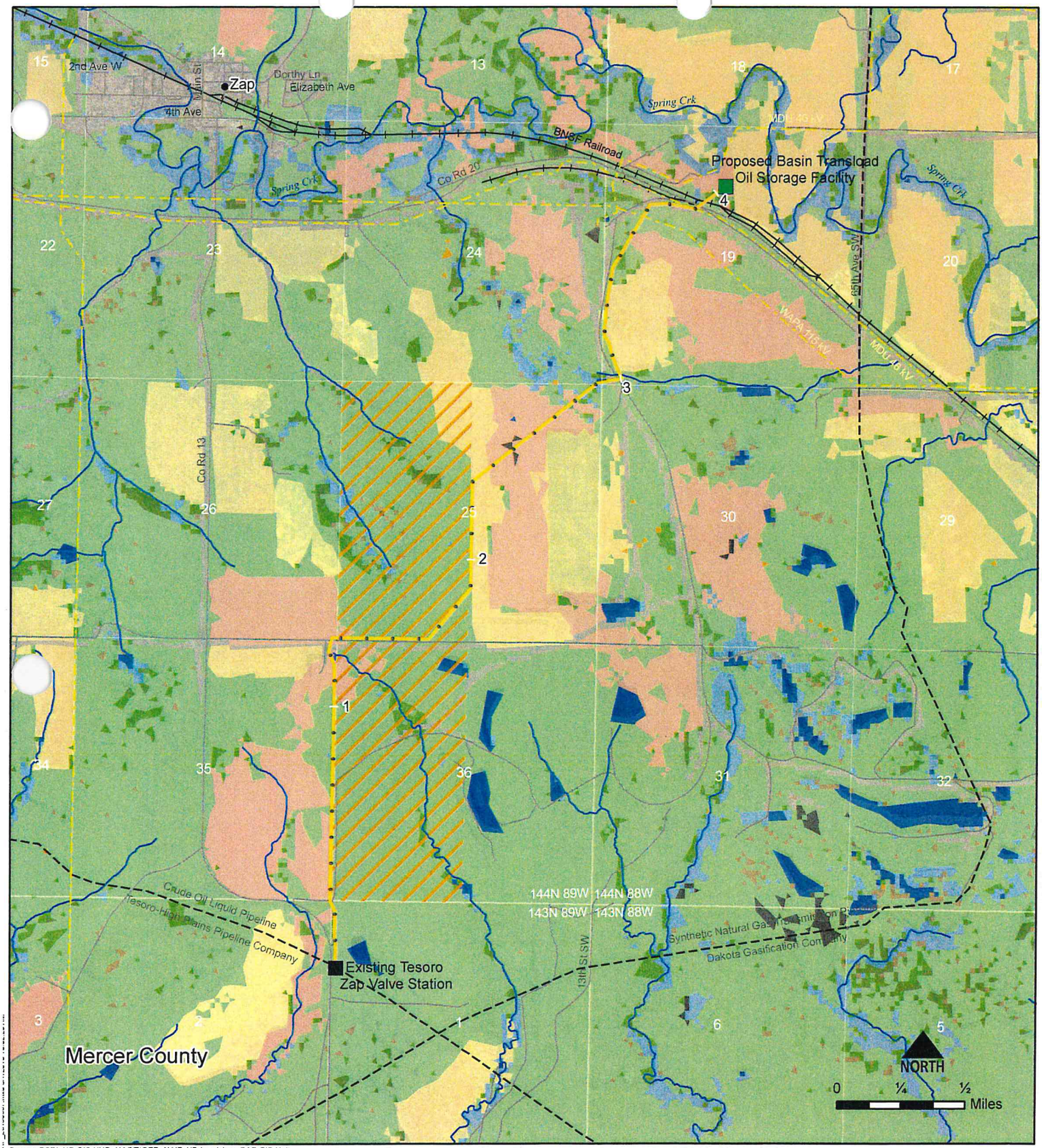
2.13.2 Impacts

Permanent adverse impacts to vegetation are not expected to occur within the Corridor. Temporary impacts may occur in the temporary construction ROW and where access is needed for pipeline construction activities.

Existing agricultural and grazing practices on the Route have substantially altered the original vegetative landscape. Minimal impacts are expected to occur to native plant communities. Permanent vegetative impacts from pipeline construction are not anticipated.

2.13.3 Mitigation

Basin Transload will work closely with landowners to minimize adverse impacts to vegetation associated with construction of the pipeline. Practices may include containing excavated material, protecting exposed soil, stabilizing restored material, and re-vegetating disturbed areas with native species.



Source: ESRI, ND GIS HUB, MAF/TIGER, NAIP, ND Landclass GAP GIS Hub

- Existing Facility
- Proposed Facility
- Proposed 10" Pipeline Route (with mileposts)
- Existing Pipelines
- Transmission Lines
- Roads
- Railways
- Streams
- Suitable sharp-tailed grouse habitat
- Developed
- Cultivated Cropland
- Pasture/Hay
- Open Water
- Deciduous dominanted forest and woodland
- Mixed deciduous/coniferous and woodland
- Shrubland, steppe and savanna
- Lowland grassland and prairie
- Introduced vegetation
- Riparian and wetland
- Disturbed or modified

Figure 2-4

THPP Beulah Lateral Pipeline
GAP Land Cover

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Temporarily disturbed areas that are normally cultivated or used for pasture will be available for continued cultivation and use after pipeline construction is complete. Areas not currently in agricultural use will be reseeded per USFWS and NRCS recommendations to blend in with existing vegetation and discourage establishment of invasive plant species.

Construction equipment will be thoroughly washed prior to its use for construction of the Project to mitigate the spread of noxious weeds.

Any trees greater than 3 inches in caliper will be inventoried prior to construction. These trees will be replaced, in cooperation with the landowner, at a 2-to-1 ratio.

2.14 WILDLIFE

In September of 2012, Basin Transload contracted Wenck Associates, Inc. to conduct a wildlife assessment of the Project Area. See Appendix C.

2.14.1 Description of Resources

Wildlife habitat types in the Corridor generally coincide with the major vegetation types described in this section. Wildlife in the Study Area consists of birds, mammals, fish, reptiles, amphibians and insects, both resident and migratory, which utilize habitat in the Study Area for forage, migratory stopover, breeding, and/or shelter. The rolling hills of the area with few trees results in an inhospitable environment for nesting birds. Species present in the study area are generally associated with agricultural fields, pasture grasslands, and wetland areas. These species include the bald eagle, golden eagle and sharp-tailed grouse.

Bald eagles (*Haliaeetus leucocephalus)* were delisted from the USFWS Threatened and Endangered list in 2007, but are still a species of concern. They are currently protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act of 1918, 16 U.S. C. §§ 703–712 (MBTA). The Project Area is at least twelve miles from Lake Sakakawea and does not contain suitable nesting/perching habitat, concentrated feeding areas, or other necessary habitat for the bald eagle.

Golden eagles (*Aquila chrysaetos*) are protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The golden eagle prefers habitat characterized by open prairie, plains, and forested areas. Usually, golden eagles can be found in proximity to badland cliffs that provide nesting habitat. No golden eagle nests were found within ½ mile of the Project Area, and the Project Area does not contain suitable nesting habitat for golden eagles. Eagle prey species may be present within and around the Project Area.

A sharp-tailed grouse habitat feasibility assessment was conducted in September of 2012 to determine if suitable lekking and/or nest habitat was found on the Project Area and ½ mile radius of the pipeline by walking the entire proposed pipeline Route and surrounding areas. See Appendix C.

Male sharp-tailed grouse congregate at historical/communal leks in the spring to compete for breeding opportunities. Both sexes return to their natal breeding grounds yearly for their entire life. Leks are typically found in areas with low vegetative growth on a hill, knoll or other point of high visibility. Fidelity to these locations is extremely high for sharp-tailed grouse. Sharp-

tailed grouse require nesting habitat within close proximity the lek that is comprised of dense or residual vegetative cover to conceal and protect their nest from predators.

During the September surveys, a total of seven sharp-tailed grouse were flushed at two separate locations along the proposed Route. Suitable sharp-tailed grouse habitat was found throughout the Project Area in the W/2 of Sections 25 and 36, T144N R89W where dense vegetation adjacent to moderately grazed areas predominated.

2.14.2 Impacts

Construction activities will include the use of up to a 125-foot-wide ROW for clearing, leveling, trenching, stock-piling backfill, pipe assembly, and equipment movement. Impacts to wildlife resulting from clearing and construction will involve temporary habitat removal and modification. This will result in the temporary removal of existing vegetation from the proposed ROW and a direct/indirect effect on small prairie wildlife that reside in or wander through the construction area.

Vegetative clearing along the construction ROW for the pipeline could potentially impact nesting migratory birds protected under the MBTA. The MBTA protects most bird species, including, but not limited to, cranes, ducks, geese, shorebirds, hawks, and songbirds. Although migratory bird pathways, stopover habitats, wintering areas, and breeding areas may occur within the Corridor, any resulting impact from the temporary construction activities are anticipated to be minimal and short term. No adverse effects to golden or bald eagles are anticipated.

In general, impacts on terrestrial wildlife will be short-term and minimal, because sensitive habitats do not exist in the Project Area. Based on the field survey there is suitable short-tailed grouse habitat present along the Route. However, construction is anticipated to take place during the winter months outside of the sensitive lekking season. Following construction, the area affected by construction will be reverted to the pre-construction habitat type following construction. This will result in minimal short-term impacts to area wildlife.

2.14.3 Mitigation

In the event that migratory birds are encountered on-site during Project construction the USFWS will be contacted for further direction. Every effort will be made to avoid impacts to protected birds, active nests, eggs, and/or young.

There is no state law or regulation limiting construction activity at certain distances from potential leks. If economically feasible, construction activities may be limited during the ground nesting bird breeding season (March 1 to June 15), if a sharp-tailed grouse lek is found to exist within the Corridor.

2.15 THREATENED, ENDANGERED AND CANDIDATE SPECIES

In September of 2012, Basin Transload contracted Wenck Associates, Inc. to conduct a review of viable habitat for threatened, endangered, and candidate species in the Project Area. This section provides a synopsis of that field work. See Appendix C for the complete study.

2.15.1 Description of Resources

The USFWS, North Dakota Game & Fish (NDGF), and North Dakota Parks and Recreation Department (NDPR) were asked to review the Study Area, Corridor, and Route for threatened and endangered species and unique habitats.

The Endangered Species Act of 1973, 16 U.S.C. §§ 1531-1544 (ESA), ensures that any actions authorized, funded, or carried out by federal agencies do not jeopardize the existence of any listed endangered, threatened, or candidate species. The USFWS stratifies potential candidates based upon the species' biological vulnerability. Species listed as endangered or threatened are provided full protection, which includes a prohibition of destruction of critical habitat. Candidate species are those under consideration for inclusion onto the threatened or endangered species list. While these are sensitive species, they are not afforded formal protection under the ESA.

There US Fish and Wildlife Service (USFWS) identified six federally listed species occurring in Mercer County: whooping crane, interior least tern, pallid sturgeon, black-footed ferret, gray wolf, and piping plover. In addition, one species is a candidate for listing under the ESA, the Sprague's pipit. No federally listed species or species of concern were observed during a field reconnaissance of the Project Area conducted on September 19, 2012.

Whooping cranes (*Grus americana*), are listed as endangered and have historically nested in North Dakota, but the whooping crane is currently only a migrant through North Dakota in the spring and fall. During migration, large shallow marshes with minimal to nonexistent emergent zones are preferred for roost sites and upland cropland and pastures adjacent to and usually within one kilometer (0.62 mile) are used for foraging. Suitable roosting habitat (partially emergent, seasonally flooded wetlands) for whooping cranes is not present on-Site. However, the proposed Project is located within the Central Flyway where 80 percent of confirmed whooping crane sightings have occurred and suitable cropland food sources can be found nearby. The lack of a cropland/wetland matrix habitat at the proposed site makes migratory stopovers by whooping cranes unlikely, though stopovers along the shoreline of Lake Sakakawea twelve miles from the Site are possible. In addition, the proposed Site is located on upland prairie that is at a considerably higher elevation than the surrounding area.

Interior least tern (*Sterna antillarum*) is listed as endangered. Natural habitat for interior least terns in North Dakota includes islands, beaches and sandbars of the Missouri and Yellowstone Rivers and along the shorelines of Lake Sakakawea and Lake Oahe. Interior least terns are generally restricted to larger meandering rivers with a broad floodplain, slow currents, and greater sedimentation rates, which allow for the formation of suitable habitat. There is no existing suitable habitat in the Project Area. The Project Area is located on upland prairie that is at a considerably higher elevation than the surrounding landscape.

Pallid sturgeon (*Scaphirhynchus albus*) is listed as endangered. In North Dakota, pallid sturgeons are known primarily from the confluence of the Missouri and Yellowstone Rivers. Pallid sturgeons prefer turbid, main stem river channels. The Project Area is at approximately fifteen miles from the Missouri River channel within Lake Sakakawea, which would be the closest potential habitat for this species. Activities associated with the construction, production, or reclamation of the Project is not anticipated to affect water quality in Lake Sakakawea.

Black-footed ferret (*Mustela nigripes*) is listed as endangered. Black-footed ferrets historically occurred in this region of North Dakota, but mostly in the extreme southwest part of the state. Suitable habitat includes large black-tailed prairie dog (Cynomys sp.) colonies or complexes of colonies. The black-footed ferret is presumed extirpated from North Dakota because it has not been observed in the wild for more than 20 years. The Project Area does not have active or historic black-tailed prairie dog colonies. No black-footed ferrets have been reintroduced to the region. No suitable habitat is available for this species.

Gray wolf (*Canis lupus*) is listed as endangered. The most suitable habitat for the gray wolf in North Dakota is in the dense and contiguous forested areas in the north central and northeast parts of the state. There have been documented occurrences of gray wolves in south-central North Dakota and confirmed reports of gray wolves in the Turtle Mountains of North Dakota. The Project Area does not contain dense, contiguous forested areas required by the gray wolf and there have been no historical wolf sightings within or near the Project Area.

Piping plover (*Charadrius melodus*) is listed as threatened. Critical habitat for the piping plover includes sparsely vegetated shoreline beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with the water bodies. The Project Area is at least twelve miles south of Lake Sakakawea which is designated critical habitat for the piping plover. Suitable habitat for piping plovers is not present within or adjacent to the Project Corridor as the surrounding area is primarily grassland habitats.

Sprague's pipit (*Anthus spragueii*) is not currently a listed threatened or endangered species but is a candidate species for listing. Sprague's pipits have been historically observed in this region of North Dakota. Suitable Sprague's pipit habitat includes ungrazed or lightly grazed mixed-grass prairie that is open and extensive with minimal woody cover nearby. The Project Area has areas of woody cover interspersed with native prairie, but a large portion of the grassland is sparse and open.

2.15.2 Impacts

Due to the location of the Corridor and the associated habitat, there are no impacts anticipated for the interior least tern, pallid sturgeon, black-footed ferret, gray wolf, or piping plover.

Although feasible habitat exists in the Project Area, the sparsely covered grassland does not provide habitat conducive to the presence of Sprague's pipit. With the current condition of the Project Area, adverse impacts to this candidate species as a result of the Project are unlikely. Impacts to the area habitat will be minimal and temporary.

The Corridor is within the migratory flyway for the whooping crane although there are no large waterbodies within the Corridor to provide suitable stopover habitat. The shoreline of Lake Sakakawea, approximately twelve miles from the Route, provides more attractive opportunities for whooping crane. Any adverse impacts to whooping crane as a result of the Project are anticipated to be minimal and temporary.

2.15.3 Mitigation

Per the USFWS recommendations, if a whooping crane is sighted within 1 mile of the site or associated facilities while under construction, then all work would cease and the USFWS

would be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area. Disturbance of native vegetation will be minimized as much as possible during construction and maintenance activities. Disturbed areas within the Project Area will be reclaimed with native plant species or returned to cultivated cropland.

This section provides an analysis of the need for the proposed facility based on present and projected demand for the product, a description of any feasible alternatives, and a statement justifying any deviations from the most recent Ten-Year Plan.

3.1 ANALYSIS OF NEED

Existing pipelines for transmitting crude oil are at or near capacity. The Project will provide critical pipeline infrastructure connecting oil storage facilities and will create an additional means of transporting crude oil to refineries. The pipeline will provide a more environmentally sensitive method of transporting crude oil than trucking to a new facility which will open new markets, and benefit the producers in the Bakken Oil Fields, landowners, citizens of North Dakota, local municipalities, and mineral interest owners.

3.2 FEASIBLE ALTERNATIVES

Alternatives for transporting crude oil exist. However, existing crude oil pipeline capacity is constrained, and transportation by truck is extensively utilized. The Route lies within easements already acquired by Basin Transload for this Project. Route alternatives would require the purchase of alternate easements, potentially increasing the pipeline length and resulting impacts. The Route selected has minimal effects on resources and residents.

3.3 DEVIATIONS FROM TEN-YEAR PLAN

There are no deviations from Basin Transload's Ten-Year Plan being requested as a part of this application.

4.1 STUDY AREA

This section provides a review of the Project Area including the proposed Corridor, maps of the criteria leading to the Corridor selection within the Project Area, discussion on the relative value of the criteria used in the selection, and a review of the Exclusion, Avoidance, and Selection Criteria. In addition, the design and construction limitations as well as the economic considerations are presented. A discussion of the general mitigation measures to be employed is included. The section is concluded with a summary of those involved in the preparation of the materials presented in this document. See Figure 4-1 for a map of the Project Area.

4.1.1 Basin Transload Environmental Policy Statement

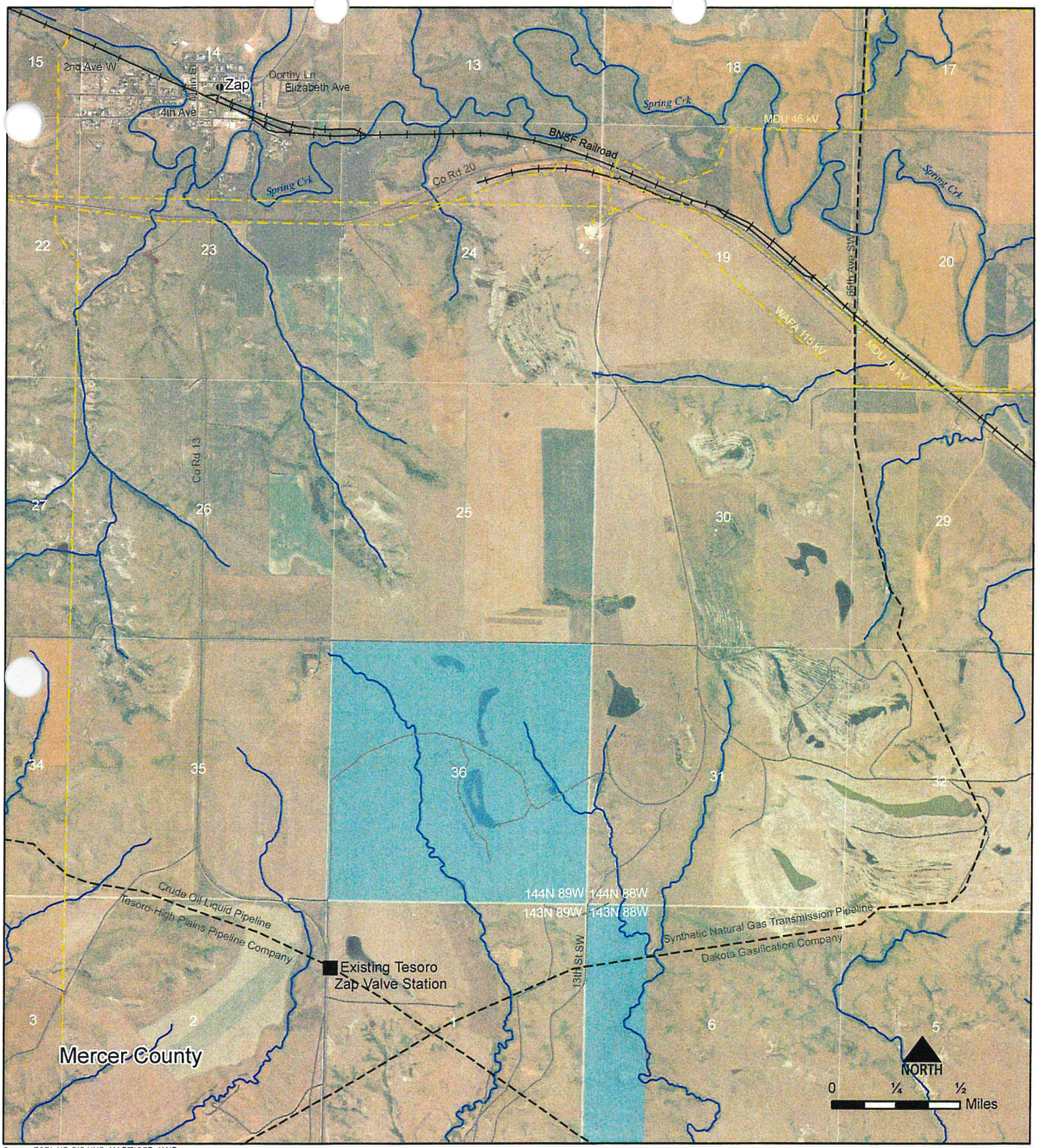
Basin Transload is committed to protecting the environment, and maintaining consistent compliance with applicable environmental laws, regulations, permits, and licenses. Basin Transload affirms these commitments in a set of written principles. Basin Transload and its affiliates will:

- Understand the environmental impacts of our Operations and develop strategies and methods to identify and minimize these impacts;
- Make environmental considerations a priority both in operating and modifying our existing Terminals as well as in planning and integrating new Terminals and Operations.
- Maintain appropriate records and guidance documents necessary to demonstrate regulatory compliance and to provide proper direction to Employees and Personnel;
- Communicate the necessary environmental requirements and expectations of our Personnel through open dialog, regular meetings, memoranda, and training;
- Evaluate the environmental impacts and regulatory compliance elements of our Operations at regular intervals to ensure continued environmental performance and to identify and correct deficiencies as soon as possible; and
- Improve our operational systems on a continuous basis in order to maintain ongoing compliance and to minimize environmental impacts.

It is the responsibility of all Personnel to recognize the environmental impacts of their work and to take steps and make recommendations to minimize those impacts and maintain compliance with environmental laws, regulations, and permits through adherence to guidance provided in relevant documentation, training, and supervisory instruction.

4.1.2 Corridor and Route Siting Criteria

The Study Area is generally located southeast of Zap in Mercer County, North Dakota. A one-mile-wide Corridor was selected within this Study Area to provide the opportunity to route a crude oil pipeline that will connect an existing pipeline located in Section 1-T143N-R89W with a storage facility in Section 19-T144N-R89W. The Study Area, Corridor, and Route are shown in Figure 4-2.



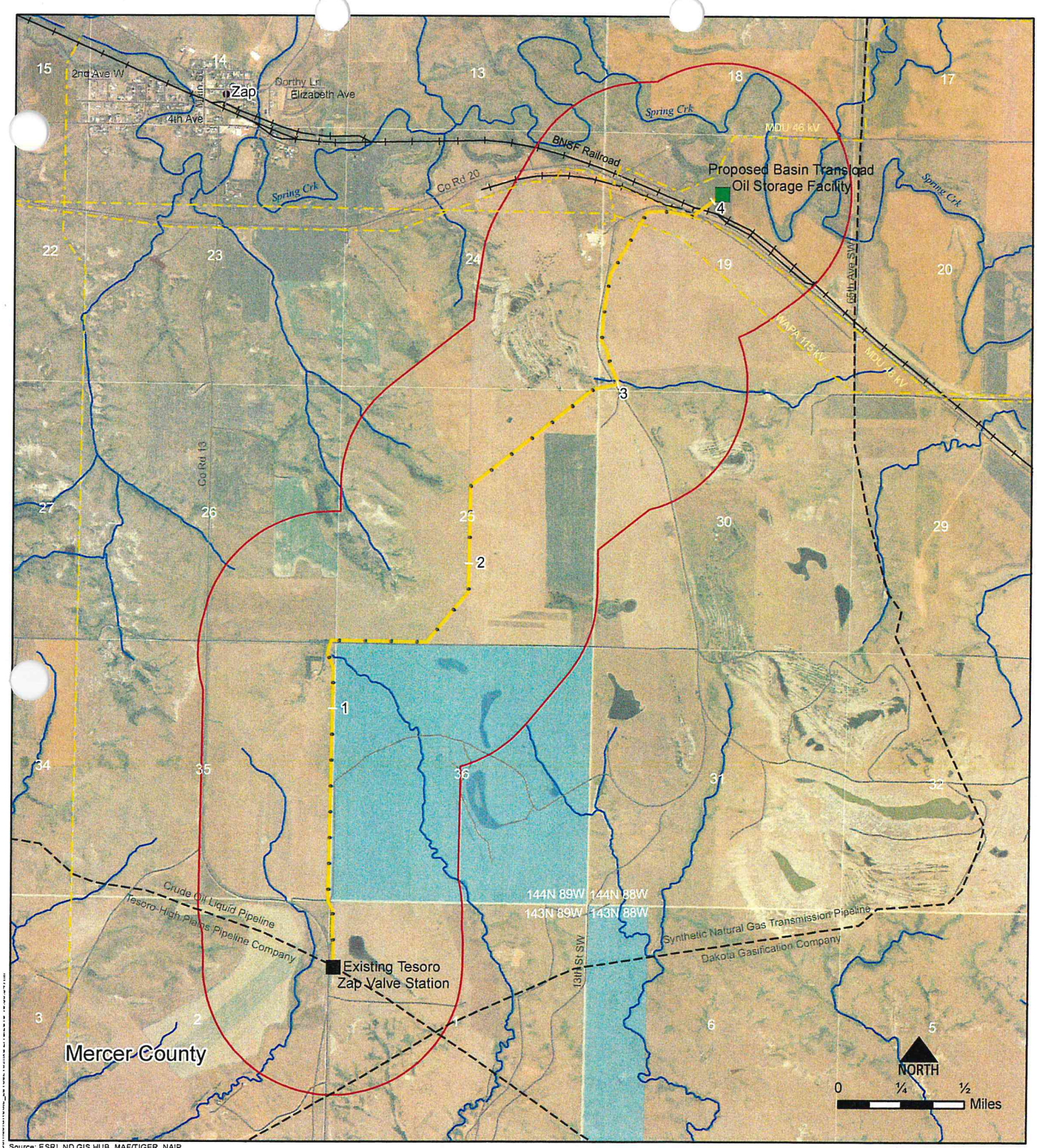
Source: ESRI, ND GIS HUB, MAF/TIGER, NAIP

- Existing Facility
- Existing Pipelines
- Transmission Lines
- Roads
- Railways
- Streams
- State Trust Land

Figure 4-1

THPP Beulah Lateral Pipeline
Project Area

ELECTRICAL CONSULTANTS, INC



Source: ESRI, ND GIS HUB, MAF/TIGER, NAIP

- Existing Facility
- Proposed Facility
- 1-Mile Wide Project Study Corridor
- Proposed 10" Pipeline Route (with mileposts)
- Existing Pipelines
- Transmission Lines
- Roads
- Railways
- Streams
- State Trust Land

Figure 4-2

THPP Beulah Lateral Pipeline
Project Corridor and Route

EGI ELECTRICAL CONSULTANTS, INC

The one-mile width of this Corridor complies with N.D.A.C. § 69-06-04-02(b) which states, "The width of a Corridor must be at least ten percent of its length, but not less than one mile (1.61 kilometers) or greater than six miles (9.66 kilometers) unless approved by the [NDPSC]."

Exclusion and avoidance criteria outlined in N.D.A.C. § 69-06-08-02 were considered as part of the selection of the Corridor and the Route. Exclusion Areas include designated or registered national areas, designated or registered state areas, county parks and recreational areas, critical habitat for threatened, endangered, unique, or rare species. No Exclusion Areas exist within the Corridor.

Avoidance Areas include designated or registered national areas, designated or registered state areas, historical resources, geologically unstable areas, areas within 500 feet of an occupied structure, municipal water sources, irrigation, or recreational areas. No designated Avoidance Areas exist within the Corridor.

Figure 4-3 presents Exclusion Areas that are located within Mercer County.

Figure 4-4 presents Avoidance Areas that are located within Mercer County.

Section B describes the resources, associated impacts and mitigation associated with the Project. The final Route within the Corridor was selected to reduce impacts to area resources in cooperation with area landowners.

The Corridor legal location descriptions are provided in Table 4-1.

Table 4-1 Corridor Legal Descriptions

County	Township Name	Section	Township	Range
Mercer	Unorganized	1, 2	143N	89W
Mercer	Unorganized	24, 25, 26, 35, 36	144N	89W
Mercer	Unorganized	19, 30	144N	88W

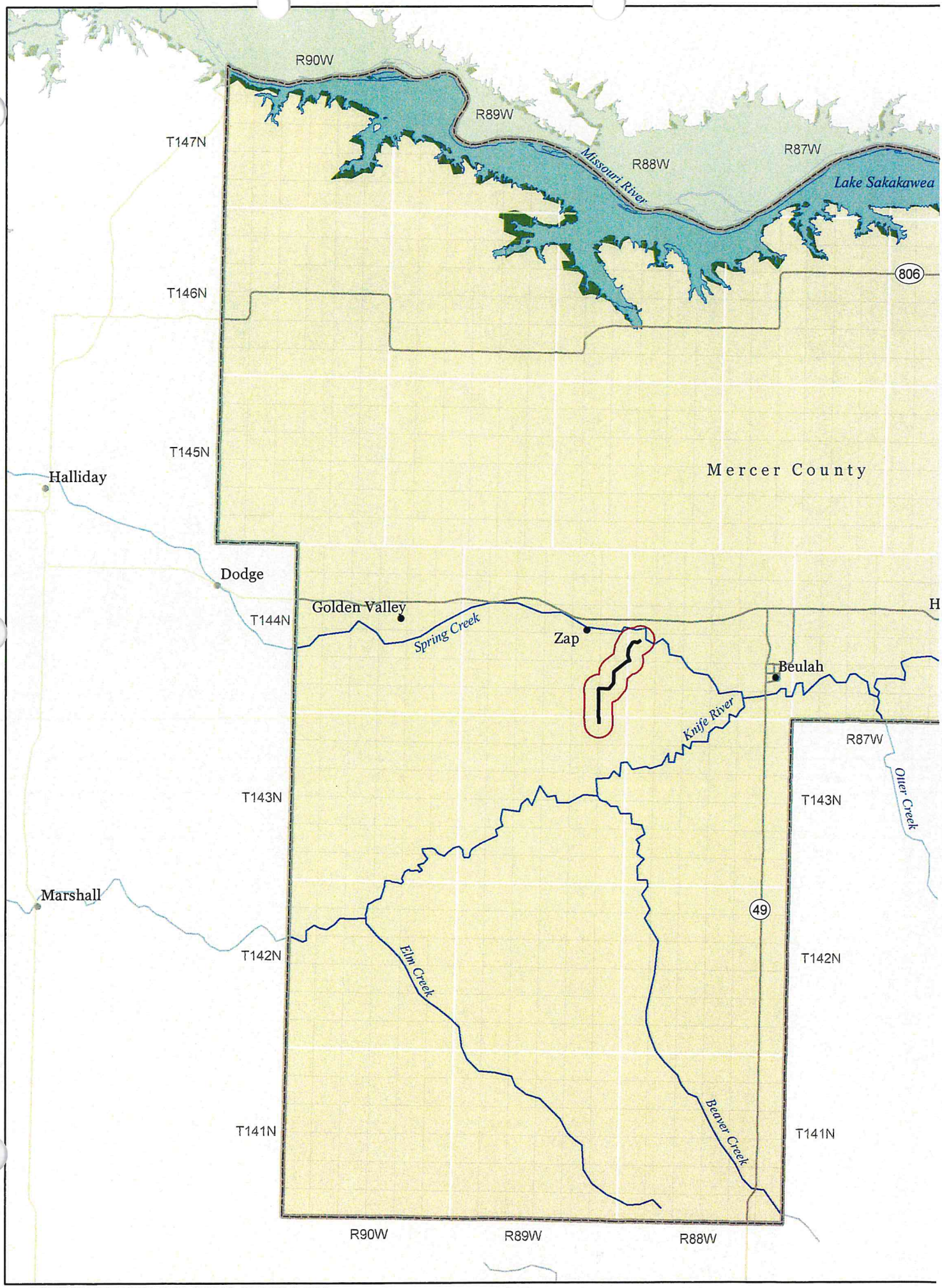
4.1.3 Criteria of Corridor Evaluation and Route Selection

There are no Exclusion Areas within the Corridor. The nearest Exclusion Areas are approximately 20 miles east of the Corridor.

There is one structure located on the north end of the Project Corridor that is an active warehouse operation that is occupied during business hours. Other than this structure, all other designated Avoidance Areas are located outside of the Corridor. The Route was aligned to avoid the occupied warehouse operation by a minimum of 500 feet in accordance with N.D.A.C. § 69-06-08-02(2)(e) and landowner negotiations.

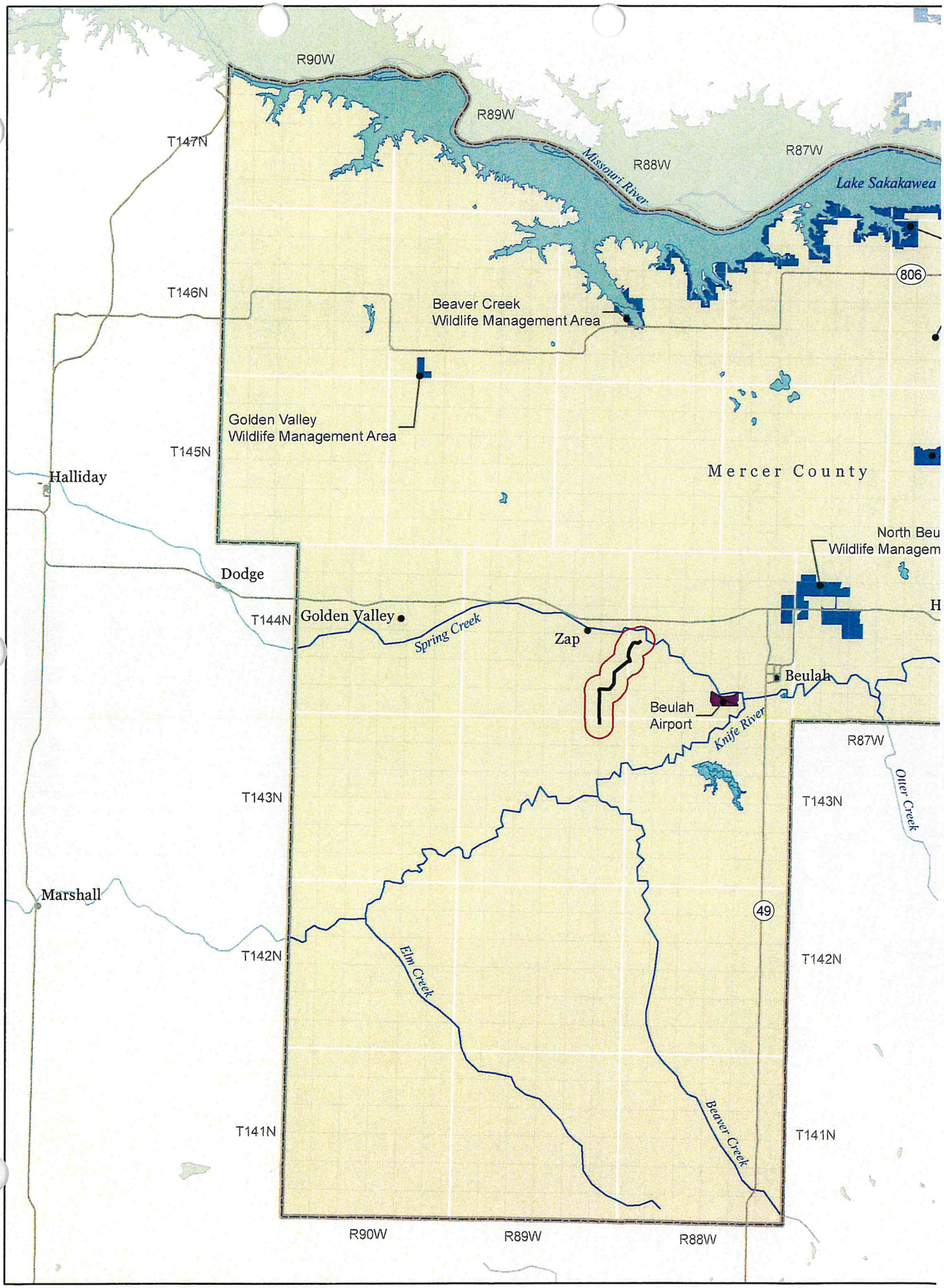
4.1.4 Exclusion, Avoidance, and Selection Criteria — N.D.C.C. §49-22-09

In selecting the proposed Corridor and Route, Basin Transload considered the factors outlined in N.D.C.C. § 49-22-09 considering the relative value of each criteria. These factors are evaluated in the following sections.



File: R:\Projects\BAS-002 Zap\GIS\MXD\Beulah_Figure 4-3_MercerExclusion_20130215.mxd 2/15/2013 11:02:44 AM

Source: USFWS NWI, USDA APFO, NRCS SSURGO, ND GIS Hub, ESRI



File: R:\Projects\BAS-00 ...ignite\GIS\MXD\Beulah_Figure 4-4_MercerAvoidance_20130215.mxd 2/15/2013 10:59:18 AM

Source: USFWS NWI, USDA APFO, NRCS SSURGO, ND GIS Hub, ESRI

4.1.4.1 Effects on public health and welfare, natural resources and the environment (N.D.C.C. § 49-22-09(1))

Section B, above, describes the individual resources within the Project Area including potential impacts and planned mitigation. Overall, Basin Transload does not anticipate any significant adverse effects on public health and welfare. The pipeline will be constructed to meet all safety codes and regulatory requirements. The area is expected to realize a slight economic benefit resulting from temporary use of local labor and patronage of businesses in nearby towns during the brief period of construction in addition to the tax revenue realized by the county.

Natural resources are expected to incur minor and temporary effects as a result of construction associated disturbances within the right of way. There are no designated Exclusion or Avoidance Areas within the Corridor.

4.1.4.2 Systems designed to minimize adverse environmental effects (N.D.C.C. § 49-22-09(2))

Section B, above, describes in detail the individual resources within the Project Area including any associated mitigation. All disturbed areas will be restored to their original condition as cultivated agricultural use or open grassland following the installation of the pipeline. Construction BMPs will be followed in accordance with issued permits, guidelines, and landowner agreements.

4.1.4.3 The potential for beneficial uses of waste energy (N.D.C.C. § 49-22-09(3))

The proposed Project is a transmission pipeline for crude oil. There will be no waste energy associated with the Project.

4.1.4.4 Adverse direct and indirect environmental effects which cannot be avoided (N.D.C.C. § 49-22-09(4))

Section B, above, describes the individual resources within the Project Area including any associated impacts and resulting mitigation in detail. Significant adverse direct or indirect environmental effects are not anticipated as a result of the proposed pipeline Project. The pipeline will be constructed in accordance with all regulatory safety standards to preclude any direct effects to health and safety. The pipeline will be buried, resulting in temporary impacts to aesthetics and noise that may occur during construction. A cultural survey of the Project Corridor has identified that there are no historic properties affected by the Project and the State Historical Society has concurred. There are no major waterways, rivers or other recreational facilities within the Corridor. There are no special status species or habitats located within the Corridor.

4.1.4.5 Alternatives to the proposed Corridor/Route developed during the hearing process (N.D.C.C. § 49-22-09(5))

Corridor and Route alternatives were identified to determine if adverse impacts to environmentally sensitive resources, such as large population centers, scenic areas, wildlife and natural habitat management areas, and wetlands could be avoided or reduced. The proposed Route and Corridor reflect the adjustments that were made to avoid or minimize impacts to these areas.

The ROW for the Route has been purchased from the landowners within the Corridor. Any alternative Corridors or Routes developed during the hearing process will require the purchase of additional ROW from landowners.

4.1.4.6 Irreversible and irretrievable commitment of natural resources (N.D.C.C. § 49-22-09(6))

Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the use of these resources have on future generations. Irreversible effects primarily result from use or destruction of a specific resource that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action.

Construction of the Project will provide an economical and reliable means of transporting oil resources to available markets. Resources such as steel, aggregate material, and hydrocarbon fuels will be used during construction.

4.1.4.7 Direct and indirect economic impacts of the facility (N.D.C.C. § 49-22-09(7))

Section 2.9, above, describes the economic resources in the Project Area and discusses in detail potential impacts and planned mitigation. Direct economic impacts include impacts associated with agricultural land being temporarily removed from production during pipeline construction. Landowners were compensated for the easements that were required for the Route, including any additional negotiated compensation for items such as crop damage. Once construction is complete, agricultural land within the ROW will still be available for farming.

The remaining direct and indirect economic impacts are primarily positive, though temporary. To the extent that local contractors are used for portions of the construction, total wages and salaries paid to contractors and workers will contribute to the total personal income of the region. Additional personal income will be generated for residents in the county and the state by circulation and recirculation of dollars paid out by Basin Transload as business expenditures and state and local taxes. Expenditures made for equipment, energy, fuel, operating supplies, and other products and services will benefit businesses in the area.

Long-term beneficial impacts to the county's tax base as a result of the construction and operation of the pipeline will improve the local economy. The development of petroleum energy in this region is important in diversifying and strengthening the economic base of central North Dakota. Additional revenues are expected from property and income taxes.

4.1.4.8 Conflicts with existing plans of the state, local government or other entities in the area (N.D.C.C. § 49-22-09(8))

A solicitation was sent to all agencies as required in N.D.A.C. §69-06-01-05 as well as additional federal agencies. See Appendix B. Agencies were asked to comment on the proposed Project. Based on the responses received from participating agencies, no conflicts with existing state, local, or private entity projects are anticipated at this time.

4.1.4.9 Effects on scenic areas, historic sites, paleontological or archaeological sites (N.D.C.C. §49-22-09(9))

There are no designated scenic areas in our near the proposed Corridor. A Class I file search as well as a Class III pedestrian survey has been conducted for sites of cultural significance within the Corridor. The survey identified no areas of contributing significance and recommended a determination of *no historic properties affected* by the Project. The SHSND issued their concurrence with this recommendation on October 10, 2012. See Appendix B.

4.1.4.10 Effects on areas of unique biological wealth or habitats of rare and endangered species (N.D.C.C. § 49-22-09(10))

Sections 2.14 and 2.15, above, describe in detail the biology and habitats within the Corridor. In September of 2012, Basin Transload contracted Wenck Associates, Inc. to conduct a review of viable habitat for threatened, endangered, and candidate species. See Appendix C.

In general, there are no areas of unique biological wealth within the Corridor. Due to the location of the Corridor and the associated habitat, there are no impacts anticipated for the interior least tern, pallid sturgeon, black-footed ferret, gray wolf, or piping plover.

Although feasible habitat exists in the Project Area, the sparsely covered grassland does not provide habitat conducive to the presence of Sprague's pipit. With the current condition of the area, adverse impacts to this candidate species as a result of the Project are unlikely. Impacts to the area habitat will be minimal and temporary.

The proposed Corridor is within the migratory flyway for the Whooping crane although there are no large waterbodies within the Corridor to provide suitable stopover habitat and the short distance to the shoreline of Lake Sakakawea, approximately twelve (12) miles from the Project, provides more attractive opportunities for whooping crane. Adverse impacts to Whooping crane as a result of the Project are anticipated to be minimal and temporary.

Migration season for the whooping crane occurs late March through May and again mid-September through mid-November. Construction is scheduled to take place in early spring to avoid the migratory season. With these further mitigation measures, the Project will not adversely affect the whooping crane.

4.1.4.11 Problems raised by federal agencies, other state or local (N.D.C.C. § 49-22-09(11))

A solicitation was sent to all agencies as required in N.D.A.C. § 69-06-01-05 as well as additional federal agencies. See Appendix B. As a part of this solicitation, agencies were asked to comment on the proposed Project. Based on the responses received from participating agencies, no significant problems, issues or concerns were raised.

4.1.5 Evaluation Criteria N.D.A.C.§ 69-06-08-02

Basin Transload evaluated the Project Area to determine the optimal location for the Corridor and Route. Within this Project Area, a one-mile wide Corridor was selected that complies with N.D.A.C. § 69-06-04-02. Within the Corridor, an approximately 4-mile-long Route was selected according to an inventory and suitability analysis based on the criteria listed in N.D.A.C. § 69-06-08-02. This includes an assessment of Exclusion and Avoidance Areas; selection criteria that relate to minimizing potential land use and environmental impacts; policy criteria that relate to maximizing public benefits; and design and construction limitations. Basin Transload also included economic considerations as part of the Corridor and Route selection process.

4.1.5.1 Exclusion Criteria

The proposed Corridor meets the criteria set forth in N.D.A.C. § 69-06-08-02 which states:

"Exclusion and Avoidance Areas may be located within a corridor, but at no given point shall such an area or areas encompass more than fifty percent of the corridor width unless there is no reasonable alternative."

There are no Exclusion Areas located within the Corridor and consequently, none within the Route.

4.1.5.2 Avoidance Criteria

N.D.A.C. § 69-06-08-02(2) provides: "The following geographical areas shall not be considered in the routing of a transmission facility unless the applicant shows that under the circumstances there is no reasonable alternative. In determining whether an avoidance area should be designated for a facility, the commission may consider, among other things, the proposed management of adverse impacts; the orderly siting of facilities; system reliability and integrity; the efficient use of resources; and alternative routes."

There is one structure located on the north end of the Project Corridor that is an active warehouse operation that is occupied during business hours. Other than this structure, there are no other designated Avoidance Areas within the Project Corridor. The Route was selected within the Project Corridor to avoid the warehouse operation by a minimum of 500 feet in accordance with N.D.A.C. § 69-06-08-02(2)(e) as well as reduce any impacts to the adjacent landowners in accordance with the easement agreements.

There are no other Avoidance Areas within the Corridor and none are crossed by the Route.

4.1.5.3 Selection Criteria

According to N.D.A.C. § 69-06-08-02(3): "A corridor or route shall be designated only when it is demonstrated to the NDPSC by the applicant that any significant adverse effects resulting from the location, construction and maintenance of the facility, as they relate to the following, will be at an acceptable minimum or that those effects will be managed or maintained at an acceptable minimum." A detailed analysis of all resources can be found in Section B of this application. The following Table 4-2 is a summary of the Selection Criteria along with the referenced detailed section.

Table 4-2 Selection Criteria

Selection Criteria N.D.A.C. § 69-06-08-02(3)	Reference	Corridor Impacts	Route Impacts
Agricultural Production	Section 2.2	No permanent impacts are anticipated.	No permanent impacts are anticipated. Temporary, minor impacts as a result of construction will occur.
Family farms and ranches	Section 2.2	No permanent impacts are anticipated.	No permanent impacts are anticipated. Temporary, minor impacts as a result of construction will occur.
Land which the owner can demonstrate has soil, topography, drainage, and an available water supply that cause the land to be economically suitable for irrigation	Section 2.2	No permanent impacts are anticipated.	No permanent impacts are anticipated. Temporary, minor impacts as a result of construction will occur.
Surface drainage patterns and ground water flow patterns.	Section 2.2	No permanent impacts are anticipated.	No permanent impacts are anticipated. Temporary, minor impacts as a result of construction will occur.

Selection Criteria N.D.A.C. § 69-06-08-02(3)	Reference	Corridor Impacts	Route Impacts
Noise-sensitive land uses	Section 2.5	No permanent impacts are anticipated. Temporary, minor impacts as a result of construction will occur.	No permanent impacts are anticipated. Temporary, minor impacts as a result of construction will occur.
The visual effect on the adjacent area	Section 2.6	No permanent impacts are anticipated. Temporary, minor impacts as a result of construction will occur.	No permanent impacts are anticipated. Temporary, minor impacts as a result of construction will occur.
Extractive and storage resources	Section 2.11	No permanent impacts are anticipated.	No permanent impacts are anticipated. Temporary, minor impacts as a result of construction will occur.
Wetlands, woodlands and wooded areas	Section 2.12	No permanent impacts are anticipated.	No permanent impacts are anticipated. Temporary, minor impacts as a result of construction will occur.
Radio and television reception, and other communication or electronic control facilities	Section 2.3	No permanent impacts are anticipated.	No permanent impacts are anticipated. Temporary, minor impacts as a result of construction will occur.
Human health and safety	Section 2.4	No permanent impacts are anticipated.	No permanent impacts are anticipated. Temporary, minor impacts as a result of construction will occur.
Animal health and safety	Section 2.4	No permanent impacts are anticipated.	No permanent impacts are anticipated. Temporary, minor impacts as a result of construction will occur.
Plant life	Section 2.13	No permanent impacts are anticipated. No special status plant life has been identified within the Corridor.	No permanent impacts are anticipated. Temporary, minor impacts as a result of construction will occur.

Source: ECI 2012

4.1.5.4 Policy Criteria

According to N.D.A.C. § 69-06-08-02(4): "The commission may give preference to an applicant that will 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."

Table 4-3 Policy Criteria

Policy Criteria	Basin Transload Policy
Location and Design	The Project Corridor and Route have been located and designed to minimize impacts to area resources and landowners.
Training and utilization of available labor in this state for the general and specialized skills required	Basin Transload will utilize available local labor to the extent practical.
Economies of construction and operation	Basin Transload will utilize available local contractors to the extent practical.
Use of citizen coordinating committees	Basin Transload has negotiated with area landowners to site the Project Corridor and Route. All land easements have been obtained from local landowners for the purpose of the pipeline Project.
A commitment of a portion of the transmitted product for use in this state	The only refinery in the state, the Tesoro Mandan Refinery, is currently running at capacity and has no need for additional crude oil.

Policy Criteria	Basin Transload Policy
Labor relations	No labor relations will be affected by this Project.
The coordination of facilities	This facility has been coordinated with adjacent pipeline facility owners and landowners within the Corridor.
Monitoring of impacts	Basin Transload will utilize BMPs as appropriate and monitor all impacts in accordance with good construction practice, area regulations and all applicable permitting restrictions.
Utilization of existing and proposed rights of way and Corridors	All of the ROW for the Project has been obtained and is presently an existing right of way easement for the pipeline Route.
Other existing or proposed transmission facilities	The Project will tap an existing crude oil pipeline in Section 1-T143N-R89W

Source: ECI, 2012

4.1.5.5 Economic Considerations

Basin Transload also utilizes economic considerations in the siting of a Corridor and Route. In general, the minimal distance between termination points and a reduction in the number of angles along a pipeline are important considerations in reducing the overall cost of a Project. In addition, other economic considerations include those associated with the cost of purchasing ROW easements as well as landowner compensation associated with loss of use or resulting impacts. All of these economic considerations were carefully balanced with the other Exclusion, Avoidance, Selection and Policy Criteria as outlined in the Energy Conversion and Transmission Facility Siting regulations.

4.1.6 Mitigation Measures

Mitigation measures are discussed in detail in Section B of this Application and are summarized in the table below.

Table 4-4 Mitigation Table

Resource	Anticipated Impact	Mitigation
Demographics	No adverse impact, potential temporary benefits to area economy	Payment to area landowners for easements
Land Use	Temporary adverse impacts as a result of construction activities	Coordination with landowners Restoration to preconstruction condition
Public Services	Temporary and minor adverse impacts as a result of construction activities	Coordination with landowners
Human Health and Safety	Inherent risk associated with pipeline construction and use	Design and construction in accordance with 49 CFR § 195
Noise	Temporary and minor adverse impacts as a result of construction activities	Restriction of construction to daytime hours Maintenance of equipment in good working order
Aesthetics	Temporary and minor adverse impacts as a result of construction activities	None are proposed
Cultural	No historic properties affected	None
Recreation	No adverse impacts	None
Economics	Temporary and minor adverse impacts as a result of construction activities Temporary positive impacts will occur as a result of local employment, tax revenue and patronage for regional retail business	Coordination with landowners Disked soils to repair compaction soils Compensation for any crop damages
Soils	Temporary and minor adverse impacts as a result of construction activities	Dust control Equipment will be well maintained to preclude any spills

Resource	Anticipated Impact	Mitigation
		or leaks
Geology and Groundwater	No impacts on geology or groundwater resources are anticipated	Restoration to preconstruction condition
Water Resource	Temporary and minor adverse impacts as a result of construction activities	Implementation of Storm Water BMPs
Vegetation	Temporary and minor adverse impacts as a result of construction activities	Coordination with landowners Restoration to preconstruction condition
Wildlife	No effect	None
Threatened, Endangered, and Candidate Species	No effect	If a whooping crane is sited within 1 mile of the site, construction will be curtailed until the passing of the bird.

Source: ECI, 2012

4.1.7 Participating Parties

Name	Qualifications
Ray Sheldon Project Manager for Basin Transload	BS in Mining Engineering — Montana College of Mineral Science & Technology MS in Mining Engineering — Montana College of Mineral Science & Technology MBA — University of Montana 30 years of experience in the industrial construction industry
Crystal Kuntz, P.E. Permitting & Compliance	BS in Civil Engineering — Montana State University, Bozeman MBA — University of Montana MS in Public Relations — Montana State University, Billings MS in Information Technology — Montana State University, Billings 15 years of experience in engineering, design, Project management, permitting & compliance.
John Schulz Certified Wildlife Biologist	BS in Earth Science and Biology — Dickinson State University MS in Zoology — North Dakota State University 35 years of experience in wildlife biology including field research including 14 years with the ND Game and Fish Department as an upland game biologist.
Daniel Ackerman Natural Resource Specialist	MS in Biology — University of North Dakota BS in Fisheries and Wildlife Biology — University of North Dakota 10 years of experience as an environmental scientist providing biological surveys, research and field reporting.
Justin Askim Natural Resource Specialist	BS in Natural Resource Management – North Dakota State University 7 years of experience as a wildlife field biologist.
Patrick J. Kuntz	BA in Anthropology — University of Montana MS in Anthropology — University of Montana 13 years of experience in cultural resource history and archaeology.
Blain Fandrich	BA in Anthropology and History — University of North Dakota MA in History, MLIS Library and Information Science — University of North Dakota 24 years of experience, Mr. Fandrich has worked on historic and prehistoric site documentation since 1985 primarily in the another plains and northwest plateau.
Lynelle A. Peterson	BA in Psychology MA in Anthropology 25 years of experience as a supervisor for cultural resource investigations. Her expertise is Northern Plains prehistory, historic archaeology (1820-1880) and stone ring archaeology.

Source: ECI, 2012

APPENDIX A

Easements & Permits

BNSF RAILWAY

APPLICATION FOR PIPELINE or WIRE LINE - CROSSING AND/OR LONGITUDINAL

Jones Lang LaSalle
ATTN: Permit Services
3017 Lou Menk Drive
Fort Worth, TX 76131-2800

Applicants Tax ID # 26-3777171
or SS#

We submit for your approval the following specifications for a pipeline or wire line we propose to build across and/or along **BNSF RAILWAY COMPANY'S** right-of-way, as shown on the enclosed location plan and detailed sketch.

***Legal* name of company/municipality who will own the pipeline/ wire line:** Basin Transload LLC
State in which incorporated: ND **(If not incorporated, please attach name of owners or partners.)**

Name of contact for ownership entity: Ray W. Sheldon **Phone #:** 406-855-5008
EMail Address: rsheldon@basintransload.com **Fax:** 406-652-8320
Mailing Address: 3529 Gabel Road, P.O. Box 80284, Billings, MT 59108

Is this project **ARRA** funded? Yes ☐ No ☒
Is applicant a condemning authority? Yes ☐ No ☒
Is applicant a Railroad Shipper? Yes ☒ No ☐
If yes, BNSF Marketing Rep. name: Shane Markum **Phone #** 817-867-6286
Was this service requested by BNSF? Yes ☐ No ☒
If yes, person requesting service: **Phone #**
Is this installation in conjunction with a track or track expansion project? Yes ☒ No ☐
If yes, BNSF contact name: John Rider **Phone #** 913/551-4148
Is this installation associated with a public road crossing/widening or a grade separation project? Yes ☐ No ☐
If yes, please provide details and plans for said crossing/widening or grade separation project with your application.

Type of Encroachment: Crossing ☒ Longitudinal ☐ Both ☐
Name of nearest town on RR Republic, ND **County** Mercer **State** ND
Name of nearest roadway crossing RR?
Location of Encroachment: NW 1/4 Section 19 **Township** 144N **Range** 88W
Railroad Mile Post 78.05 Latitude N 47-17' **Longitude** W 101-53'
Within limits of public road or street? Yes ☐ No ☒ **If yes, distance from center line of road:** **ft.**
Width of public road or street: **ft.**

PIPELINE:

(Note: For wire line see pg. 4)

Contents to be handled through pipeline: Crude Oil

	CARRIER	CASING
Length of pipe on RR property (plastic pipe must be encased full width of ROW)	~106 ft.	~106 ft.
Inside diameter of pipe	8.125 in.	12.250 in.
Pipe Material	Steel	Steel
Specification & grade (Minimum yield strength casing 35,000 psi)	API 5L X42	A53B
Wall thickness .mum wall thickness of casing pipe under 14 in. – 0.188 in E-80 Loading)	0.250	0.250
Actual working pressure	MAOP 1,440 psi	Atmospheric
Type of Joint	Mechanical ☐ Welded ☒	Mechanical ☐ Welded ☒

	CARRIER	CASING
Coating	FBE	Bare
Distance from base of rail to top of pipe (Flammable contents, steam, water or non-flammable – minimum 5 ½ ft. under main track) Uncased gaseous products – minimum 10' under track)	>5.5'	5.5'
Minimum ground cover on RR property (minimum 3 ft.)	>3.0'	3.0
Cathodic protection casing (flammable substance)	Sacrificial anodes	No

Type of insulators or support: Polyethylene Casing Insulators Size: 11-5/16 Space: ~6'-8"
Number of Vents (flammable substances require 2 vents) 2 Size: 2" Height Above Ground: 3'

Method of Crossing:

Jacking ☐ (Jacking pit location min. 30 ft. from centerline of track. Pit must not be open more than 48 hrs. and must be protected when not in use.)

Trench ☐ (RR to furnish flagman at applicant's expense)

Dry Bore Only ☒ (Jacking pit location min. 30 ft. from centerline of track. Pit must not be open more than 48 hrs. and must be protected when not in use.)

Does pipeline support an oil or gas well? Yes ☐ No ☒
If yes, distance from RR property. _____ ft. Name of well: _____

WIRE LINE:

'nd of encroachment: Electric ☐ Communication ☐ If other, describe: _____
ype of wires/cables: _____ # of wires or cables: _____ Volts _____ Phase _____ Cycles _____
Conduits:
Occupied conduits: _____ Vacant conduits: _____ Total Conduits: _____
Length of encroachment: _____ Adjacent spans: _____ ft. _____ ft.
Appurtenances on RR Co. property: _____
Wire clearance over or under top of rail: _____ ft. over or _____ ft. under
If under track: kind of conduit _____ size of conduit _____
Wire clearance over RR Co. wire lines: _____

POLES

Kind: _____ Size: _____
Height: _____ Class: _____
Set in: Earth ☐ Rock ☐
Number of poles on RR property: _____
Distance of poles from track: _____

GUY WIRES

Overhead _____ Down _____
Kind _____ Size _____

CROSS ARMS

Material: _____
Size: _____ x _____ x _____

FRONT ELEVATION

INSULATORS
Material: _____
Type: _____ Size: _____

BRACKETS
Material: _____
Type: _____ Size: _____

CONDUCTORS
Material: _____
Type: _____ Size: _____

SIDE ELEVATION

LINE CHARACTERISTICS
Voltage: _____ Phase: _____ Cycle: _____

I agree that I have read the instructions for the installation of wire lines as detailed in the *Utility Accommodation Policy.*

Attached to this sheet is a location plan and a detailed sketch. Sketch should show tie-down measurement to centerline of nearest road crossing, bridge or other railroad structure.

Please authorize us to proceed with this installation or advise what changes are necessary to meet BNSF's specifications.

Date: October 4, 2012

Signed: Ray W Sheldon
Print Name: Ray W. Sheldon
Company: Basin Transload LLC
Title: Development Director
Phone #: 406-855-5008 Fax: 406/652-8320

If you require additional assistance, please contact your Jones Lang LaSalle representative.

APPENDIX B

Agency Responses

(817) 230-2634 Camille.barbosa @am.jll.com	**BNSF Railroad, Geographical Area 9, Permit Management Contact: Camille Barbosa (region 6)**
DATE	**CORRESPONDENCE**
25-Sep-12	Emailed Camille.barbosa@am.com
27-Sep-12	Received response: "Please go to BNSF website and find the pipeline application... I've copied the dept admin so that perhaps she may be of assistance withe correct address to mail it to as we moved earlier this year. I believe BNSF has not yet changed the address on the website."
27-Sep-12	Replied to Camille Barbosa.
28-Sep-12	Received response.

Rebecca W. Spring

From: Barbosa, Camille (US) <Camille.Barbosa@am.jll.com>
Sent: Thursday, September 27, 2012 7:55 AM
To: Rebecca W. Spring
Cc: 'Katie. robels@am. jll. com'
Subject: Re: Solicitation of Information re: pipeline near Zap, Mercer Co, ND

Rebecca

Please go to BNSF website and find rhe pipeline application. I usually just sent it but I am at home with a bad back. The application. I've copied the dept admin so thSt perhaps she may be of assistance withe correct address to mail it to as we moved earlier this yeR. I bueve BNSF has not yet changed the address on the website.

Kind regards

Sent from my iPhone

On Sep 25, 2012, at 6:03 PM, "Rebecca W. Spring" <Rebecca.Spring@eciblgs.com> wrote:

> Dear Camille Barbosa,
>
> Basin Transload has proposed to construct a pipeline near the town of Zap, Mercer County, North Dakota. Based on the initial information provided, it appears that the pipeline will cross the Burlington Northern Sante Fe Railroad at the northeastern end. We are preparing a Solicitation of Information that should contain necessary details of the project and location. Would you please let me know who we should send this document to at your earliest convenience? We anticipate that the Solicitation of Information will be ready for mailing Friday, September 28, 2012.
>
> Thanks and kind regards,
>
> Rebecca W. Spring
>
> Electrical Consultants, Inc.
>
> *"Engineering with Distinction"*

3521 Gabel Road

Billings, MT 59102

Office: (406) 259-9933

FAX: (406) 259-3441

Rebecca.Spring@eciblgs.com

www.electricalconsultantsinc.com

(701) 328-9650 ndaero@nd.gov	**North Dakota Aeronautics Commission, PO Box 5020, Bismarck, ND 58502-5020**
DATE	**CORRESPONDENCE**
27-Sep-12	Emailed ndaero@nd.gov
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt
15-Oct-12	Called the ND Aeronautics Commission. Spoke with Sheila. She transferred me to Kyle's voicemail. I left a message

Pending

(701) 328-2231 ndda.nd.gov	**ND Dept. of Agriculture, 600 E. Boulevard Ave Dept 602 Bismarck, ND 58505-0020**
DATE	**CORRESPONDENCE**
27-Sep-12	Emailed ndda@nd.gov
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt (Jan Hegland)
15-Oct-12	Called the ND Dept. of Agriculture. Spoke with Bonnie who transferred me to Jodi (her contact is 701-328-4754) who transferred me to Dane Braun's voicemail. I left a message.
16-Oct-12	Dane Braun called. He said they shouldn't need any more information.

(701) 328-3180 cte@nd.gov	**North Dakota Department of Career and Technical Education, 600 East Boulevard Avenue, Dept. 270, Bismarck, ND 58505-0610**
DATE	**CORRESPONDENCE**
27-Sep-12	Emailed cte@nd.gov
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt (Suzie Weegil)
15-Oct-12	Called the Department of Career and Technical Education, the secretary transferred me to Clark Molter. I emailed him the original letter and map package to cmolter@nd.gov.
16-Oct-12	Received an email from Wayne Kutzer: "We have no comments or questions about the Basin transload project."

Rebecca W. Spring

From: Kutzer, Wayne L. <wkutzer@nd.gov>
Sent: Tuesday, October 16, 2012 6:28 AM
To: Rebecca W. Spring
Subject: Proposed Zap Pipeline

We have no comments or questions about the Basin transload project.

Wayne Kutzer
State Director and Executive Officer
ND Department of Career and Technical Education
600 E Boulevard Ave
Bismarck ND, 58505
Ph 701-328-2259
wkutzer@nd.gov

From: Rebecca W. Spring [mailto:Rebecca.Spring@eciblgs.com]
Sent: Monday, October 15, 2012 3:39 PM
To: Molter, Clarke E.
Cc: Crystal S. Kuntz
Subject: the Proposed Zap Pipeline, re: phone call on 10/15/12

Hi Clark,

Please find a copy of the original letter and map that was sent to the Department of Career and Technical Education on October 1st attached to this email. As stated in the letter, we are assisting Basin Transload in the permitting process. The Department of Career and Technical Education was on our list of agencies we needed to contact about the proposed project. We want to know if there are any comments or questions you may have in regard to this proposed construction.

Let me know if you need any additional information pertaining to this matter.

Thanks and kind regards,
Rebecca

Rebecca W. Spring
Electrical Consultants, Inc.
"Engineering with Distinction"

3521 Gabel Road
Billings, MT 59102
Office: (406) 259-9933
FAX: (406) 259-3441
Rebecca.Spring@eciblgs.com
www.electricalconsultantsinc.com

(701) 328-4499	**ND Dept. of Commerce Division of Community Services 1600 East Century Ave. Suite PO Box 2057 Bismarck, ND 58502-2057**
DATE	**CORRESPONDENCE**
3-Oct-12	Sent Original Package by USPS, Certified Mail
5-Oct-12	Package received per signed certified receipt (Al Solberg)
15-Oct-12	Called the Department of Commerce, secretary transferred to Paul Govig - Director. I left a message.
16-Oct-12	Paul Govig returned my call, he said they reviewed the letter and have no comments.

(701) 328-5300 plucy@nd.gov	**Paul Lucy, Director, Economic Development & Finance Division, North Dakota Department of Commerce, 1600 East Century Avenue, Suite 2, PO Box 2057, Bismarck, ND 58502-2057**
DATE	**CORRESPONDENCE**
27-Sep-12	Emailed plucy@nd.gov
1-Oct-12	Received response: Forward to me at the address below. Paul Lucy, Director Economic Development & Finance Division North Dakota Department of Commerce 1600 East Century Ave., Suite 2 PO Box 2057 Bismarck, ND 58502-2057 1-701-328-5300 (Office) 1-701-328-5320 (Fax) plucy@nd.gov www.ndbusiness.com
1-Oct-12	Sent Original Package by USPS, Certified Mail
15-Oct-12	Left a message with Mr. Lucy.

Pending

(701) 328-2372 health@nd.gov	**L. David Glatt, P.E., Chief Environmental Health Section, North Dakota Department of Health, 600 East Boulevard Avenue, Bismarck, ND 58505-0200**
DATE	**CORRESPONDENCE**
25-Sep-12	Emailed health@nd.gov
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt (Kay Schwartz)
10-Oct-12	Received a letter from North Dakota Department of Health: "… This department has reviewed the information… believes that environmental impacts from the proposed construction will be minor and can be controlled with proper construction methods… comments...Construction and Environmental Disturbance Requirements: Soils... Surface Waters... Fill Material..."

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

October 10, 2012

Ms. Rebecca Spring
Electrical Consultants, Inc.
3521 Gabel Road
Billings, MT 59102

Re: Basin Transload, LLC
THPP Zap Lateral Pipeline
Mercer County, North Dakota

Dear Ms. Spring:

This department has reviewed the information concerning the above-referenced project submitted under date of October 1, 2012, 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. Aggregate to be used for road construction should not contain any erionite. Aggregate sources should be tested for erionite following guidelines found at www.ndhealth.gov/EHS/Erionite. For questions regarding erionite testing, please call Mark Dihle at 701-328-5188.

3. 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.

4. Oil and gas related construction activities disturbing five 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.

5. 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.
c: Mark Dihle, Division of Air Quality

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

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.

(701) 328-2310 dhseo@nd.gov	**Maggie Anderson, Interim Executive Director, North Dakota Department of Human Services, 600 East Boulevard Avenue, Dept. 325, Bismarck, ND 58505-0250**
DATE	**CORRESPONDENCE**
27-Sep-12	Emailed dhseo@nd.gov
28-Sep-12	Received response: Please address this to Maggie Anderson, Interim Executive Director
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt (M. Tracy)
15-Oct-12	Called ND Dept of Human Services, asked to be transferred to Maggie Anderson. No answer, left message on Maggie's voicemail.
15-Oct-12	Received voicemail from Maggie Anderson
15-Oct-12	Returned phone call. Maggie said that she forwarded the information on to a few others in her department. In the past, they reviwed letters such as this, but made no comment unless there was something of concern. She will follow up with the others. If we do not hear back from her by tomorrow, October 16th, we can assume there is no comment.

(701) 328-2660 labor@nd.gov	**North Dakota Department of Labor, 600 East Boulevard Avenue, Dept. 406, Bismarck, ND 58505-0340**

DATE	CORRESPONDENCE
27-Sep-12	Emailed labor@nd.gov
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt (S. Haugen)
15-Oct-12	Called North Dakota Department of Labor, Spoke with "S. Haugen" she acknowledged that they received both letters. She stated that they filed them for information purposes only, but the Dept. of Labor had no further comments.

(701) 328-2500	**NDDOT Mailing Address, 608 East Boulevard Avenue, Bismarck, ND 58505-0700**
DATE	**CORRESPONDENCE**
25-Sep-12	Emailed mercerhd@westriv.com
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt
9-Oct-12	Received letter from Robert Fode "This project should have no adverse effect on the North Dakota Department of Transportation highways"

North Dakota Department of Transportation

Francis G. Ziegler, P.E.
Director

Jack Dalrymple
Governor

October 9, 2012

Rebecca Spring
Environmental Services
Electrical Consultants, Inc.
3521 Gabel Road
Billings MT 59102

CONSTRUCT THPP ZAP LATERAL PIPELINE PROJECT, MERCER COUNTY, ZAP, NORTH DAKOTA

We have reviewed your October 1, 2012, letter.

This project should have no adverse effect on the North Dakota Department of Transportation highways.

However, if because of this project 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 Larry Gangl at 701-227-6510.

Robert Fode

ROBERT A. FODE, P.E., DIRECTOR – OFFICE OF PROJECT DEVELOPMENT

57/raf/js
c: Larry Gangl, Dickinson District Engineer

(701) 328-1909 mhaupt@nd.gov	**Mike Haupt, ND Department of Trust Lands, 1707 N. 9th Street, PO Box 5523, Bismarck, ND 58506**
DATE	**CORRESPONDENCE**
27-Sep-12	Emailed drew.combs@nd.gov
27-Sep-12	Received response: If it enters trust lands it would be handled by our surface division. Mike Haupt can help you out.
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt (A?)
5-Oct-12	Received email from Dennis Froemke: "Good Morning, I am a Land Management Specialist with North Dakota Department of Trust Lands. You requested comments from Mike Haupt as to the resources of concern and related mitigation measures on this project. My question is, do you intend to place the proposed pipeline on Trust Land which is located on Section 36-T144N-R89W? We had been working with Basin Transload last year with a routing across Trust land and cancelled the application. Based on the proposed route map, it looks like you are staying west of section 36 and putting the right of way on section 35-144-89. Is this correct? Let me know if you have any questions. Thanks,"
5-Oct-12	Responded to Dennis: "Yes, the proposed pipeline route is in Sections 25 and 35, not Section 36. Section 36 did fall within the 1-mile wide project study area however. According to North Dakota's Article 69-06, we were asked to request a response from the North Dakota State Land Department. Mike Haupt was recommended to me as a contact. Hope this answers everything. Also, we sent Mr. Haupt a second package this week from the same client. This second proposed pipeline near Lignite is a few sections away from State Trust Land."
5-Oct-12	Received response from Dennis: "Thanks for the information. That does answer my questions."
9-Oct-12	Contacted Dennis G. Froemke: "In regards to the proposed Zap pipeline we discussed the other day, could you please let me know what the state land is used for in Section 36? Is it reserved for wildlife, wetlands, water development, grazing, etc.?"
9-Oct-12	Received response from Dennis: "It is being leased for grazing."

Rebecca W. Spring

From: Froemke, Dennis G. <dgfroemke@nd.gov>
Sent: Tuesday, October 09, 2012 10:01 AM
To: Rebecca W. Spring
Subject: RE: Basin Transload, LLC. THPP Zap Lateral Pipeline routing?

Rebecca,

It is being leased for grazing.

Dennis

Note: You can track the real time status of your right-of-way application 24/7 at http://www.land.nd.gov/surface/right-of-way.aspx using either the ROW number or by entering at least the first three letters of the company name. By checking this site you can find the name, telephone number and email address of the person working on the application as well as its current status in real time.

From: Rebecca W. Spring [mailto:Rebecca.Spring@eciblgs.com]
Sent: Tuesday, October 09, 2012 9:57 AM
To: Froemke, Dennis G.
Subject: RE: Basin Transload, LLC. THPP Zap Lateral Pipeline routing?

Hi Dennis,

In regards to the proposed Zap pipeline we discussed the other day, could you please let me know what the state land is used for in Section 36? Is it reserved for wildlife, wetlands, water development, grazing, etc.?

Thank you.

Rebecca W. Spring
Electrical Consultants, Inc.
"Engineering with Distinction"

3521 Gabel Road
Billings, MT 59102
Office: (406) 259-9933
FAX: (406) 259-3441
Rebecca.Spring@eciblgs.com
www.electricalconsultantsinc.com

From: Froemke, Dennis G. [mailto:dgfroemke@nd.gov]
Sent: Friday, October 05, 2012 11:27 AM
To: Rebecca W. Spring
Cc: Haupt, Michael L.
Subject: RE: Basin Transload, LLC. THPP Zap Lateral Pipeline routing?

Rebecca,

Thanks for the information. That does answer my questions.

Have a great day,

Dennis

Note: You can track the real time status of your right-of-way application 24/7 at http://www.land.nd.gov/surface/right-of-way.aspx using either the ROW number or by entering at least the first three letters of the company name. By checking this site you can find the name, telephone number and email address of the person working on the application as well as its current status in real time.

From: Rebecca W. Spring [mailto:Rebecca.Spring@eciblgs.com]
Sent: Friday, October 05, 2012 10:30 AM
To: Froemke, Dennis G.
Subject: RE: Basin Transload, LLC. THPP Zap Lateral Pipeline routing?

Hi Dennis,

Yes, the proposed pipeline route is in Sections 25 and 35, not Section 36. Section 36 did fall within the 1-mile wide project study area however. According to North Dakota's Article 69-06, we were asked to request a response from the North Dakota State Land Department. Mike Haupt was recommended to me as a contact. Hope this answers everything.

Also, we sent Mr. Haupt a second package this week from the same client. This second proposed pipeline near Lignite is a few sections away from State Trust Land. Let me know if there are further questions.

Thanks,
Rebecca

Rebecca W. Spring
Electrical Consultants, Inc.
"Engineering with Distinction"

3521 Gabel Road
Billings, MT 59102
Office: (406) 259-9933
FAX: (406) 259-3441
Rebecca.Spring@eciblgs.com
www.electricalconsultantsinc.com

From: Froemke, Dennis G. [mailto:dgfroemke@nd.gov]
Sent: Friday, October 05, 2012 10:09 AM
To: Rebecca W. Spring
Cc: Haupt, Michael L.
Subject: Basin Transload, LLC. THPP Zap Lateral Pipeline routing?

Rebecca,

Good Morning,

I am a Land Management Specialist with North Dakota Department of Trust Lands. You requested comments from Mike Haupt as to the resources of concern and related mitigation measures on this project. My question is, do you intend to place the proposed pipeline on Trust Land which is located on Section 36-T144N-R89W? We had been working with Basin Transload last year with a routing across Trust land and cancelled the application. Based on the proposed route map, it looks like you are staying west of section 36 and putting the right of way on section 35-144-89. Is this correct?

Let me know if you have any questions.

Thanks,

Dennis. G. Froemke
.and Management Specialist, CRMC
North Dakota Department of Trust Lands
1707 N 9th Street, PO Box 5523
Bismarck, ND 58506-5523
Cell: 701-516-6862
Bismarck Office: 701-328-2800
dgfroemke@nd.gov
www.land.nd.gov

Note: You can track the real time status of your right-of-way application 24/7 at http://www.land.nd.gov/surface/right-of-way.aspx using either the ROW number or by entering at least the first three letters of the company name. By checking this site you can find the name, telephone number and email address of the person working on the application as well as its current status in real time.

(701) 328-2800 energyimpact@nd.gov	**Energy Infrastructure and Impact Office, 1707 North 9th Street, PO Box 5523, Bismarck, ND 58506-5523**
DATE	**CORRESPONDENCE**
27-Sep-12	Emailed energyimpact@nd.gov
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt (A?)
16-Oct-12	Called the Energy Infrastructure and Impact Office (its part of the ND Dept of Trust Office apparently); was transferred to Jerry Fisher's voicemail. I left a message.
17-Oct-12	Spoke with Jerry Fisher on the phone. He acknowledge receipt of the letters and has no objection to the projects.

ndgf@nd.gov	**Steve Dyke, Conservation Section Supervisor, ND Game & Fish Dept., 100 North Bismarck Expressway, Bismarck, ND 58501**
DATE	**CORRESPONDENCE**
25-Sep-12	Emailed ndgf@nd.gov
26-Sep-12	Received response: Please send your solicitation of views for the pipeline near Zap to me. For future reference, I am the principle contact for the Department on all development related projects. Steve Dyke, Conservation Section Supervisor, ND Game & Fish Dept., 100 North Bismarck Expressway, Bismarck, ND 58501
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt (A?)
11-Oct-12	Received letter from Greg Link: "...Our primary concern is the disturbance of native prairie associated with construction of the pipelines and access roads. We ask that work within these areas be avoided to the extent possible, and disturbed areas be reclaimed to pre-project conditions... Steps should be taken to protect any wetlands that cannot be avoided, no alterations should be made to existing drainage patterns..."

"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

October 11, 2012

Rebecca Spring
ECI Environmental Services
Electrical Consultants, Inc.
3521 Gabel Road
Billings, MT 59102

Dear Ms. Spring:

RE: THPP Zap Lateral Pipeline
THPP Lignite Lateral Pipeline
Basin Transload, LLC

Basin Transload has proposed to construct two sections of eight-inch diameter steel pipeline, about four and seven miles respectively, in Mercer and Burke Counties, North Dakota. Our primary concern is the disturbance of native prairie associated with construction of the pipelines and access roads. We ask that work within these areas be avoided to the extent possible, and disturbed areas be reclaimed to pre-project conditions.

The National Wetland Inventory indicates various wetlands within the proposed project corridors. Steps should be taken to protect any wetlands that cannot be avoided, no alterations should be made to existing drainage patterns, and above-ground appurtenances should not be placed in wetland areas.

Sincerely,

Greg Link
Chief
Conservation & Communication Division

js

(701) 328-8000	**North Dakota Geological Survey Division, 600 East Boulevard Avenue, Bismarck, ND 58505-0840**
DATE	**CORRESPONDENCE**
27-Sep-12	Emailed jjkringstad@ndpipelines.com
28-Sep-12	Received response: For pipelines constructed completely in ND (intrastate), the ND Public Service Commission is the regulatory body that you will want to contact. Depending on the size and purpose of the line, they may or may not have siting authority. Give Pat Fahn at their office a call; he will help you understand their role in the process. Pat's phone number is 701.328.4077 and I have cc'd him on this email.
1-Oct-12	Emailed jjkringstad@ndpipelines.com: "We are in the process of composing an application to the ND PSC. As part of this process we have been asked to receive comments from a list of organizations, including the North Dakota Geological Survey Division. You were contacted as a representative for the Geological Survey Division. Would you like us to send the letter to you or someone else?"
10/1/2012 @ 2:37 pm	Received phone call from Justin. He explained that he was not the person to contact, but the letter should go to the main ND Geological Survey Division Office
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt (R. Prange)
16-Oct-12	Called the ND Geological Survey Division, initially transferred to Lisa with their Oil & Gas Division. Lisa transferred me to Donna who was unavailable. I left a message for Donna.
17-Oct-12	Donna called. She transferred me to Ed Murphy's voicemail. I left a message for Mr. Murphy.
17-Oct-12	Ed Murphy returned my call. He had not received the letters, however, he asked to receive a digital copy of the packages. I forwarded him a copy of the geological survey division letters to his email: emurphy@nd.gov.
17-Oct-12	Received a letter by email from Ed Murphy: "... saw no indication of slope movement along the propsed corridot. However, the pipeline will cross over reclaimed coal mine lands in two areas... concerned for differential settlement within those two areas, especially at the contact between mined and unmined lands. This is an issue best addressed by the Mine Reclamation Division of the NDPSC..."

North Dakota Geological Survey

Edward C. Murphy - State Geologist

Department of Mineral Resources

Lynn D. Helms - Director

North Dakota Industrial Commission

www.state.nd.us/ndgs

October 17, 2012

Ms. Rebecca Spring
Electrical Consultants, Inc.
3521 Gavel Road
Billings, Montana 59102

RE: Basin Transload, LLC. THPP Zap Lateral Pipeline

Dear Ms. Spring,

I reviewed the information regarding the proposed Zap Pipeline. We have not mapped the area for landslides, but I did a quick review of aerial photographs of the area and saw no indication of slope movement along the proposed corridor. However, the pipeline will cross over reclaimed coal mine lands in two areas: the northeast quarter of section 25 and the southeast section line of 35/southwest section line of 36. I would be concerned for differential settlement within those two areas, especially at the contact between mined and unmined lands. This is an issue best addressed by the Mine Reclamation Division of the North Dakota Public Service Commission and they may not share my concerns.

Please contact me if you have any questions.

Sincerely,

Edward C. Murphy
State Geologist

(701) 328-2428 ndiac@nd.gov	**North Dakota Indian Affairs Commission, State Capitol Building, 600 East Boulevard Avenue, 1st Floor, Judicial Wing - Room #117, Bismarck, ND 58505**
DATE	**CORRESPONDENCE**
27-Sep-12	Emailed ndiac@nd.gov
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt (Helen Hanley)
16-Oct-12	Called the ND Indian Affairs Commission, spoke with Helen. She said that the letters were given to the executive director, Scott Davis. She said she would leave the message for him.

(701) 328-3014 rkaiser@nd.gov	**Randy Kaiser, Administrative Staff Officer III, Job Service North Dakota PO Box 5507 Bismarck, ND 58506-5507**
DATE	**CORRESPONDENCE**
27-Sep-12	Sent message through the online form
28-Sep-12	Received response: Rebecca, Could you please call me at 701-328-3014 in regard to an e-mail we received about a proposed pipeline in Mercer County.
28-Sep-12	Crystal called. Expressed no interest. Asked him to forward an email expressing no interest in writing.
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt (R?)
16-Oct-12	Called and spoke with Randy. Randy said that he did receive the letters. He said he had no questions or comments and does not feel that these projects will really affect [Job Service North Dakota]

ndag@nd.gov	**North Dakota Attorney General, State Capitol, 600 East Boulevard Ave. Dept. 125, Bismarck, ND 58505**
DATE	**CORRESPONDENCE**
27-Sep-12	Emailed ndag@nd.gov
28-Sep-12	Received response: You can e-mail ot ndag@nd.gov but we neither acknowledge receipt of, or respond to, such mailings.
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt (Peggy Brunelle)
16-Oct-12	They do not acknowledge receipt of or respond to such mailings.

(701) 328-2200	**Office of Governor State of North Dakota 600 East Boulevard Avenue Bismarck, ND 58505-0100**
DATE	**CORRESPONDENCE**
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt (Donna Ellism)
16-Oct-12	Called the office of Governor, spoke with Donna. She acknowledged receipt of the letters. Said she would keep the files just in case, but they have no further comment or questions.

(701) 328-5357 parkrec@nd.gov	**Ms. Kathy Duttenhefner, North Dakota Parks and Recreation Headquarters, 1600 E. Century Avenue, Suite 3, Bismarck, ND 58503**
DATE	**CORRESPONDENCE**
27-Sep-12	Emailed parkrec@nd.gov
28-Sep-12	Received response: You can send it to: Kathy Duttenhefner 1600 E Century Ave, Suite 3 Bismarck, ND 58503 Thank you,
1-Oct-12	Sent Original Package by USPS, Certified Mail
4-Oct-12	Package received per signed certified receipt (Stacy High)
16-Oct-12	Called the North Dakota Parks & Rec Office, spoke with Kathy. She said they have no comments, and will also send us an email.
17-Oct-12	Received fax from Kathy: "...has reviewed the above referenced proposal... Based on this review, there are no documented occurrences in our database within or adjacent to the project area..."

Jack Dalrymple, Governor
Mark A. Zimmerman, 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

October 16, 2012

ECI
Rebecca Spring
3521 Gabel Road
Billings, MT 59102

Re: Basin Transload, LLC, THPP Zap Lateral Pipeline

Dear Rebecca

The North Dakota Parks and Recreation Department (the Department) has reviewed the above referenced proposal for the construction of the THPP Zap Lateral Pipeline project in Mercer County.

Our agency scope of authority and expertise covers recreation and biological resources (in particular rare plants and ecological communities). The project as defined does not affect state park lands that we manage or Land and Water Conservation Fund recreation projects that we coordinate.

The North Dakota Natural Heritage biological conservation database has been reviewed to determine if any plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, there are no documented occurrences in our database within or adjacent to project area. 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.

The Department recommends that the project be accomplished with minimal impacts and that all efforts be made to ensure that critical habitats not be disturbed in the project area to help secure rare species conservation in North Dakota. Regarding any reclamation efforts, we recommend that any impacted areas be revegetated with species native to the project area.

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 at (701-328-5370 or kgduttenhefner@nd.gov). Thank you for the opportunity to comment on this proposed project.

Sincerely,

Kathy Duttenhefner

Kathy Duttenhefner, Coordinator
Natural Resources Division

R.USNDNHI*2012_237 KD5/17/2012DL10.19.2012

(701) 328-2666 histsoc@nd.gov	**State Historical Society of North Dakota, 612 East Boulevard Ave, Bismarck, ND 58505**
DATE	**CORRESPONDENCE**
28-Sep-12	Spoke with Lynelle Peterson at Ethnoscience (personal communication). She stated that there were no significant cultural sites identified during the survey.
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Received email: "I can't find any record of having received the cultural survey conducted by Ethnoscience, Inc. for this project. Could you forward a hard copy, please? Susan Quinnell Review and Compliance Coordinator
3-Oct-12	Replied to Susan: "Unfortunately at this point in time, we do not have a copy of the cultural report. I understand this may impact your ability to review the project. As soon as we receive a copy of the report, I will make sure it is forwarded on to you."
3-Oct-12	Package received per signed certified receipt (Tim Stock)
9-Oct-12	Received a digital copy of the cultural report from Ethnoscience. Forwarded digital copy of report to Susan Quinnell as discussed.
10-Oct-12	Received a letter including "We concur with "No Historic Properties Affected" and "No Significant Sites Affected" determinations..."

STATE HISTORICAL SOCIETY OF NORTH DAKOTA

October 10, 2012

Ms. Rebecca Spring
ECI Environmental Services
Electrical Consultants, Inc.
3521 Gabel Road
Billings MT 59102

NDSHPO REF.: 13-0008 PSC Docket Number 12-675
"Basin Transload: A Class III Cultural Resource Inventory of a Proposed Oil Pipeline in Mercer County, North Dakota" (Ethnoscience, October 4, 2012)

Dear Ms. Spring,

We reviewed correspondence and project document for NDSHPO REF.: 13-0008 PSC "Basin Transload: A Class III Cultural Resource Inventory of a Proposed Oil Pipeline in Mercer County, North Dakota" (Ethnoscience, October 4, 2012) and find it acceptable.

We concur with *"No Historic Properties Affected"* and *"No Significant Sites Affected"* determinations provided that the project is of the nature stated, and that it takes place in plotted location in the report documentation.

Thank you for the opportunity to review this project. If you have questions please contact either Paul Picha at ppicha@nd.gov or (701) 328-3574 or Susan Quinnell at squinnell@nd.gov or (701) 328-3576.

Sincerely,

Merlan E. Paaverud, Jr.
State Historic Preservation Officer (North Dakota)
and
Director, State Historical Society of North Dakota

c: Patrick Fahn, ND PSC

(701) 328-9718	**ND State Soil Conservation Committee, Scott Hochhalter, State Soil Specialist, NDSU Extension Service, 2718 Gateway Ave., Suite 104, Bismarck, ND 58503**
DATE	**CORRESPONDENCE**
27-Sep-12	Emailed scott.hocchalter@ndsu.edu
28-Sep-12	Received response: Contact the ND Public Service Commission Address: 600 E. Boulevard, Dept. 408 Bismarck, ND 58505-0480 Phone:701.328.2400 Toll-Free:877.245.6685 Fax:701.328.2410 Email:ndpsc@nd.gov

Rebecca W. Spring

From: Hochhalter, Scott <Scott.Hochhalter@ndsu.edu>
Sent: Friday, September 28, 2012 9:21 AM
To: Rebecca W. Spring
Subject: RE: Solicitation of Information re: pipeline near Zap, Mercer Co, ND

Hi Rebecca,
Contact the ND Public Service Commission
Address:
600 E. Boulevard, Dept. 408
Bismarck, ND 58505-0480
Phone:701.328.2400
Toll-Free:877.245.6685
Fax:701.328.2410
Email:ndpsc@nd.gov

Contact the ND Trust Lands
Contact Surface Management Division
- *Mike Brand, Director*

Surface Management Division
Telephone: (701) 328-1918
mbrand@nd.gov

Have a nice day.
Scott

(701) 328-2750 swc@nd.gov	**Ms. Linda Weispfenning, North Dakota State Water Commission, 900 East Boulevard Avenue, Dept. 770, Bismarck, ND 58505-0850**
DATE	**CORRESPONDENCE**
27-Sep-12	Emailed swc@nd.gov
28-Sep-12	Received response: The person to whom you should send the inquiry letter is Linda Weispfenning at the address below. John Paczkowski Chief, Regulatory Section ND State Water Commission 900 E Boulevard Ave. Bismarck, ND 58505-0850
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt (Karen Heinut sp?)
9-Oct-12	Received mailed letter from Linda Weispfenning, Water Resource Planner: "The proposed project has been reviewed by State Water Commission staff and the following comments are provided: -There are no floodplains identified… No floodplain permits are necessary... -All waste material associated with the project must be disposed of properly... -No sole-source aquifers have been designated... There are no other concerns associated with this project that affect State Water Commission or State Engineer regulatory responsibilities..."

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TDD 701-328-2750 • FAX 701-328-3696 • INTERNET: http://swc.nd.gov

October 9, 2012

Rebecca Spring
ECI Electrical Consultants, Inc.
3521 Gabel Road
Billing, MT 59102

Dear Ms. Spring:

This is in response to your request for review of environmental impacts associated with the Basin Transload to construct the THPP Zap Lateral Pipeline Project, which will consist of about four mile of eight-inch diameter steel pipeline located in Mercer County, ND.

The proposed project has been reviewed by State Water Commission staff and the following comments are provided:

- There are no floodplains identified and/or mapped where this proposed project is to take place. The project takes place in an unmapped county. No floodplain permits are necessary from Mercer County relative to the National Flood Insurance Program.

- It is the responsibility of the project sponsor to ensure that local, state and federal agencies are contacted for any required approvals, permits, and easements.

- All waste material associated with the project must be disposed of properly and not placed in identified floodway areas.

- No sole-source aquifers have been designated in ND.

There are no other concerns associated with this project that affect State Water Commission or State Engineer regulatory responsibilities.

Thank you for the opportunity to provide review comments. If you have any questions, please call me at 701-328-4967.

Sincerely,

Linda Weispfenning
Water Resource Planner

LW:dp/1570

(701) 973-2101	**NRCS Area Office, Attn: Jon Stika, 135 Sims Street, Suite 210, Dickinson, ND 58601**
DATE	**CORRESPONDENCE**
25-Sep-12	Emailed lori.gustafson@nd.usda.gov
26-Sep-12	Received response: Please send the Solicitation of Information to: NRCS Area Office Attn: Jon Stika 135 Sims Street, Suite 210 Dickinson, ND 58601
1-Oct-12	Sent Original Package by USPS, Certified Mail
3-Oct-12	Package received per signed certified receipt (R. Obach)
5-Oct-12	Received an email from Jon Stika: "I received your letter and attachments concerning the Basin Transload, LLC. THPP Zap Lateral Pipeline project. If federal funds will be used for any or all of this project, please complete Parts I and III of the attached AD1006 and return it to me (electronically is fine) so that I may complete the NRCS portions of the form. If no federal funds are part of this project, then NRCS has no comment on environmental effects except to use care not to drain or fill any wetlands as part of project construction/reclamation. Feel free to contact me if you have questions regarding NRCS' role in the environmental review process or the AD 1006 form."
8-Oct-12	Confirmed with Crystal funding - All Private Funds
12-Oct-12	Replied to Mr. Stika: "Mr. Stika, There are no federal funds involved with this project, only private funds."

Rebecca W. Spring

From: Stika, Jon - NRCS, Dickinson, ND <Jon.Stika@nd.usda.gov>
Sent: Friday, October 05, 2012 11:41 AM
To: Rebecca W. Spring
Subject: Re: Basin Transload, LLC. THPP Zap Lateral Pipeline
Attachments: AD1006.pdf

Rebecca,

I received your letter and attachments concerning the Basin Transload, LLC. THPP Zap Lateral Pipeline project. If federal funds will be used for any or all of this project, please complete Parts I and III of the attached AD1006 and return it to me (electronically is fine) so that I may complete the NRCS portions of the form. If no federal funds are part of this project, then NRCS has no comment on environmental effects except to use care not to drain or fill any wetlands as part of project construction/reclamation. Feel free to contact me if you have questions regarding NRCS' role in the environmental review process or the AD 1006 form.

Jon Stika
Area Resource Soil Scientist
701-225-5113 x107

(701) 255-0015	**Toni Earhardt / Todd J. Lindquist P.E., Operations Project Manager, U.S. Army Corps of Engineers, Garrison Project, P.O. Box 527, Riverdale, ND 58565**
DATE	**CORRESPONDENCE**
25-Sep-12	Sent message to district online contact form
28-Sep-12	Received response: Any information, or input needed from Lake Sakakawea should be addressed to Ryan Newman or myself, Todd J. Lindquist, P.E.
1-Oct-12	Sent Original Package by USPS, Certified Mail
4-Oct-12	Package received per signed certified receipt (Chris?)
11-Oct-12	Sent email to Todd: "Last week I sent a package by mail pertaining to the Zap Lateral Pipeline. Please find a copy of the Wetland Delineation report attached to this email. The field survey crew feels that the wetlands are unlikely jurisdictional. Would you please review the attached document and let me know if there should be any further action?"
11-Oct-12	Received response from Todd: "We received your package and did not comment, as your project does not impact the lands we manage around Lake Sakakawea. That said, it sounds like you really intended to send this to our Regulatory Office? I've included Joe Tanko in this reply, as he is currently the Chief of our North Dakota Regulatory Office. His office will need to make this decision/determination, so you'll need to work this request through him."
11-Oct-12	Replied to both Todd and Joe Tanko: "Mr. Tanko, please let me know if you would like any further information from me regarding this matter."
16-Oct-12	Called the US Army Corps of Engineers office, spoke with Joseph Tanko. He said that the Zap project has been handed off to Toni Earhardt who is a Project Manager. She is in the process of reviewing the project and should be sending us something soon. He said if we don't hear from her by the end of the week to call back. I made sure he had my contact information and told him that if Toni had any questions that she should definitely give me a call.
23-Oct-12	Spoke with Toni Earhardt. She said that if here was no dredge or fill associated with the project we did not need a permit from the Corps. If there is no discharge, then the project will not trigger the Clean Water Act. We could look at Nationwide Permit No. 12. If we bore or go around the wetlands, then there is no permit needed. If we ask for wetland jurisdiction determination, that could take up to 90 days. Projects with applications come first. Toni said she would also send me an email.
5-Nov-12	Received email from Toni Earhardt that stated "Work may proceed in accordance with the terms and conditions of the Nationwide 12 Permit, as conditions apply and attached a copy of the permit stipulations."
12-Feb-13	Received a letter from Daniel E. Cimarosti, ND Regulatory Office stating, "It has been determined that Wetlands, 2, 3, and 4 are jurisdictional. Therefore, should the proposed project result in the placement of dredge or fill material in this waters, a Corp permit ... will be required prior to construction activities."

Rebecca W. Spring

From: Erhardt, Toni R NWO <Toni.R.Erhardt@usace.army.mil>
Sent: Monday, November 05, 2012 12:12 PM
To: Rebecca W. Spring
Subject: Zap Pipeline Project (UNCLASSIFIED)
Attachments: nwp 12 fs 2012.docx

Classification: UNCLASSIFIED
Caveats: NONE

Rebecca, We'll try this again...sorry. Per our conversation last week, we received a copy of a wetland delineation report completed by Wenck Associations, Inc. for your firm. There is no cover letter to the Corps indicating what is being requested of us.

As discussed, you can submit a request for a jurisdictional determination; a request for authorization; or you can review the notification requirements of Nationwide Permit #12 (Fact Sheet Attached) to determine if it is even necessary to notify the Corps prior to construction.

FYI. If the project does not trigger any of the notification requirements, it does not mean that a permit is not required, it merely means that work can proceed in accordance with the terms and conditions of the nationwide permit.

Let me know how you what to proceed. Thanks.

Toni R. Erhardt, Project Manager
North Dakota Regulatory Office
1513 South 12th Street
Bismarck, North Dakota 58504
(701) 255-0015

Classification: UNCLASSIFIED
Caveats: NONE

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
NORTH DAKOTA REGULATORY OFFICE
1513 SOUTH 12TH STREET
BISMARCK ND 58504-6640

COPY

February 12, 2013

North Dakota Regulatory Office [NWO-2012-2432-BIS]

Mr. Dan S. Ackerman
Wenck Associates, Inc.
301 – 1st Street NE, Suite 202
Mandan, North Dakota 58554

Dear Mr. Ackerman:

We have completed a Department of the Army, US Army Corps of Engineers (Corps), jurisdictional determination (JD) for the Zap Pipeline Project. The proposed route runs through Sections 19 and 30 of Township 144 North, Range 88 West; Sections 24, 25, 26 and 35, Township 144 North, Range 89 West; and Sections 1 and 2, Township 143 North, Range 89 West, all in Mercer County, North Dakota.

We have determined that Wetlands 1, 5 and 5B are generally not considered Waters of the United States (WOUS) by definition. Reference is made to the categories described in both the Preamble and the Final Rule sections of the November 13, 1986 Federal Register (51 FR 41206), Corps of Engineers, Department of the Army, 33 CFR Parts 320 through 330, Regulatory Programs of the Corps of Engineers; Final Rule.

It has been determined that Wetlands 2, 3 and 4 are jurisdictional. Therefore, should the proposed project result in the placement of dredge or fill material in this waters, a Corps permit, pursuant to Section 404 of the Clean Water Act, will be required prior to construction activities.

An approved (JD) has been completed for the wetland areas identified in your request and is enclosed for your information. The JD may also be viewed at our website located at: http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/NorthDakota.aspx. The JD will be available on the website within 30 days. You may also request copies of the supporting materials the Corps used in determining this JD. If you are not in agreement with the JD, you may request an administrative appeal under Corps regulations found at 33 CFR 331. The request for appeal must be received within 60 days from the date of this correspondence. If you would like more information on the jurisdictional appeal process, contact this office. It is not necessary to submit a Request for Appeal if you do not object to the JD. The JD will be valid for a period of 5 years from the date of this letter.

This determination was conducted to identify the limits of the Corps Clean Water Act jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenants are USDA program participants, or anticipate participation in the USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

A copy of this letter is being sent to Ms. Crystal Kuntz, Electrical Consultants, Inc., 3521 Gabel Road, Billings, Montana 59102.

The Omaha District, Regulatory Branch is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to complete our Customer Service Survey found on our website at http://per2.nwp.usace.army.mil/ survey.html. If you do not have Internet access, you may call and request a paper copy of the survey that you can complete and return to us by mail or fax.

If you have any questions concerning this determination or jurisdiction, please feel free to contact Ms. Toni R. Erhardt of this office at (701) 255-0015 and reference project number **NWO-2012-2432-BIS**.

Sincerely,

Daniel E. Cimarosti
State Program Manager
North Dakota Regulatory Office

Enclosures

(701)250-4481 northdakotafield office@fws.gov	**USFWS North Dakota Field Office, 3425 Miriam Avenue, Bismarck, ND 58501-7926**
DATE	**CORRESPONDENCE**
27-Sep-12	Emailed northdakotafieldoffice@fws.gov
1-Oct-12	Sent Original Package by USPS, Certified Mail
4-Oct-12	Package received per signed certified receipt (Kari Thorsteirson)
11-Oct-12	Received email from April Simnor -- see dialogue in response folder.
15-Oct-12	Received email from April Simnor: "Just one more thing... once the reports for Lignite come out, would you mind sending them along? And would Basin Transload committment to cease construction if a whooping crane is sighted one mile still stand for the Lignite project?"
15-Oct-12	Received email from April Simnor: "Sorry for filling up your inbox, I have decided to go ahead and stamp the projects as a "not likely to adversely affect." The response will be in the mail soon, thanks again."
1-Nov-12	Received email from Kari Throstein with attachment containing the original Zap Letter with a stamp stating "no significant impact"

"Engineering with Distinction"
ELECTRICAL CONSULTANTS, INC.
CORPORATE OFFICE: 3521 GABEL ROAD, BILLINGS, MONTANA 59102 • PHONE: 406-259-9933 • FAX: 406-259-3441

October 1, 2012

Ms. Kari Thorsteinson
US Fish and Wildlife Service
3425 Miriam Avenue
Bismarck, ND 58501-7926

RE: Basin Transload, LLC. THPP Zap Lateral Pipeline

Dear Ms.Thorsteinson,

Electrical Consultants, Inc. (ECI) is a consulting firm currently providing permitting assistance to Basin Transload, LLC. Basin Transload has proposed to construct the THPP Zap Lateral Pipeline Project, which will consist of about four miles of eight-inch-diameter steel pipeline located in Mercer County, North Dakota. Currently, we are assisting Basin Transload in the preparation of their 2012 Application to the North Dakota Public Service Commission (NDPSC) for a Waiver of Procedures and Timelines, Consolidated Certificate of Corridor Compatibility, and Route Permit. The Corridor Certificate and Route Permit are documents governed by the North Dakota Energy Conversion and Transmission Facility Siting Act. The Siting Act lists factors to guide the NDPSC in evaluating the corridor and route. This is used to select the safest project route with minimal environmental effects.

As part of the process we need your agency's comments and/or recommendations with regard to resources of concern and related mitigation measures regarding the identified work. Currently there are six (6) animal and one (1) plant species that are listed on the Federal Threatened and Endangered Species List for the State of North Dakota. Of those seven (7) species, all six (6) of the animal species are listed on North Dakota's Threatened and Endangered Species List for Mercer County.

The animal species that have known to exist in Mercer County, North Dakota are the Whooping Crane (Grus Americana), the Black Footed Ferret (Mustela nigripes), the Piping Plover (Charadrius melodus), the Pallid Sturgeon (Scaphirhynchus albus), the Least Tern (Sterna antillarum), and the Gray Wolf (Canis lupus). The Bald Eagle (Haliaeetus leucocephalus) also has wintering ranges on the eastern edge of Mercer County.

We would appreciate your comments concerning the proposed construction no later than Monday, October 15th, 2012. If you have any questions or need additional information, please contact me at (406) 259-9933 or by e-mail at rebecca.spring@eciblgs.com.

Sincerely,

Rebecca Spring
ECI Environmental Services

Enc.

U.S. FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
ND FIELD OFFICE

Project as described will have no significant impact on fish and wildlife resources. No endangered or threatened species are known to occupy the project area and/or are not likely to be adversely affected. IF PROJECT DESIGN CHANGES ARE MADE, PLEASE SUBMIT PLANS FOR REVIEW.

10-31-12
Date

Jeffrey K. Towner
Field Supervisor

R:\Projects\BAS\002 Zap & Lignite\Correspondence\Zap Agency Correspondence\USFWS 20121001.doc

BILLINGS OFFICE
3521 GABEL ROAD
BILLINGS, MT 59102
PHONE: 406-259-9933
FAX: 406-259-3441

SALT LAKE CITY OFFICE
1465 SOUTH 600 EAST
WOODS CROSS, UT 84087
PHONE: 801-292-2954
FAX: 801-292-2411

TUCSON OFFICE
3233 N. ORACLE RD. #203
TUCSON, AZ 85704
PHONE: 520-219-9933
FAX: 520-219-9949

MADISON OFFICE:
5315 WALL STREET
MADISON, WI 53718
PHONE: 608-240-9933
FAX: 608-240-1579

Rebecca W. Spring

From: April_Simnor@fws.gov
Sent: Monday, October 15, 2012 12:22 PM
To: Rebecca W. Spring
Subject: lignite and zap projects

Sorry for filling up your inbox, I have decided to go ahead and stamp the projects as a "not likely to adversely affect." The response will be in the mail soon, thanks again.

April Simnor
Biological Technician
US Fish & Wildlife Service
3425 Miriam Avenue
Bismarck, ND 58501
Ph: 701-250-4481
Fax: 701-355-8513

Rebecca W. Spring

om: Rebecca W. Spring
ɔent: Thursday, October 11, 2012 3:01 PM
To: 'April_Simnor@fws.gov'
Cc: Crystal S. Kuntz
Subject: RE: Lignite and Zap Pipeline projects in Burke and Mercer Counties
Attachments: Zap Pipeline Wildlife-DRAFT (100312).pdf; Final Zap Pipeline Wetland Delineation Report_September 2012.pdf; Zap_Pipeline_20120927.zip; Lignite_Pipeline_20121008.zip

Hi April,

Please find my responses below.

1.) Is a federal agency involved in permitting, funding, or carrying out the proposed project? I would assume there is a Corps permit involved.
No federal funding is being used for either of these projects. A wetland evaluation has been conducted for the Zap project. None of the wetlands identified were recommended jurisdictional. This recommendation is out for review and concurrence by the ACOE. The Lignite project will run adjacent to an existing railroad right-of-way. A wetland delineation survey will be conducted along this proposed line next week. All jurisdictional wetlands will be directionally drilled/bored from outside the wetland and/or bank limits in cooperation with the ACOE restrictions eliminating the need for a permit.

And if there is a federal agency involved, could they provide me written designation for Electrical Consultants, Inc. (ECI) as their non-deral representative for purposes of Section 7? (email is fine)
here is no anticipated federal nexus on these projects at this point in time.

2.) What kind of pipeline is going to be constructed? Oil?
The pipeline for both projects will be an 8-in diameter steel crude oil pipeline.

3.) Are wetlands going to be impacted? How does construction plan to avoid impacts to wetlands especially going through Knife River and Spring Creek?
For the Zap project, there are no wetlands recommended as jurisdictional as part of a delineation study conducted in September (see attached document). For those, if any, that may be identified along the Lignite project, all jurisdictional wetlands will be directionally drilled/bored from outside the wetland and/or bank limits in cooperation with the ACOE restrictions. Neither project is proposed to actually cross the Knife River or Spring Creek. At its closest end point, the Zap Pipeline will be about 0.2-miles south of Spring Creek and about 1.6–miles north of the Knife River. A survey crew is planning on investigating the Lignite project area next week.

4.) Also there are easements within the project area which you may already know about. Are you working within ROWs?
All right-of-ways are privately owned on both projects and have already been acquired for the purpose of the pipelines. For the Zap project, the right of way follows lines of land division and has been adjusted as required by the landowners through negotiations. For the Lignite project, the acquired right of way runs parallel to an existing railroad right of way. At one end the pipeline is expected to cross a railroad, but the necessary crossing railroad permits are being obtained.

.) Just to expedite the process, would you mind providing me shapefiles for the two proposed pipelines so I can look up species ıformation on my GIS?

Please find attached zipped folders containing shapefiles for both of the projects. There is also a copy of the field habitat assessment for the Zap project for your use/reference. The Lignite field survey is anticipated to start next week. I will be happy to forward the reports for the Lignite project as well once they are available.

Let me know if you need any other information or if you have further questions.

Thank you,

Rebecca

Rebecca W. Spring
Electrical Consultants, Inc.
"Engineering with Distinction"

3521 Gabel Road
Billings, MT 59102
Office: (406) 259-9933
FAX: (406) 259-3441
Rebecca.Spring@eciblgs.com
www.electricalconsultantsinc.com

From: April_Simnor@fws.gov [mailto:April_Simnor@fws.gov]
Sent: Thursday, October 11, 2012 1:46 PM
To: Rebecca W. Spring
Subject: Lignite and Zap Pipeline projects in Burke and Mercer Counties

Dear Rebecca,

I am currently reviewing your letters dated October 1, 2012 and October 3, 2012, for the proposed Basin Transload, LLC. THPP Lignite Lateral Pipeline in Burke County and the THPP Zap Lateral Pipeline Project in Mercer County, North Dakota. I have a few questions concerning the projects if you do not mind addressing.

1.) Is a federal agency involved in permitting, funding, or carrying out the proposed project? I would assume there is a Corps permit involved.

And if there is a federal agency involved, could they provide me written designation for Electrical Consultants, Inc. (ECI) as their non-federal representative for purposes of Section 7? (email is fine)

2.) What kind of pipeline is going to be constructed? Oil?

3.) Are wetlands going to be impacted? How does construction plan to avoid impacts to wetlands especially going through Knife River and Spring Creek?

4.) Also there are easements within the project area which you may already know about. Are you working within ROWs?

5.) Just to expedite the process, would you mind providing me shapefiles for the two proposed pipelines so I can look up species information on my GIS?

Thank you in advance, and feel free to contact me via email or phone,

April Simnor
US Fish & Wildlife Service
3425 Miriam Avenue
Bismarck, ND 58501
Ph: 701-250-4481
Fax: 701-355-8513

craig.lohstreter @mdu.com (701) 224-5815	**Craig Lohstreter, Electric Superintendent, Dakota Heartland Region, Montana-Dakota Utilities Co. 909 Airport Road, PO Box 1457, Bismarck, ND 58502-1457**
DATE	**CORRESPONDENCE**
16-Oct-12	Emailed customerservice@mdu.com
17-Oct-12	Received forwarded response from Ray Sheldon: "We received a request for this same information from Electrical Consultants, Inc. Are they the ones working for you on this project? You can contact Cordell or myself with questions. Our transmission line voltage is 46KV. The 2-pole type constructed transmission line belongs to WAPA and is 115KV."

APPENDIX C

Environmental Studies

Wenck Associates, Inc.
301 1st St. NE, Suite 202
Mandan, ND 58554

(701) 751-3370
Fax (701) 751-3372
E-mail: dackerman@wenck.com
E-mail: jschulz@wenck.com

Wenck
Engineers • Scientists

September 28, 2012

Crystal Kuntz, P.E.
Electrical Consultants, Inc.
3521 Gabel Road
Billings, Montana 59102

Re: Zap Pipeline - Wetland Delineation Summary Report

Dear Ms. Kuntz:

Wenck Associates, Inc. (Wenck) conducted a site visit to delineate wetlands within a corridor surrounding the proposed pipeline, near the City of Zap, Mercer County, North Dakota (Project Area). The Project Area was located in Sections 19 and 30 of Township 144 North, Range 88 West; Sections 24, 25, 26, and 35 of Township 144 North, Range 89 West; and Sections 1 and 2 of Township 143 North, Range 89 West. The site visit was conducted September 19, 2012. A corridor extending 75 to 100+ feet from the center of the proposed pipeline line on each side (up to 200 foot total corridor width) was investigated to determine the presence of wetlands.

Methodology
Prior to the site visit, Wenck staff reviewed apparent wetland signatures on aerial photographs, National Wetland Inventory (NWI) data, and hydric soil survey information to determine areas of potential wetland.

The wetlands on the Project Area were delineated using the routine on-site methodology set forth in the 1987 US Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (U.S. Army Corps of Engineers 2010). The wetland areas were systematically evaluated by using numerous observation points to define their boundaries. The frequency of observation points was increased in transitional areas between uplands and lower areas to accurately identify wetland boundaries based on soils, vegetation, hydrology, and landscape.

The wetland areas were documented with upland (U) and wetland (W) soil borings, with single observation points for each of the two habitats (***Figures 1-4, Wetland Maps***). The U.S. Army Corps of Engineers Wetland Determination Data Form of the Great Plains Manual was completed for each observation point (**Appendix C**).

Plant species were identified and classified using hydrophytic vegetation criteria outlined in the Manual (Environmental Laboratory 1987) and the Regional Supplement (U.S. Army Corps of Engineers 2010). A wetland indicator status was provided according to the National Wetland Plant List (Lichvar and Kartesz 2009). An additional plant resource included Stevens (1963). According to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (U.S. Army Corps of Engineers 2010), the hydrophytic plant criteria are met

when greater than or equal to 50% of the dominant species within the vegetative strata were assigned an obligate (OBL), facultative wet (FACW), or facultative (FAC) wetland status.

Hydric soil indicators were determined using the Field Indicators of Hydric Soils in the United States; Guide for Identifying and Delineating Hydric Soils, Version 7.0 (USDA-NRCS 2010). Additional resources included Schoeneberger et. al. (2002) and Soil Survey Staff (1982 and 2010).

Hydrology was determined on-site by observation of hydrologic indicators (U.S. Army Corps of Engineers 2010). Aerial photography was used to assist hydrologic assessment.

Wetland boundaries were surveyed using a GPS (Trimble GeoXT) with sub-meter accuracy.

Photographs were taken of the field investigated areas and are found in ***Appendix B***.

Wetland Maps were developed using Bing Maps (accessed September 26, 2012), in combination with the National Wetlands Inventory (NWI) layer (USFWS 2012), and wetlands identified on-site. ***Please refer to Figures 1-4, Wetland Maps.*** Wetland Geographic Information System (GIS) shpfiles are attached with this letter report. A wetland table with wetland information is provided. ***Please refer to Wetland Table.*** Additional wetland delineation information with use intended for a wetland jurisdictional request is provided (***Appendix A***).

Results

Wenck staff identified 5 wetland areas in the Project Area. Wetland 1 was created due to a dugout and berm. Wetlands 2-5 were created due to presence of berms. Wetland 2 continued to the south and east out of the Project Area. Wetland 3 had water flowing into it from the running well situated uphill and to the south in Section 30 of Township 144 North, Range 88 West.

The wetland areas were primarily vegetated by broad-leaf cat-tail (Typha latifolia), large barnyard grass (*Echinochloa crus-galli*), freshwater cord grass (*Spartina pectinata*), fox-tail barley (*Hordeum jubatum*), curly dock (*Rumex crispus*) and water smartweed (*Persicaria amphibia*). Common non-hydrophytic vegetation observed was smooth brome (*Bromus inermis*), yellow sweet-clover (*Melilotus officinalis*), Kentucky blue-grass (*Poa pratensis*), common snowberry (*Symphoricarpos albus*), Canada thistle (Cirsium arvense), curly-cup gumweed (*Grindelia squarrosa*), western-wheat grass (*Pascopyrum smithii*), Missouri goldenrod (*Solidago missouriensis*), biennial wormwood (*Artemisia biennis*) and annual ragweed (*Ambrosia artemisiifolia*).

Soil investigations in the wetland areas revealed many redoximorphic features. Soils were saturated in most of the wetland transect points, confirming the presence of hydrology. Hydrology indicators present in many of the wetland areas included presence of reduced iron, inundation visible on aerial imagery, surface water, saturation and geomorphic position.

Discussion

Wetlands 1, 3, 4, 5 and 5B appear to be isolated basins, and therefore are likely not regulated by Section 404 of the Clean Water Act under the USACE. Wetland 2 appeared to be an isolated basin that would outlet to the east, outside of the Project Area. Visual inspection of the area to the east of Wetland 2 indicated that it was an upland swale. Due to no property access to the east of the wetland, it was not determined if wetland indicators are present and it is unknown if there is a hydrologic connection that would require a Section 404 permit.

Nationwide Permit 12 of the USACE covers "utility lines" under which pipelines are included. Nationwide Permit 12 covers "waters of the U.S." wetland loss of less than 0.5 acres on a single project. If the total wetland loss of "waters of the U.S." for a single project is greater than or equal to 0.5 acres, an individual Section 404 Permit would be required by the USACE.

It is recommended that all wetlands be avoided if possible. It appears there may be sufficient area east of Wetlands 1 and 2 to avoid the wetlands and allow for open trench pipe installation. Due to Wetland 3 extending south of the property line, it is recommended the pipeline be bored underneath the wetland to avoid impacts to the adjacent landowner via the wetland. Wetland 4 could be avoided by maintaining the pipeline alignment south of the basin. It is appears there may be inadequate space for open trenching adjacent to Wetland 5 within the survey corridor. It is recommended the pipeline be installed by boring under Wetland 5 to avoid any impact.

Conclusion

In conclusion, Wenck identified 5 areas (1.77 acres) of wetland within the Project Area. Of these, 4 are isolated basins (Wetlands 1, 3, 4, 5) and are therefore not anticipated to be regulated under Section 404 of the Clean Water Act. The jurisdiction of Wetland 2 is undetermined due to the lack of access to the adjacent parcel. Upon cursory review, it appears that adequate space may be available within the survey corridor to allow for open trench installation while avoiding wetlands 1, 2, and 4. Boring may be required to avoid wetlands 3 and 5.

It is recommended that a wetland jurisdictional determination be requested from the USACE to verify if "waters of the U.S." exist within the Project Area before any work commences near wetlands.

If you have any questions on the results of this investigation, please contact Dan Ackerman at (701)751-6126 or dackerman@wenck.com.

Sincerely,

Daniel S. Ackerman
Wenck Associates, Inc.

Wetland Table Summary

The wetland delineation for the Zap Pipeline was conducted on September 19, 2012 by Dan Ackerman, Botanist/Natural Resource Specialist, Wenck Associates, Inc., and Lawrence Edland, ND Registered Professional Soil Classifier, Edland's Soil Consulting. The wetland delineations were conducted in accordance with the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (2010). Observations at each sample location were recorded on standard Corps of Engineers data sheets (Appendix C). Wetland boundaries and paired sample locations were surveyed with a Trimble GeoXT sub-meter accuracy GPS. The project is located within the KNIFE (10130201) Hydrologic Unit Code (HUC).

Wetland Number	Test Hole (in wetland)	Location	LONG/LAT (Dec. Deg.)	Cowardin Classification	Wetland Type	Wetland Size (acres)	Wetland Feature	Physical Characteristics of Potential Tributary*
1	1-W	Sec.19, T144N, R88W	-101.890010 W 47.277195 N	PEMCxh	Basin	0.04	Artificial	N/A
2	2-W	Sec.19, T144N, R88W	-101.889686 W 47.270864 N	PEMAh	Basin	0.03	Artificial	N/A
3	3-W	Sec. 19, T144N, R88W & Sec. 24, T144N, R89W	-101.891338 W 47.270852 N	PABFH	Basin	0.85	Artificial	N/A
4	4-W	Secs. 24 and 25, T144N, R89W	-101.891895 W 47.270422 N	PUBFx	Basin	0.18	Artificial	N/A
5	5-W	Sec.35, T144N, R89W	-101.913004 W 47.255265 N	PEMAh/ PEMCh	Basin	0.66	Artificial	N/A
5B	N/A	Sec.35, T144N, R89W	-101.913622 W 47.255528 N	PEMCx	Basin	0.01	Artificial	N/A
					TOTAL	**1.77**		

*Physical characteristics of Potential Tributary:
Substrate Composition:
1) Silts
2) Sands
3) Concrete
4) Cobbles
5) Gravel
6) Muck
7) Bedrock
8) Vegetation (Type/% Cover)
9) Other. Explain:

Other Tributary Features:
10) Bed and Banks
11) Ordinary High Water Mark
12) Clear, natural line impressed on the bank
13) The presence of litter and debris
14) Changes in the character of soil
15) Destruction of terrestrial vegetation
16) Shelving
17) The presence of wrack line
18) Vegetation matted down, bent, or absent
19) Sediment sorting
20) Leaf litter disturbed or washed away
21) Scour
22) Sediment deposition
23) Multiple observed or predicted flow events
24) Water staining
25) Abrubt change in plant community

References

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Stevens, O.A. 1963. *Handbook of North Dakota Plants.* North Dakota Institute for Regional Studies, Fargo, North Dakota, USA.

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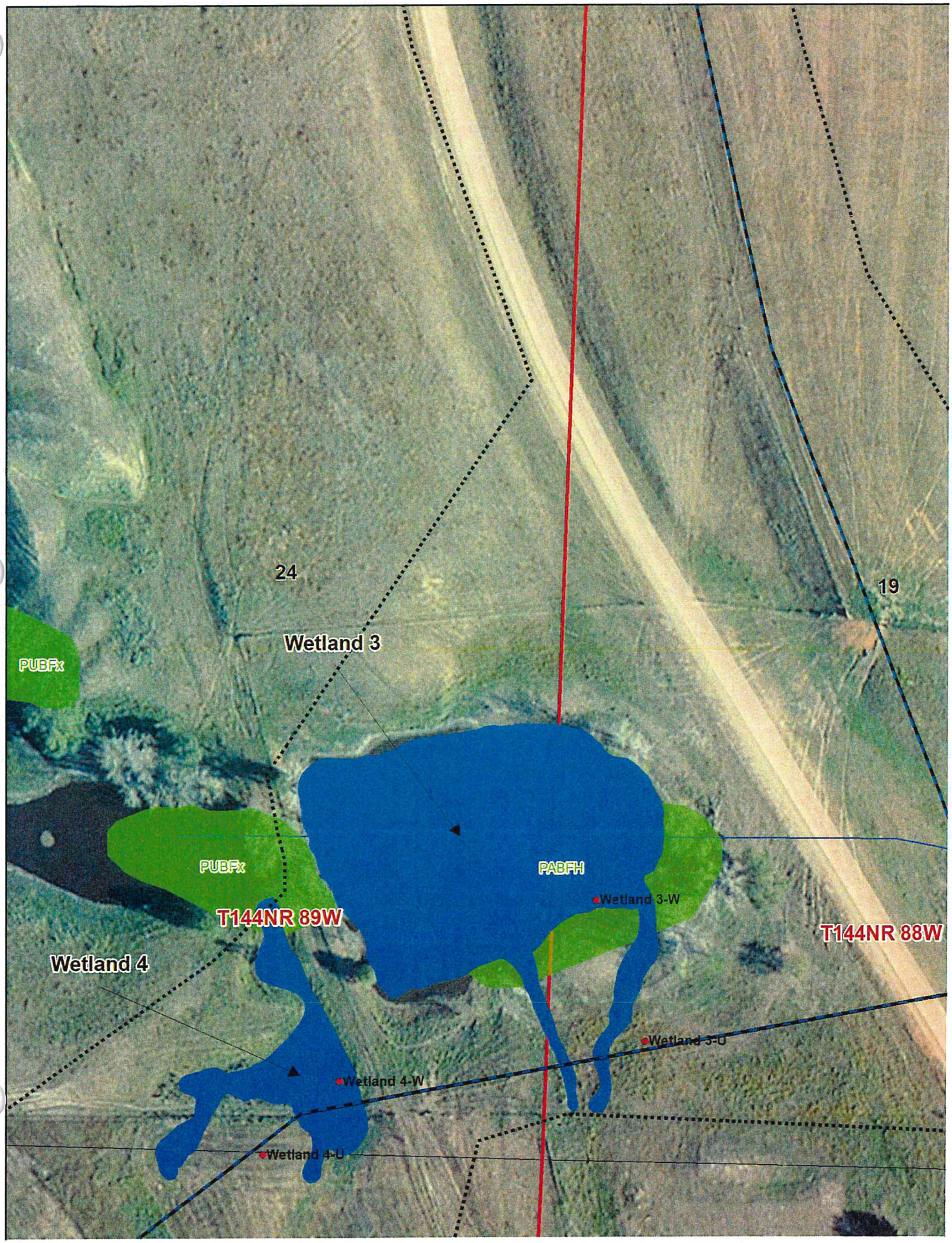
USDA-NRCS. 2010. *Field Indicators of Hydric Soils in the United States*—Guide for Identifying and Delineating Hydric Soils, Version. 7.0 *in* G.W. Hurt, L.M. Vasilas, and C.V. Noble, editors. USDA-NRCS in cooperation with the National Technical Committee for Hydric Soils.

USDA-NRCS. 2012. Soil Survey of Mercer County, North Dakota. http://websoilsurvey.nrcs.usda.gov/app.

USFWS. 2012. United States Fish and Wildlife Service. National Wetlands Inventory. http://wetlandsfws.er.usgs.gov/NWI/


14
13
CR-13
CR-20
Spring Creek
CR-20
CR-20
CR-13
23
24
T144NR 89W
26
25
T144NR 88W


T144NR 89W
24
Wetland 1
T144NR 88W
19
Wetland 1-W
Wetland 1-U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19
Wetland 3
PUBFx
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T144NR 89W
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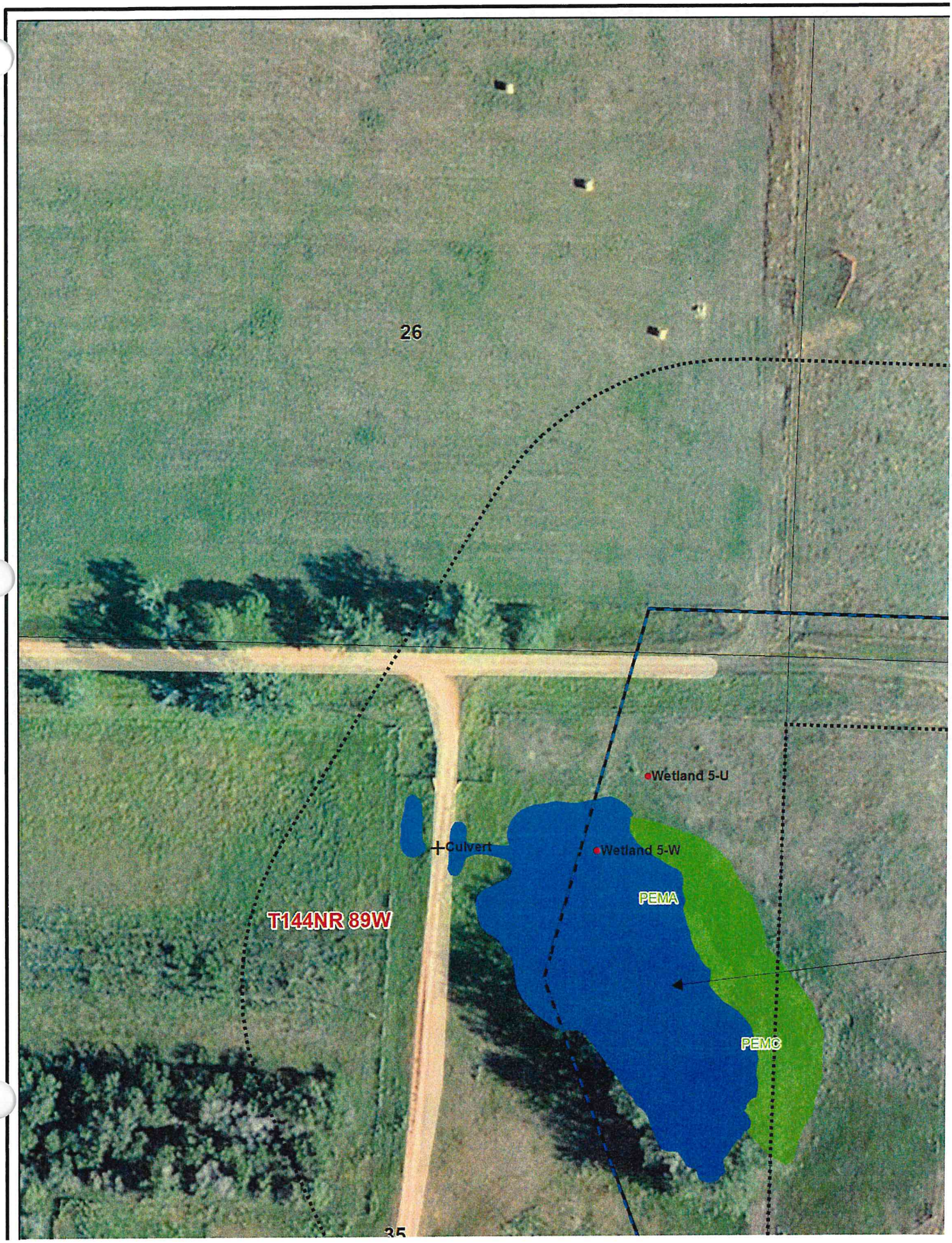
Wetland 4-W
Wetland 4-U


26
Wetland 5-U
Culvert
Wetland 5-W
PEMA
T144NR 89W
PEMC
35

Appendix A
Additional Information for Wetland Jurisdictional Requests

ADDITIONAL INFORMATION FOR WETLAND JURISDICTIONAL REQUESTS

A. Project Location and Background Information:

Project Name: Zap Pipeline
Nearest City: Zap
County: Mercer
State: North Dakota
Short Project Description: Construction of a pipeline.

Name of nearest waterbody: Knife River
Name of nearest Traditional Navigable Water (TNW): Knife River
Name of watershed or Hydrologic Unit Code (HUC): Knife (10130201)

Number of wetlands being considered in this cumulative analysis: 5
Approximately _1.77_ acres in total are being considered in this cumulative analysis.

A table is attached that lists information for each individual wetland (number, location, Lat. / Long. in degree decimal format, Cowardin wetland classification, and acreage).
Maps of the project area showing the numbered wetlands are also included. Data sheets are included when a Field Delineation is completed.

B. Review Performed for Site Evaluation (Check all that apply):

___ Office (Desk) Determination. Date:
_X_ Field Determination. Date: September 19, 2012

C. General Information:

1. General Area Conditions:
   a. HUC watershed size (specify acres or square miles): 2530 sq. mi.
   b. Average annual precip. (inches): 15.04 in.
      Source: High Plains Regional Climate Center. 2012. Climate Data for Zap (1/1/1914 – 8/31/2010).
   c. Average annual snowfall (inches): 29.4 in.
      Source: High Plains Regional Climate Center. 2012. Climate Data for Zap (1/1/1914 – 8/31/2010).

2. Biological Characteristics (*Field Determination only,* List applicable wetland numbers):
   a. The wetland supports (use space below each to elaborate for applicable wetlands):
   ___ Riparian buffer. Characteristics (type, average width)
   ___ Habitat for:
      ___ Federally Listed species. Explain findings:
      ___ Fish/spawn areas. Explain findings:

___ Other environmentally-sensitive species. Explain findings:
___ Aquatic/wildlife diversity. Explain findings:

D. Data Sources (check all that apply):

_X_ Maps, plans, plots, or plat submitted by or on behalf of the applicant/consultant.
_X_ Data Sheets prepared/submitted by or on behalf of the applicant/consultant.
_X_ U.S. Geological Survey Hydrologic Atlas:
__ USGS NHD data.
_X_ USGS 8 and 12 digit HUC maps.
_X_ U.S. Geological Survey map(s). Cite scale & quad name: 1:24k Zap
_X_ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA-NRCS. 2012. Soil Survey of Mercer County, North Dakota. http://websoilsurvey.nrcs.usda.gov/app.
_X_ National wetlands inventory map(s). Cite name: USFWS. 2012. United States Fish and Wildlife Service. National Wetlands Inventory. http://wetlandsfws.er.usgs.gov/NWI/
__ State/Local wetland inventory map(s):
__ 100-year Floodplain Elevation is: _____ (National Geodectic Vertical Datum of 1929)
_X_ Photographs: _X_ Aerial (Name & Date): Bing Maps (Accessed September 26, 2012).
or _X_ Other (Name & Date): Zap Pipeline Photos (Appendix B, September 19, 2012).
__ Applicable/supporting scientific literature:
__ Other information (please specify):

E. Additional Comments:

Appendix B
Photographs

Photo 1. Direction: South-southwest. View of Wetland 1. Note the dugout.

Photo 2. Direction: North-northwest. View of the upland swale north of Wetland 1.

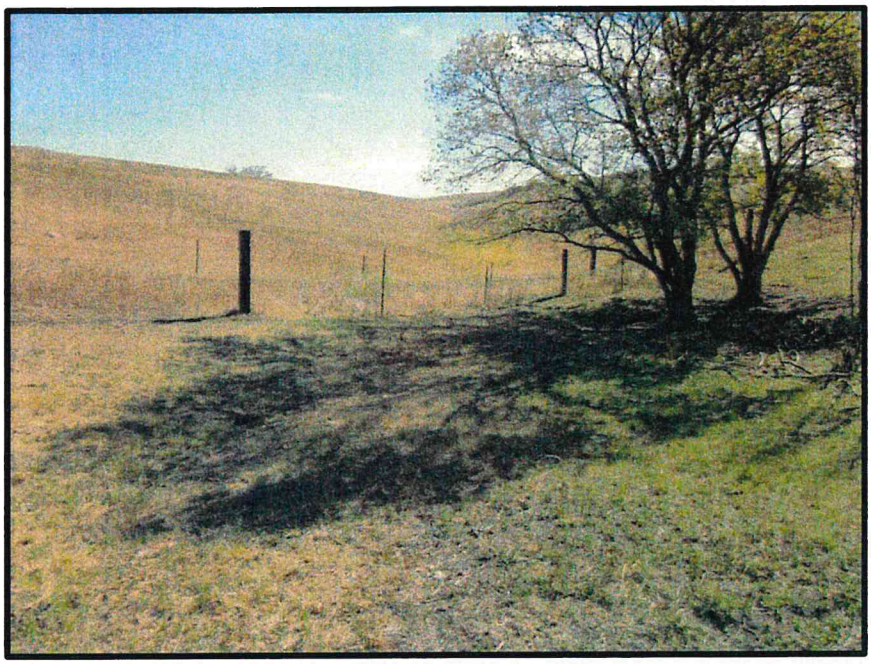


Photo 3. Direction: Southeast. View of Wetland 2. Note that the basin narrows to a drainage to the south and east out of the Project Area.

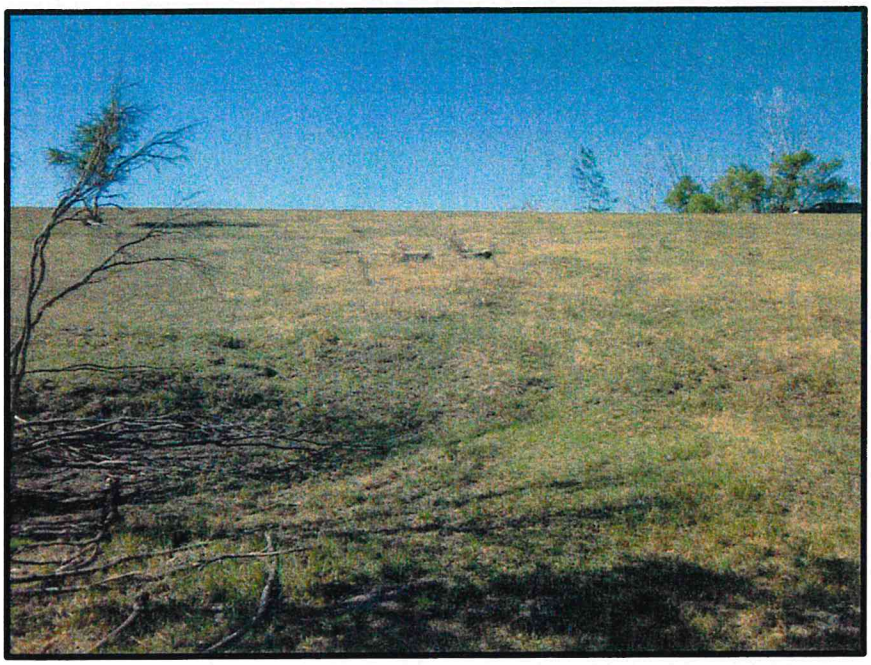


Photo 4. Direction: Northwest. View of the west end of Wetland 2. Note that there is no culvert under the road embankment.

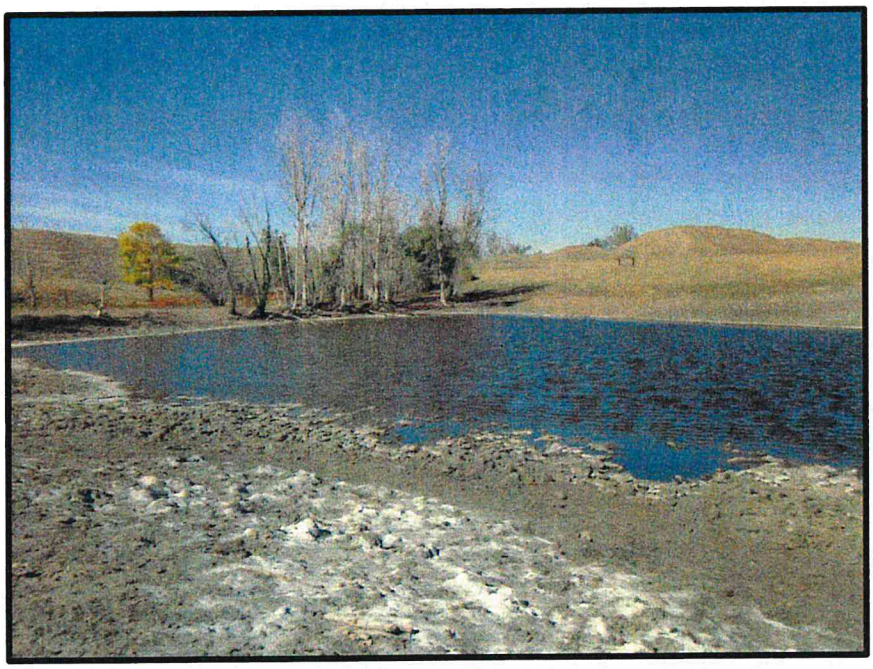


Photo 5. Direction: Northwest. View of Wetland 3. Note the berm on the west end of the wetland that separates Wetlands 3 and 4.

Photo 6. Direction: South. Water flowing south to Wetland 3 from the running well situated to the south outside of the Project Area. The well provides hydrology for the wetland basin.

Photo 7. Direction: Northeast. View of Wetland 4. Note the berm separating Wetland 4 and Wetland 3.

Photo 8. Direction: Southwest. View of Wetland 5.

Photo 9. Direction: Southeast. View of Wetland 5.

Appendix C
Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Zap Pipeline City/County: Mercer Co. Sampling Date: 9/19/2012

Applicant/Owner: Electrical Consultants Inc. State: ND Sampling Point: 1-U

Investigator(s): Dan Ackerman (Wenck) and Larry Edland (ESC) Section, Township, Range: 19-144N-88W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 6-9

Subregion (LRR): F Lat: 47.277158 Long: -101.890195 Datum: NAD83

Soil Map Unit Name: 38E - Zahl loam, 15-35% slopes NWI classification: -----

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☐	No ☒		
Hydric Soil Present?	Yes ☐	No ☒		
Wetland Hydrology Present?	Yes ☐	No ☒	**Is the Sampling Area within a Wetland?**	**Yes ☐ No ☒**

Remarks:

Upland.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size: **30 ft radius**)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Herb Stratum (Plot Size: **5 ft radius**)			
1. **Bromus inermis**	90	Y	UPL
2. **Melilotus officinalis**	10	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	

Woody Vine Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum **0**

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **1** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **0** (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 – Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 – Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks:

non-hydrophytic vegetation.

SOIL

Sampling Point: 1-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	99					Loam	
8-14	10YR 4/3	90					Loam	
	10YR 2/2	10						

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F, G, H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 CM Mucky Peat or Peat (S2)(LRR G, H)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coast Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☐ No ☒

Remarks:

non-hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):

Water Table Present? Yes ☐ No ☒ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

no hydrology present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Zap Pipeline | City/County: Mercer Co. | Sampling Date: 9/19/2012

Applicant/Owner: Electrical Consultants Inc. | State: ND | Sampling Point: 1-W

Investigator(s): Dan Ackerman (Wenck) and Larry Edland (ESC) | Section, Township, Range: 19-144N-88W

Landform (hillslope, terrace, etc.): dugout | Local relief (concave, convex, none): concave | Slope (%): 0-3

Subregion (LRR): F | Lat: 47.277244 | Long: -101.890041 | Datum: NAD83

Soil Map Unit Name: 38E - Zahl loam, 15-35% slopes | NWI classification: ----

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☒, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐		
Hydric Soil Present?	Yes ☒	No ☐		
Wetland Hydrology Present?	Yes ☒	No ☐	**Is the Sampling Area within a Wetland?**	**Yes ☒ No ☐**

Remarks:

Dugout. Wetland is dugout created by dam dike. Soils were disturbed due to being dug out for creation of stockdam for water for their cattle. Hydric soil conditions have persisted since creation of dugout.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size: **30 ft radius**)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot Size: **5 ft radius**)			
1. **Typha latifolia**	40	Y	OBL
2. **Echinochloa crus-galli**	10	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50	= Total Cover	
Woody Vine Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum **50**

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100** (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 – Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

hydrophytic vegetation.

SOIL

Sampling Point: 1-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 2/2	80	10YR 5/6	20	C	M	CL	
7-15	10YR 2/2	95	7.5YR 4/4	5	C	PL	CL	

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F, G, H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 CM Mucky Peat or Peat (S2)(LRR G, H)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coast Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☒ No ☐

Remarks:

hydric soils. Dugout with a berm was created to hold water for livestock.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where not tilled)
- ☒ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):
Water Table Present?	Yes	☐	No	☒	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

hydrology present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Zap Pipeline | City/County: Mercer Co. | Sampling Date: 9/19/2012

Applicant/Owner: Electrical Consultants Inc. | State: ND | Sampling Point: 2-U

Investigator(s): Dan Ackerman (Wenck) and Larry Edland (ESC) | Section, Township, Range: 19-144N-88W

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): convex | Slope (%): 6-9

Subregion (LRR): F | Lat: 47.270879 | Long: -101.889828 | Datum: NAD83

Soil Map Unit Name: 38E - Zahl loam, 15-35% slopes | NWI classification: -----

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☐	No ☒	
Hydric Soil Present?	Yes ☐	No ☒	
Wetland Hydrology Present?	Yes ☐	No ☒	**Is the Sampling Area within a Wetland?** Yes ☐ No ☒

Remarks:

Upland.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size: **30 ft radius**)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot Size: **15 ft radius**)			
1. **Symphoricarpos albus**	20	Y	UPL
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot Size: **5 ft radius**)			
1. **Poa pratensis**	40	Y	FACU
2. **Bromus inermis**	20	Y	UPL
3. **Cirsium arvense**	10	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70	= Total Cover	
Woody Vine Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum **10**

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **0** (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 – Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 – Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks:

non-hydrophytic vegetation.

SOIL

Sampling Point: 2-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	99					SiCL	
4-12	10YR 4/2	85					SiCL	
	10YR 3/2	15						

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F, G, H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 CM Mucky Peat or Peat (S2)(LRR G, H)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coast Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☐ No ☒

Remarks:

non-hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):
Water Table Present?	Yes	☐	No	☒	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

no hydrology present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Zap Pipeline | City/County: Mercer Co. | Sampling Date: 9/19/2012

Applicant/Owner: Electrical Consultants Inc. | State: ND | Sampling Point: 2-W

Investigator(s): Dan Ackerman (Wenck) and Larry Edland (ESC) | Section, Township, Range: 19-144N-88W

Landform (hillslope, terrace, etc.): Channel | Local relief (concave, convex, none): concave | Slope (%): 0-3

Subregion (LRR): F | Lat: 47.270905 | Long: -101.889759 | Datum: NAD83

Soil Map Unit Name: 38E - Zahl loam, 15-35% slopes | NWI classification: -----

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐		
Hydric Soil Present?	Yes ☒	No ☐		
Wetland Hydrology Present?	Yes ☒	No ☐	**Is the Sampling Area within a Wetland?**	**Yes ☒ No ☐**

Remarks:

No culvert on west end of wetland. Wetland continues to the south and east out of the project boundary.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size: **30 ft radius**)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Herb Stratum (Plot Size: **5 ft radius**)			
1. **Spartina pectinata**	40	Y	FACW
2. **Echinochloa crus-galli**	20	Y	FAC
3. **Rumex crispus**	10	N	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70	= Total Cover	

Woody Vine Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 30

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 – Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ____ 3 – Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

hydrophytic vegetation.

SOIL

Sampling Point: 2-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/2	90	7.5YR 4/4	10	C	PL	Loam	
7-13	10YR 3/3	80						
	10YR 3/2	20						

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F, G, H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 CM Mucky Peat or Peat (S2)(LRR G, H)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coast Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☒ No ☐

Remarks:

hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where not tilled)
- ☒ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):
Water Table Present?	Yes	☐	No	☒	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

hydrology present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Zap Pipeline City/County: Mercer Co. Sampling Date: 9/19/2012

Applicant/Owner: Electrical Consultants Inc. State: ND Sampling Point: 3-U

Investigator(s): Dan Ackerman (Wenck) and Larry Edland (ESC) Section, Township, Range: 19-144N-88W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 3-6

Subregion (LRR): F Lat: 47.270502 Long: -101.890867 Datum: NAD83

Soil Map Unit Name: 38E - Zahl loam, 15-35% slopes NWI classification: ----

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☐	No ☒		
Hydric Soil Present?	Yes ☐	No ☒		
Wetland Hydrology Present?	Yes ☐	No ☒	**Is the Sampling Area within a Wetland?**	**Yes ☐ No ☒**

Remarks:

Upland.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size: **30 ft radius**)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot Size: **5 ft radius**)			
1. **Poa pratensis**	60	Y	FACU
2. **Bromus inermis**	30	Y	UPL
3. **Grindelia squarrosa**	10	N	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	

Woody Vine Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 – Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 – Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks:

non-hydrophytic vegetation.

SOIL

Sampling Point: 3-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	99					SiCL	
4-12	10YR 4/2	85					SiCL	
	10YR 3/2	15						

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F, G, H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 CM Mucky Peat or Peat (S2)(LRR G, H)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coast Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☐ No ☒

Remarks:

non-hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):
Water Table Present?	Yes	☐	No	☒	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

no hydrology present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Zap Pipeline City/County: Mercer Co. Sampling Date: 9/19/2012

Applicant/Owner: Electrical Consultants Inc. State: ND Sampling Point: 3-W

Investigator(s): Dan Ackerman (Wenck) and Larry Edland (ESC) Section, Township, Range: 19-144N-88W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0-3

Subregion (LRR): F Lat: 47.270772 Long: -101.891022 Datum: NAD83

Soil Map Unit Name: 38E - Zahl loam, 15-35% slopes NWI classification: PABFH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☒, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	☒	No	☐	
Hydric Soil Present?	Yes	☒	No	☐	
Wetland Hydrology Present?	Yes	☒	No	☐	**Is the Sampling Area within a Wetland? Yes ☒ No ☐**

Remarks:

Depression created by road dike on the east and a berm on the western end. Hydric soils show prior disturbance as soil had been dug out to build road embankment. Hydric soils have persisted since dugout was created.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size: **30 ft radius**)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot Size: **5 ft radius**)			
1. **Hordeum jubatum**	25	Y	FACW
2. **Echinochloa crus-galli**	15	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40	= Total Cover	
Woody Vine Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum **60**

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100** (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 – Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

hydrophytic vegetation.

SOIL

Sampling Point: 3-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	85	10YR 4/4	15	C	M	Loam	
6-9	10YR 3/1	70	10YR 4/4	10	C	M	CL	
	10YR 3/2	20						
9-15	10YR 2/1	90	7.5YR 4/6	5	C	PL	CL	
			Gley 5/1	2	D	PL		

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F, G, H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 CM Mucky Peat or Peat (S2)(LRR G, H)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coast Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☒ No ☐

Remarks:

hydric soils. Soil investigation showed the soils had been disturbed due to excavation to build the road embankment on the east and the berm on the west end of the wetland. Soils have also been disturbed and mixed as cattle have been walking through the wetland edge mixing and mashing the soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☒	No	☐	Depth (inches):	0-10 in.
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	below 6 in.

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

hydrology present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Zap Pipeline | City/County: Mercer Co. | Sampling Date: 9/19/2012

Applicant/Owner: Electrical Consultants Inc. | State: ND | Sampling Point: 4-U

Investigator(s): Dan Ackerman (Wenck) and Larry Edland (ESC) | Section, Township, Range: 24-144N-89W

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): convex | Slope (%): 6-9

Subregion (LRR): F | Lat: 47.270259 | Long: -101.891946 | Datum: NAD83

Soil Map Unit Name: 38E - Zahl loam, 15-35% slopes | NWI classification: -----

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☐	No ☒		
Hydric Soil Present?	Yes ☐	No ☒		
Wetland Hydrology Present?	Yes ☐	No ☒	**Is the Sampling Area within a Wetland?**	**Yes ☐ No ☒**

Remarks:

Upland.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size: **30 ft radius**)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot Size: **5 ft radius**)			
1. **Poa pratensis**	40	Y	FACU
2. **Pascopyrum smithii**	20	Y	FACU
3. **Stipa cf. spartea**	15	N	UPL
4. **Solidago missouriensis**	10	N	UPL
5.			
6.			
7.			
8.			
9.			
10.			
	85	= Total Cover	
Woody Vine Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum **15**

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **0** (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 – Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 – Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks:

non-hydrophytic vegetation.

SOIL

Sampling Point: 4-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	99					Loam	
4-8	10YR 4/2	99					Loam	
8-14	2.5Y 4/2	50					Loam	
	2.5Y 4/3	45						
	2.5Y 7/2	5						

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F, G, H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 CM Mucky Peat or Peat (S2)(LRR G, H)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coast Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☐ No ☒

Remarks:

non-hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):
Water Table Present?	Yes	☐	No	☒	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

no hydrology present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Zap Pipeline | City/County: Mercer Co. | Sampling Date: 9/19/2012

Applicant/Owner: Electrical Consultants Inc. | State: ND | Sampling Point: 4-W

Investigator(s): Dan Ackerman (Wenck) and Larry Edland (ESC) | Section, Township, Range: 24-144N-89W

Landform (hillslope, terrace, etc.): Channel | Local relief (concave, convex, none): concave | Slope (%): 0-3

Subregion (LRR): F | Lat: 47.270405 | Long: -101.891736 | Datum: NAD83

Soil Map Unit Name: 38E - Zahl loam, 15-35% slopes | NWI classification: PUBFx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☒, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	☒	No	☐	
Hydric Soil Present?	Yes	☒	No	☐	
Wetland Hydrology Present?	Yes	☒	No	☐	**Is the Sampling Area within a Wetland?** Yes ☒ No ☐

Remarks:

Depression created by berm on east end. Soils have been disturbed as they were dug out to build embankments, though since creation, hydric conditions have persisted.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size: **30 ft radius**)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot Size: **5 ft radius**)			
1. **Hordeum jubatum**	30	Y	FACW
2. **Rumex crispus**	20	Y	FAC
3. **Artemisia biennis**	15	Y	FACU
4. **Eleocharis cf. palustris**	15	Y	OBL
5. **Persicaria amphibia**	10	N	OBL
6. **Echinochloa crus-galli**	10	N	FAC
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum **0**

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75** (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 – Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

hydrophytic vegetation.

SOIL

Sampling Point: 4-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	70	10YR 4/4	5	C	M	CL	
	10YR 4/2	25						
4-10	2.5Y 4/2	55	10YR 4/4	15	C	PL	CL	
	Gley 3/1	30						
10-16	2.5Y 4/2	50	Gley 4/1	2	D	PL	CL	
	2.5Y 3/1	30	10YR 4/6	15	C	M		

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F, G, H)
- ☒ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 CM Mucky Peat or Peat (S2)(LRR G, H)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coast Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☒ No ☐

Remarks:

hydric soils. Soils have been disturbed as they were dug out to build embankments, though since creation, hydric conditions have persisted.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☒	No	☐	Depth (inches):	0-10 in.
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	below 6 in.

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

hydrology present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Zap Pipeline | City/County: Mercer Co. | Sampling Date: 9/19/2012

Applicant/Owner: Electrical Consultants Inc. | State: ND | Sampling Point: 5-U

Investigator(s): Dan Ackerman (Wenck) and Larry Edland (ESC) | Section, Township, Range: 35-144N-89W

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): convex | Slope (%): 0-3

Subregion (LRR): F | Lat: 47.255645 | Long: -101.912946 | Datum: NAD83

Soil Map Unit Name: 74B - Regent-Dogtooth complex, 0-6% slopes | NWI classification: -----

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☐	No ☒		
Hydric Soil Present?	Yes ☐	No ☒		
Wetland Hydrology Present?	Yes ☐	No ☒	**Is the Sampling Area within a Wetland?**	**Yes ☐ No ☒**

Remarks:

Upland.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size: **30 ft radius**)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot Size: **5 ft radius**)			
1. **Poa pratensis**	30	Y	FACU
2. **Bromus inermis**	20	Y	UPL
3. **Agropyron cristatum**	20	Y	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70	= Total Cover	
Woody Vine Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum **25**

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **0** (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 – Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 – Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks:

non-hydrophytic vegetation.

SOIL

Sampling Point: 5-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	99					Loam	
6-13	10YR 2/2	60					Loam	
	10YR 3/2	40						
13-17	10YR 4/2	99					Loam	

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F, G, H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 CM Mucky Peat or Peat (S2)(LRR G, H)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coast Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☐ No ☒

Remarks:

non-hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):
Water Table Present?	Yes	☐	No	☒	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

no hydrology present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Zap Pipeline | City/County: Mercer Co. | Sampling Date: 9/19/2012

Applicant/Owner: Electrical Consultants Inc. | State: ND | Sampling Point: 5-W

Investigator(s): Dan Ackerman (Wenck) and Larry Edland (ESC) | Section, Township, Range: 35-144N-89W

Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none): concave | Slope (%): 0-3

Subregion (LRR): F | Lat: 47.255495 | Long: -101.913086 | Datum: NAD83

Soil Map Unit Name: 74B - Regent-Daglum complex, 0-6% slopes | NWI classification: PEMA/PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☒, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐		
Hydric Soil Present?	Yes ☒	No ☐		
Wetland Hydrology Present?	Yes ☒	No ☐	**Is the Sampling Area within a Wetland?**	**Yes ☒ No ☐**

Remarks:

Wetland in dugout created by berm on east end. Soils have been disturbed as they were dug out to build embankments, though since creation, hydric conditions have persisted.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size: **30 ft radius**)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot Size: **5 ft radius**)			
1. **Spartina pectinata**	50	Y	FACW
2. **Ambrosia artemisifolia**	10	N	FACU
3. **Lycopus asper**	10	N	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70	= Total Cover	
Woody Vine Stratum (Plot Size: **15 ft radius**)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 30

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species		x5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

X 1 – Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 – Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

hydrophytic vegetation.

SOIL

Sampling Point: 5-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2	90	10YR 5/6	10	C	PL	CL	
4-9	10YR 2/2	95	10YR 4/4	5	C	M	Clay	
9-13	10YR 3/2	99					Clay	

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F, G, H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 CM Mucky Peat or Peat (S2)(LRR G, H)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coast Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☒ No ☐

Remarks:

hydric soils. Soils have been disturbed as they were dug out to build embankments, though since creation, hydric conditions have persisted.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where not tilled)
- ☒ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):
Water Table Present?	Yes	☐	No	☒	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):

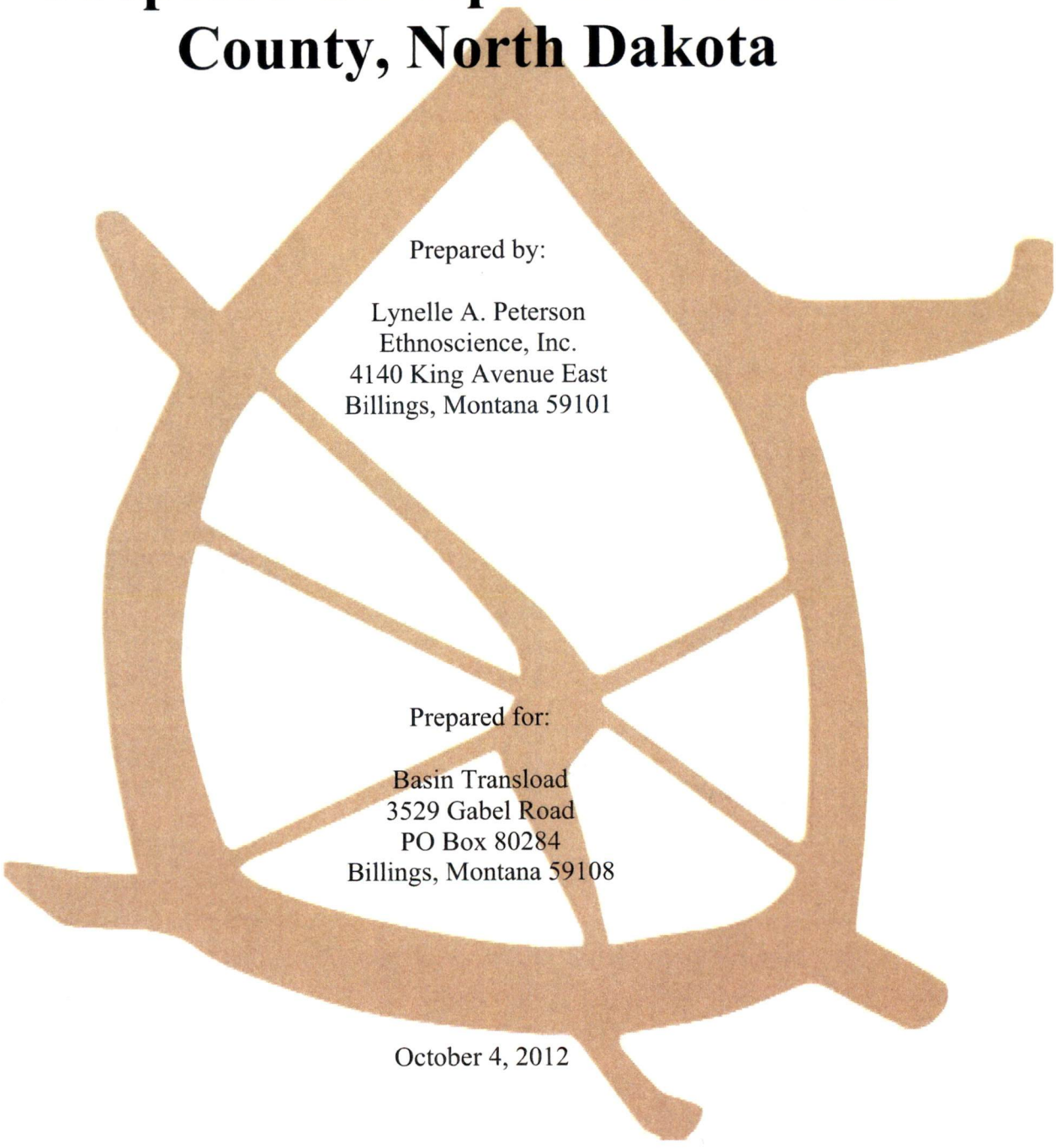
Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

hydrology present.

Basin Transload: A Class III Cultural Resource Inventory of a Proposed Oil Pipeline in Mercer County, North Dakota



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1.0 INTRODUCTION

Basin Transload is proposing to construct an 8" diameter crude oil pipeline within Mercer County, North Dakota. The project area is southeast of Zap, North Dakota within Sections 19 and 30 of 144N R88W, Sections 24, 25, 26, 35 and 36 of T144N R89 W and Section 1 of T143N R89W (Figure 1). Construction activities associated with the pipeline will typically impact an area less than 100 ft wide along its entire four-mile length, and will extend a minimum of 4.0 feet in depth. These activities have the potential to disturb cultural deposits located within the construction corridor. The lead agency with oversight on this project is the North Dakota Public Service Commission (PSC). As part of the permitting process, the PSC is required to take into consideration what impact, if any, this undertaking will have on significant cultural resources. Basin Transload contracted Ethnoscience Incorporated to conduct the necessary cultural resource investigations

2.0 SETTING

The cultural setting of the project area is associated with the Knife River Study Unit. The cultural setting has been adequately described in the *North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component* (State Historical Society North Dakota [SHSND] 2008) and is not reiterated in this report.

The project area occurs in uplands dissected by small steams that drain into named creeks. The primary drainage near the project area is Spring Creek, north of the project area. Approximately 70 percent of the project area is previously disturbed. The topographic maps indicate mining was an important activity; however, the aerial photographs show the project right-of-ways occur in areas that have been reclaimed and no longer convey their historic use. Currently, the majority of the disturbance is associated with cultivation (Figure 2 and Figure 3). Ground surface visibility ranged between 5-25 percent.

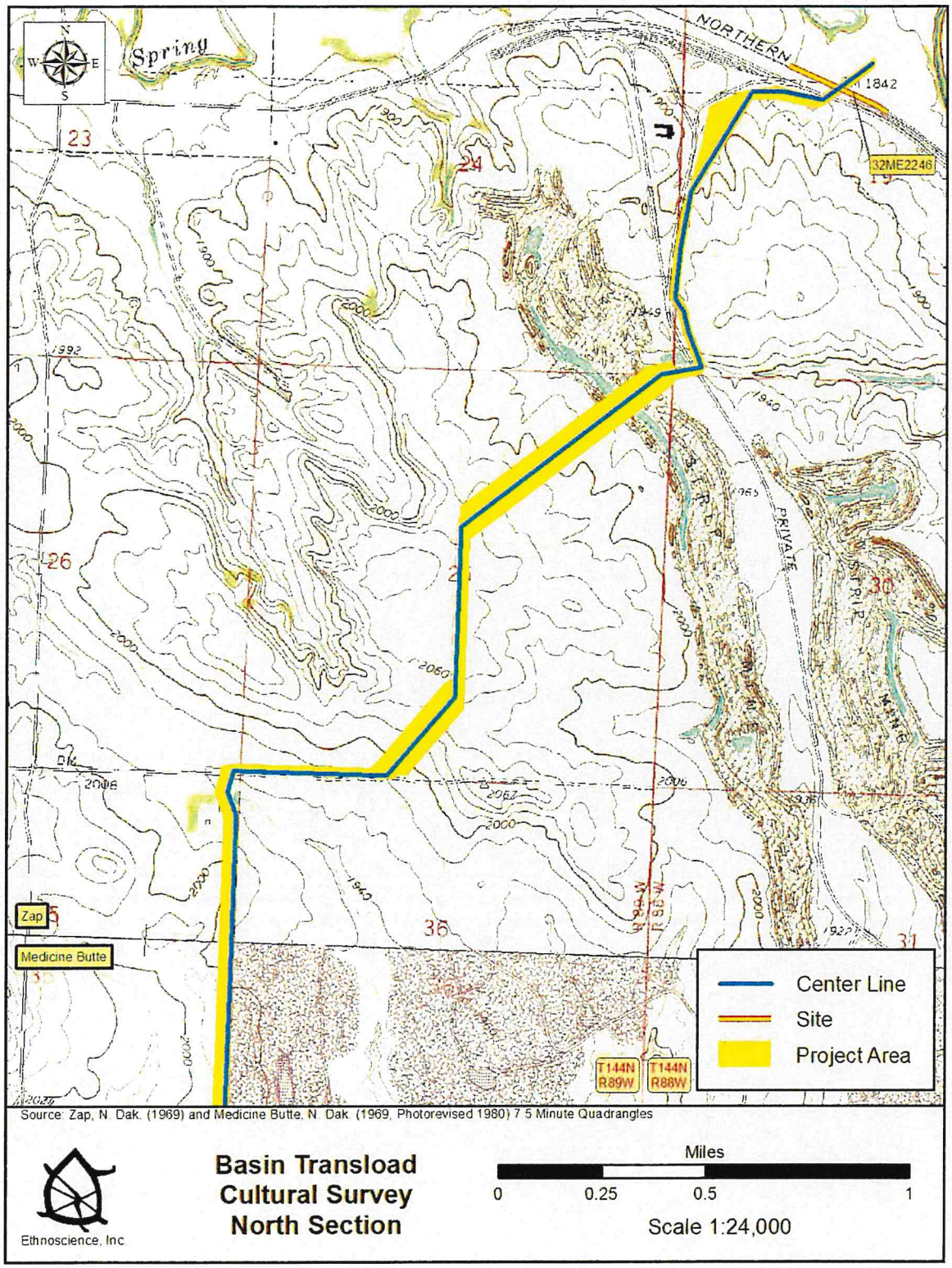

Figure 1. Topographic map of project area.

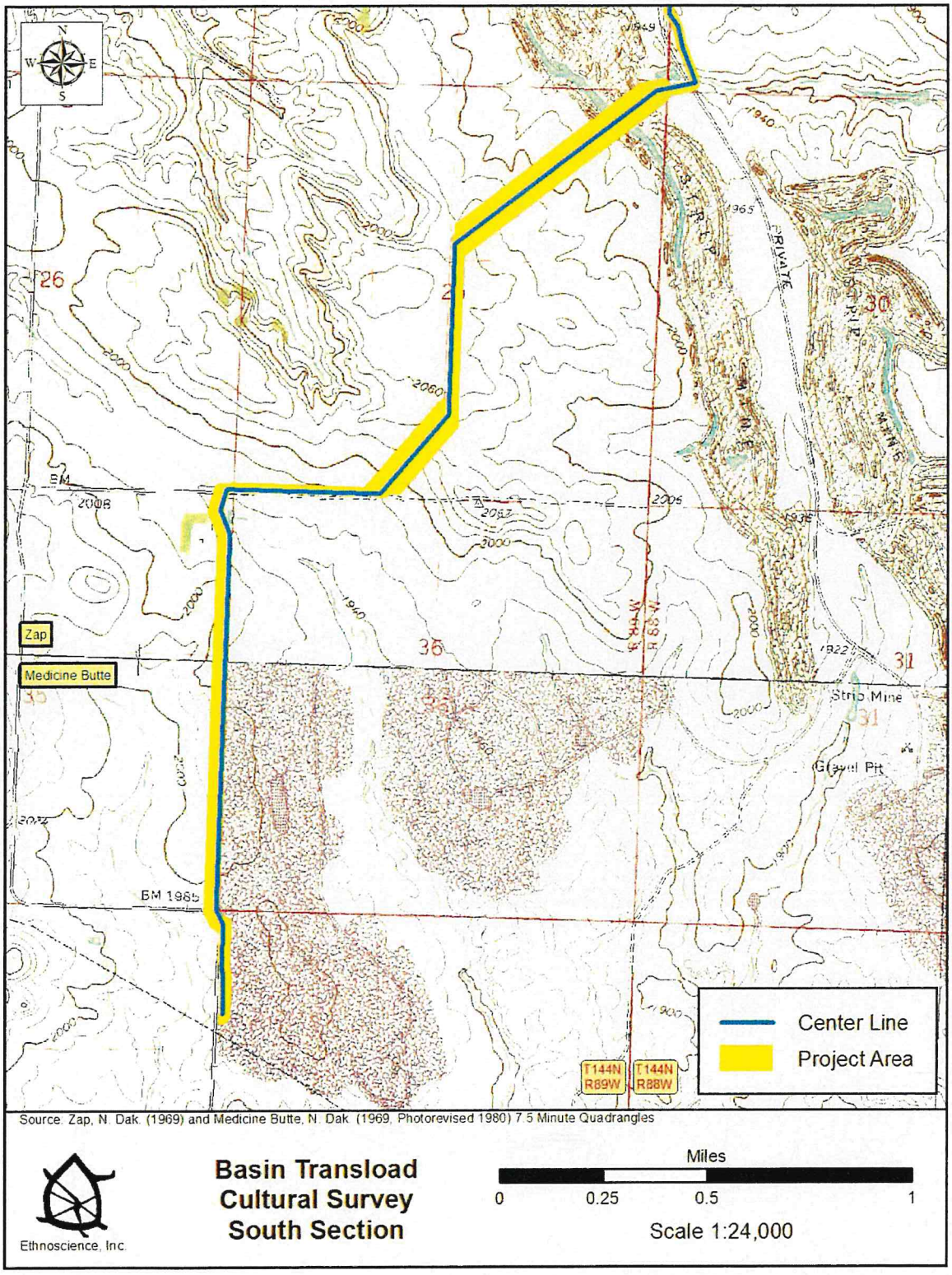

Figure 1. Topographic map of project area (continued and completed).

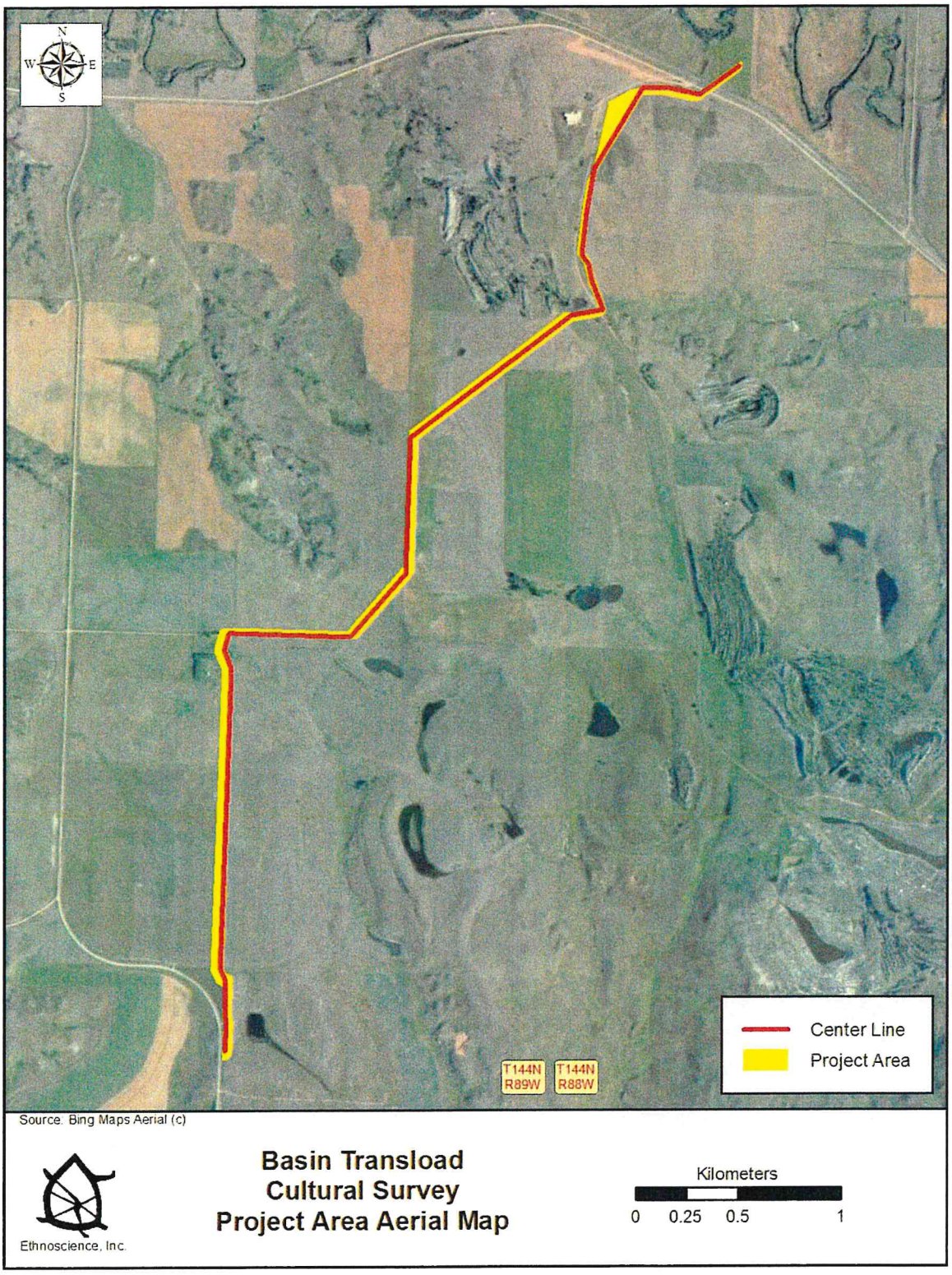

Figure 2. Aerial photograph showing the physical setting of the project area.

Figure 3. Photograph showing a hay field in an area where strip mining once occurred

Game animals that would have been found in the area prior to cultivation and fencing include bison, elk, mule deer, whitetail deer and pronghorn antelope. Moose and caribou may also have been present at certain times. Plant resources available to prehistoric groups include acorns from bur oak trees and berries from chokecherry, juneberry, and buffaloberry shrubs. The preferred lithic materials appear to be Knife River flint and Swan River chert. To a lesser extent, petrified wood, chert, moss agate, and jasper were used. Granite cobbles were also used for manufacturing heavy stone tools (SHSND 2008).

3.0 FILES SEARCH

Ethnoscience contracted Amy Sakariassen to perform a files search at the North Dakota State Historical Society (Appendix A). The results of the files search identified seven previous cultural resource investigations conducted in sections crossed by the present project area (Table 1). The majority of the projects are either associated with mining activities or the southwest water pipeline. The project area crosses over 32ME2246 (Northern Pacific Railroad) and the site lead (32MEX455) for Zap Colliery mine (Figure 4, Table 2).

4.0 FIELD METHODS

Patrick Kuntz of Ethnoscience conducted the inventory on September 20-21, 2012. The inventory consisted of a two pedestrian transect within the defined project right-of-way, which ranged from 120 ft to 200 ft wide. At all locations, areas of greater visibility such as ruts, rodent backfill piles and cattle trails were examined closely for the presence of small cultural items such as flaking debris or pottery. No shovel probes were placed within the project area.

Table 1. List of projects that occur near the project area

Author	Project Title	MS No.
Dill, C. L 1976	1976 Archeological and Historic Site Survey of North American Coal Corporation's Indianhead Mine, Limited and Extended Mining Plan Areas, Mercer County, ND. State Historical Society of North Dakota. Bismarck, ND	30
Dill, C. L 1978	1977 Cultural Resources Inventory: Antelope Valley Station/A.N.G.C.G.C. Gasification Plan Site, Associated Mining Areas and Ancillary Facilities. State Historical Society of North Dakota. Bismarck, ND	225
Good, K. N. 1982	32ME502: Indian Head Mining Camp Phase II, Task I, Tipple Expansion Project, Indian Had, Mercer County ND. HASI for Indian Head Mine, Zap, ND	3191

Author	Project Title	MS No.
Good, K. N. 1979	Archaeological and Historical Survey: Proposed Haul Road and Watershed Project Indian Head Mine. HASI; Grand Forks ND	925
HASI 1981	Cultural Resource Inventory Report for the Indian Head Mine Tipple Expansion Project, Mercer, County ND. HASI for Indian Head Mine, Zap, ND	2989
Jackson, C., D. L. Toom and C. Kordecki 2006	Beulah Interim Service Area, Southwest Pipeline Project, Class I and Class III Cultural Resources Inventories in Portions of Mercer County, ND. UNDAR-WEST Research Station for Bartlett and West Engineers, Inc. Belfield, ND.	11944
Jackson, M. A., D. L. Toom, and M.J. Lonski 2011	Zap Service Area Phase 1 Rural Distribution Lines: 2010 Class III Cultural Resource Inventory Southwest Water Pipeline Project Mercer and Oliver Counties, ND. University of North Dakota for SWPP.	12254
Metcalf, M., M. McFaul, J, Hall and D. Hiemstra 2009	Knife River Flint Predictive Model: Resource Distribution and Land Use Through Time in Dunn and Mercer Counties, North Dakota. Metcalf and Associates for NDDOT, Bismarck, ND.	13319
Morrison, J. 2000	Mercer County Road #13: A Class III Cultural Resource Inventory, Mercer County, ND. Prepared for NDDOT, Bismarck, ND	7811
O Donnchadha, B. 2009	Five Stock Dams: A Class III Cultural Resource Inventory Mercer County, ND Prepared by Kadrmas, Lee and Jackson, Inc. Bismarck, ND	11277
O'Brien, L.L. 1989	Test Excavation of the Ted Reich Farm Site – 32ME157. University of North Dakota, Grand Forks, ND	301
Rippentau, B. 1980	Archaeological Survey for Mercer County, CRS291 (53) County Road Improvement. Prepared for NDDOT, Bismarck ND	2993
Rippentau, B. 1980	Addendum for the CRS2913 (53) County Road Improvement. Prepared for NDDOT, Bismarck ND	2297
Shaw, T., and L Loendorf 1987	Cultural Resources Inventory Report [UNDAR-WEST#1019] Beulah to Zap Mercer County Road Improvement Inventory Results. UNDAR-WEST for Mercer County, Belfield, ND	4398
Spunk, L. and K.N. Good 1981	Cultural Resource Investigation: Indian Head Mine- tipple Expansion (Zap Colliery Mine Camp Site - 32ME502). HASI for Indian Head Mine, Zap, ND	2581

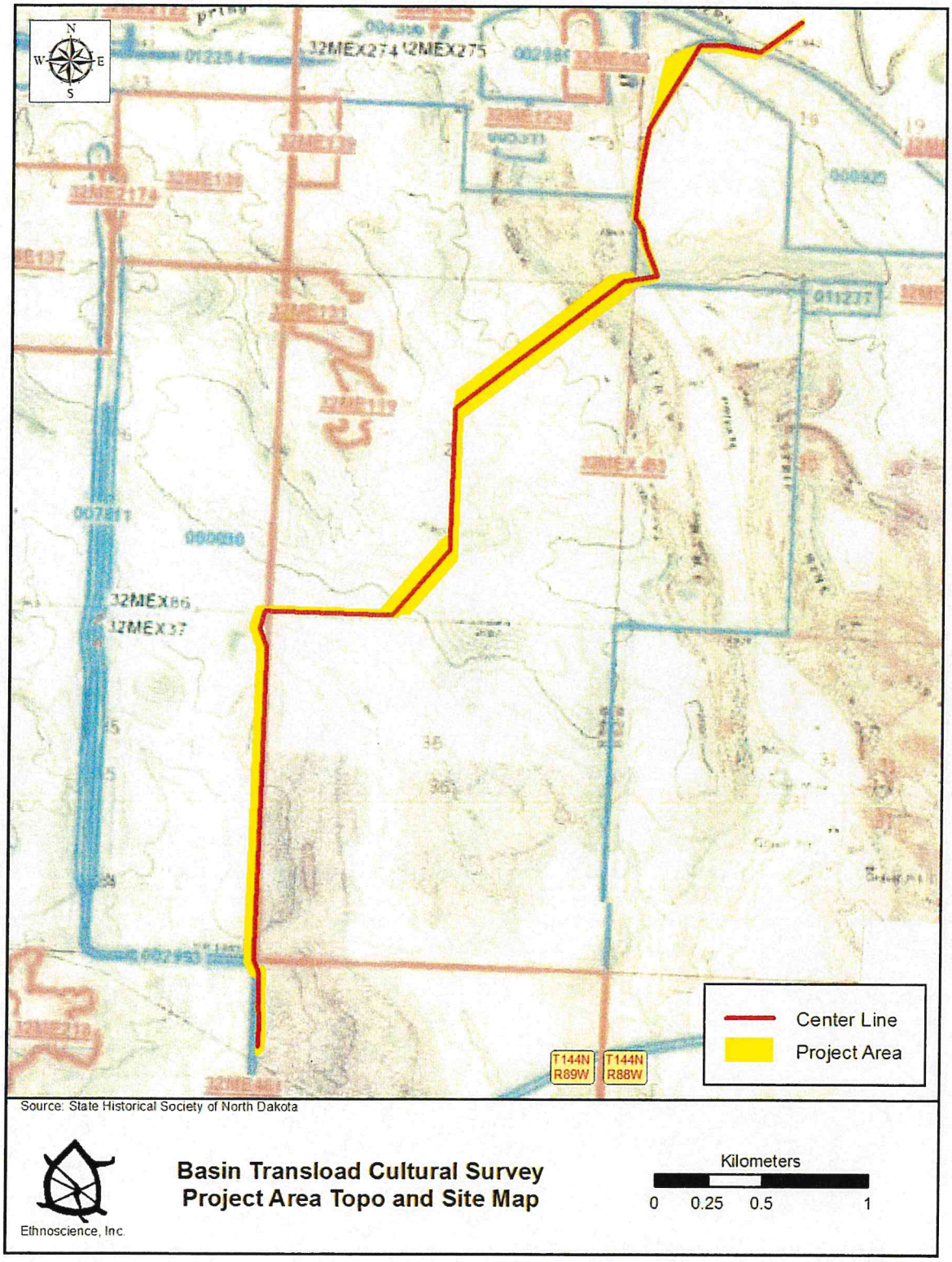

Figure 4. Overlay of project area onto files search map

Table 2. Sites located in or near the project area

Site No.	Township (N)	Range (W)	Section	Site Type	Comments
32ME0119	144	89	25	Stone Feature	3 rings, 1 cairn
32ME0121	144	89	35	Stone Feature	Cairn alignment
32ME0131	144	89	25	Mine	Dschaak Coal Mine
32ME0137	144	89	23, 26	Mine	
32ME0139	144	89	24	Mine	Gunderson Coal Mine
32ME0157	144	88	19, 20	Farmstead	Reich Farmstead
32ME0217	143	89	2	Bone deposit	Non cultural bone deposit
32ME0218	144	89	2	Lithic Scatter	
32ME0222	144	89	24	Bridges	
32ME0461	144	89	2	Lithic Scatter	3 flakes (Isolate?)
32ME0502	144	89	24	Mine	Indian Head Mine
32ME0854	144	89	24	Lithic Scatter	Knife River flint debris
32ME0855	144	89	24	Historic Cultural Material	Historic depressions and trash
32ME1292	144	89	24	Historic Cultural Material	Modern
32ME2222	144	89	24	Bridge	BNSF
32ME2246	144	88	Multiple	Railroad	Northern Pacific
32MEX026	143	89	2	Possible kill site	Bone and one biface
32MEX037	144	89	35	Isolate	Chipped stone
32MEX086	144	89	35	Isolate	Chipped stone
32MEX274	144	89	24	Isolate	Chipped Stone
32MEX275	144	89	24	Isolate	Chipped Stone
32MEX455	144	89	Multiple	Mine	Zap Colliery /Dakota Collieries
32MEX636	144	88	19	Isolate	Chipped stone

5.0 RESULTS AND RECOMENDATIONS

The inventory examined 4.05 miles (518 acres). Although ground surface visibility was relatively low (5-25 percent), animal burrows and cattle trails provided greater visibility in some locations. The investigation observed one previously recorded site, 24ME2246 (see Figure 1). The site lead to a strip mine in the project area (32MEX455) is reclaimed and does not exist within the project area.

Within the project area, site 32ME2246 consists of a railroad grade and rails of the Northern Pacific Railroad. The State Historical Society of North Dakota provides a

context for railroads in the state (http://history.nd.gov/hp/historiccontexts.html). The only structure in the project area is the ballast and rails. The environment has changed significantly through time. When the railroad was first constructed, the landscape was a frontier/rural landscape. Strip mining subsequently altered the landscape to the south of the project area. The segment of the railroad located in the project area is not recommended as a contributing element of the site. Ethnoscience recommends a finding of ***No Historic Properties Affected*** for the proposed project as inventoried within the defined right-of-way.

6.0 REFERENCES

Railroad Historic Context for North Dakota

2012 Electronic document. Accessed at: (http://history.nd.gov/hp/historiccontexts.html)

State Historical Society North Dakota (SHSND)

2008 *North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component.* Bismarck.