Environmental Assessment

Prepared for:
United States Bureau of Indian Affairs

Great Plains Regional Office
Aberdeen, South Dakota

Saddle Butte Pipeline, LLC

Burr-Voigt Connection

Fort Berthold Indian Reservation

September 2009

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Finding of No Significant Impact

Saddle Butte Pipeline, LLC
Burr-Voigt Connection

Fort Berthold Indian Reservation, North Dakota

The U.S. Bureau of Indian Affairs (BIA) has received a proposal for three 2.31-mile pipelines; natural gas, crude oil, produced water and electrical utility lines on the Fort Berthold Indian Reservation to be located in Sections 13–16 and 21–24 of Township 148 North, Range 94 West. Associated federal actions by the BIA include determinations of effect regarding cultural resources and approval of rights-of-way and easements.

Potential of the proposed action to impact the human environment was analyzed in the attached Environmental Assessment (EA), as required by the National Environmental Policy Act. Based on the recently completed EA, I have determined the proposed project will not significantly affect the quality of the human environment. No Environmental Impact Statement is required for any portion of the proposed activities.

This determination is based on the following factors:

1. Protective and prudent measures were designed to minimize impacts to air, water, soil, vegetation, wetlands, wildlife, public safety, water resources, and cultural resources. The remaining potential for impacts was disclosed for both the proposed action and the No Action alternative.

2. The proposed actions are designed to avoid adverse effects to historic, archeological, cultural and traditional properties, sites and practices. The Tribal Historic Preservation Officer has concurred with BIA's determination that no historic properties will be affected.

3. Environmental justice was fully considered.

4. Cumulative effects to the environment are either mitigated or minimal.

5. No regulatory requirements have been waived or require compensatory mitigation measures.

6. The proposed projects will improve the socio-economic condition of the affected Indian community.

Regional Director

9/15/09
Date

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1. Purpose and Need for the Proposed Action

Saddle Butte Pipeline, LLC (SBP) is proposing to construct 2.31 miles of natural gas, crude oil, and produced water pipelines plus electrical utility lines on the Fort Berthold Indian Reservation. One gas pipeline is proposed for temporary connection of one oil and gas well, until remaining long-term pipelines and utilities are in place within the same right-of-way (ROW), to transport all oil, gas and water to processing and disposal locations. These pipelines are proposed to connect the Burr #16-44 to a small wellhead processing unit (WHP) under construction on fee simple property at the Voigt #24-11 well pad. Future phases of the project may include installation of electrical transmission lines to accommodate power generation at the Voigt WHP should electrical infrastructure become available in the area to produce generated power from excess residual gas.

Development has been proposed in tribal land held in trust by the United States in Dunn County, North Dakota. The U.S Bureau of Indian Affairs (BIA) is the surface management agency for potentially affected tribal lands and individual allotments. The proposed project would cross and utilize lands owned in fee simple title. As shown in **Figure 1, Project Location Map,** under this proposal SBP would connect one existing well in Section 16 of Township 148N, Range 94W, to a WHP for three existing wells on fee lands in Section 24 of Township 148N, Range 94W.

The economic development of available resources and associated BIA actions are consistent with BIA's general mission. Leasing and development of mineral resources offer substantial economic benefits to the Three Affiliated Tribes, to individual tribal members and fee land owners. SBP is proposing these pipelines and power line to reduce waste of valuable resources associated with continued flaring of produced natural gas and to reduce environmental and public health and safety concerns. The BIA must comply with the National Environmental Policy Act (NEPA) before it authorizes the proposed project. Therefore, an Environmental Assessment (EA) for the proposed action is necessary to analyze the direct, indirect, and cumulative impacts of the BIA's approval of the proposed project.

Oil and gas activities on Indian lands are subject to a variety of federal environmental regulations and policies under authority of the BIA and Bureau of Land Management (BLM). This inspection and enforcement authority derives from the United States trust obligations to the Tribes, the *Indian Mineral Leasing Act* of 1938, the *Indian Mineral Development Act* of 1982, and the *Federal Oil and Gas Royalty Management Act* of 1982. No construction or other ground-disturbing activities will begin until all necessary easements, surveys, clearances, permissions, determinations and permits are in place. Additional NEPA analysis, findings and federal actions will be required prior to development beyond what is described and analyzed in this EA.

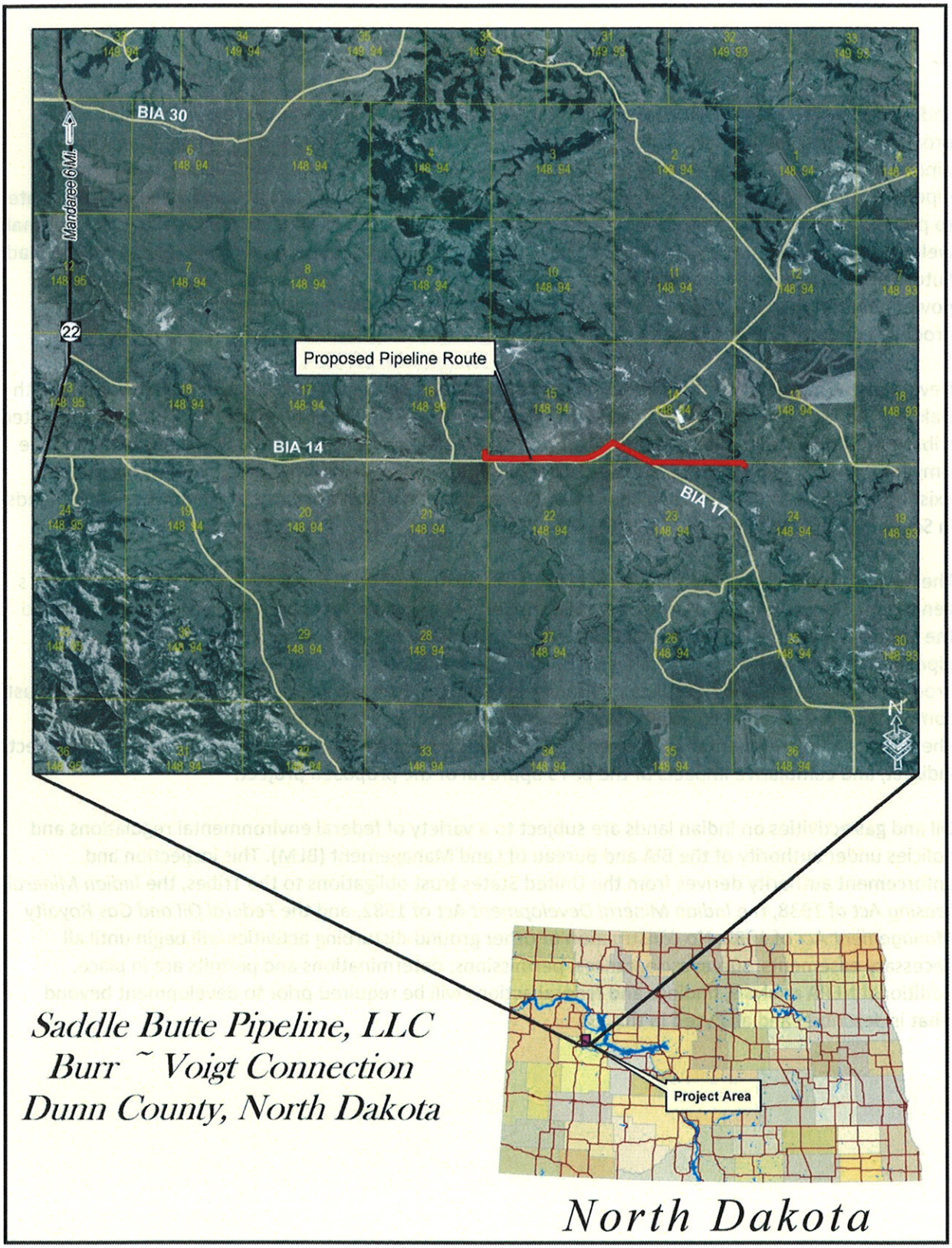

Figure 1: Project Location Map

2. Proposed Action and Alternatives

The **No Action alternative** must be considered with an EA. If this alternative is selected, BIA would not approve the proposed ROW acquisition and construction of the proposed pipelines. Current flaring of gas would continue at the Burr #16-44 well pad as it has in the past, with greater environmental impact (air emissions) than if the heavy hydrocarbons are recovered. Valuable natural resources would continue to be lost through flaring rather than being brought to market, and corresponding royalty payments would be lost.

Other alternatives to flaring include installing a cross country pipeline and gathering system to move produced gas and liquids to a suitable processing location. This alternative is very expensive, will take a long period of time to complete, and would need to be done in phases due to the complexity of a workable system and distance to a suitable processing facility. The proposed action may be incorporated into the trunk lines of a possible future cross country gathering pipeline system when enough wells are available to make a larger system practical and economic. The benefit of a cross country gathering pipeline system is that all the gas and liquids would be moved to a processing facility compared to the proposed action which would allow recovery of only the heavier hydrocarbon liquids (propane, butane, and natural gasoline).

2.1 System Design and Relation to Other Pipelines

The proposed project would consist of three separate 2.31-mile pipelines and one electrical transmission line within a 100-foot corridor. The pipelines proposed are one 16-inch nominal diameter or smaller natural gas pipeline, one 12-inch diameter or smaller crude oil pipeline, and one 8-inch nominal diameter or smaller produced water pipeline. These pipelines would connect one well, the Burr #16-44, into the WHP located at the Voigt #24-11H-A well pad. The Burr #16-44 well pad is located on Tract 1126A in Section 16 of Township 148N, Range 94W. The Voigt #24-11H-A well pad is located in Section 24 of Township 148N, Range 93W.

The proposed project would be constructed in phases, with the first phase consisting of the installation of a natural gas pipeline. As future plans develop, and if this section of pipeline becomes part of a gathering trunk line, the crude oil and produced water pipelines would be installed within the same corridor to provide permanent transport of oil, gas and produced water from the well site. When the electrical transmission line is warranted in the future, it would also be constructed within the same corridor to provide power for the wells and compressor stations.

Other future wells, up to an estimated four or more depending on production rates, may be incorporated into the pipeline by connecting to the WHP through the proposed pipelines. These future well connections are beyond the scope of this EA.

The proposed gas pipeline would initially be operated at low pressure (no more than 80 psig) and would be designed to handle a minimum of 600 MCF/day. The initial connection on this pipeline is from the Burr #16-44 to the WHP located approximately 2.31 miles to the west at Voigt #24-11H-A. This line is expected to move less than 200 MCFD at low pressure until such time as it may be connected to other local wells or used as a gathering trunk line under low or high pressure. Service for this pipeline would not require any upstream compression.

The crude oil pipeline would be 12 inches or less nominal diameter. This pipeline would be designed for over 1,000 psig maximum allowable working pressure (MAOP). The produced water pipeline would be 8 inches nominal diameter or less. The final determined size of these pipelines is dependent on the future extent of development upstream of this section of pipeline. In addition, the future water line may be installed first to be used to transport gas until the gas pipeline is in place. Electrical power lines may be installed to power the producer owned wellhead equipment and accommodate potential electric generators. These electric generator units would further reduce flaring while providing electrical power for sale. Appropriately, they would only be installed if a future electrical grid, suitable to transmit generated electrical power, is available in the area. At this point in the design process, it is too early to accurately define the size and height specifics of such power lines.

No above ground structures are part of this pipeline system except for the electric transmission line and pipeline identification markers along the route and at road crossings and at tie-in locations. All above ground equipment would be installed on existing well pads.

This EA discloses the impacts of the acquisition of 50 feet of temporary ROW, 50 feet of permanent ROW, and the installation of three pipelines and an overhead electrical transmission line within this ROW.

2.2 Construction Plan and Specifications

As previously discussed, construction of the crude oil and produced water pipelines, and the electrical transmission line, are dependent on future development and the potential to incorporate this section of pipeline into a gathering trunk line. As such, the first phase of the project would consist of constructing the gas pipeline; with the other facilities being constructed in future phases.

Construction of the gas line is expected to take one month or less and would be confined within a 100-foot wide ROW, of which 50 feet is temporary, adjacent to either the section line in Section 24 of Township 148N, Range 94W, or adjacent to the ROW for BIA 14 and 17 as shown on **Figure 1, Project Location Map, on page 2**. Pipeline materials would be staged at existing well pads or trucked directly to the temporary ROW corridor on existing federal, state, county and private roads. Access to the ROW would be made at well pads and BIA 14 crossing points only. Traffic at access points is expected to be heavy during brief periods at the beginning and end of shift and heavy at various times during the day when equipment and materials are delivered to the site. Traffic would be confined to the pipeline ROW corridor. Vehicle and personnel travel off the pipeline ROW would be strictly prohibited at all times. Signs would be installed at access points to remind operators that access or travel off the pipeline ROW is not permitted.

Installation of the gas pipeline may require clearing and grading of 30- to 70-foot wide sections at locations within the ROW along the entire pipeline corridor. Every effort will be made to minimize surface disturbance during the construction process. Topsoil would be separated and stockpiled along either side of any disturbed cross section to be used for prompt reseeding and reclamation of the disturbed area. Continued use of pasture, livestock grazing areas and other improvements would be maintained during construction via use of temporary fencing or cattle guards when crossing land with livestock present. Trenches would be excavated to a depth sufficient to maintain a minimum of 48

inches of ground coverage over the pipeline. Coverage would be increased to 72 inches of burial depth at the road crossing near the junction of BIA 14/17 and at any driveway crossings. **Typical ROW cross section is as shown in Figure 2**. It is understood that other utilities including phone and water pipelines are also present in the immediate area.

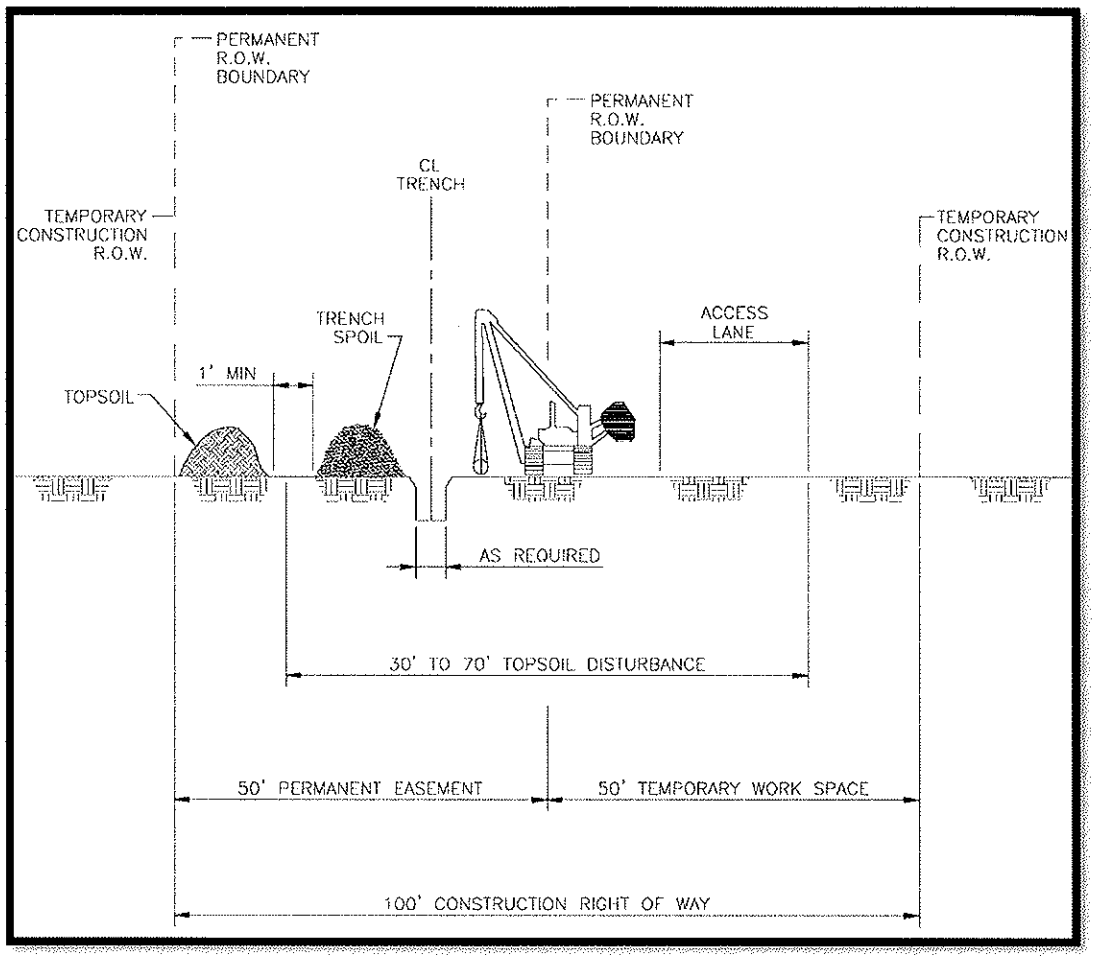

Figure 2: Typical Right-of-way Cross Section

Provisions have been made to install all pipelines within the agreed respective offsets to other lines. Fort Berthold Rural Water (FBRW) authority requested 15 feet maintained clearance except in constricted areas. In those areas, separation would be maintained at a mutually agreed upon minimum distance. No constrictions are expected in this section of line. No lines would be installed at conflict with other utility lines. At junctions where the gas line crosses the FBRW pipeline, vacuum or hand excavation would be used. Because of the normal 84-inch burial depth of the water line, the proposed gas pipeline would pass over the installed water line to achieve no impact on depth or functionality of either line. Five feet of lateral distance would be maintained from all telephone and cable lines. Any line crossing conflicts would be worked out individually at each location with the respective utility.

During construction, the entire distance of trench could be open for several days during excavation, stringing, bending and installation of pipeline. Crossings would be created at access locations and driveways. Pipe would be strung along the ditch as bending, welding and other installation preparations are completed. After the pipeline is lowered into the ditch it would be hydro-tested with water acquired

from a local commercial source. Water used for hydro-test would be removed from the site and disposed at a permitted location.

After the trench is backfilled, disturbed areas would be re-graded to original contours, stockpiled topsoil reset over the ROW, pipeline marking signs would be installed, reclamation would be finalized, and the ROW would be reduced to 50 feet.

2.3 Directional Drilling

Directional drilling, also known as boring, is often used to cross sensitive areas such as wetlands and stream beds where the disturbance of ditch excavation may be prohibitive or cause unwarranted stress on the environment. No environmental related bores are planned for this section of pipeline. Directional drilling is also used to cross roadways where traffic should not be disrupted and disturbance of compacted substrate is an issue with open trenches. One bore location is planned to cross BIA 14 just north of its intersection with BIA 17. The approximate length of this bore is 200 feet. A staging area would be constructed on either side of BIA 14 in this location within the established pipeline ROW. To construct, a hole is drilled under the identified area at a radius suitable for pulling straight pipe.

2.4 Reclamation

All reclamation is the responsibility of SBP as the ROW permit holder. Reclamation shall be required after initial construction, after additional lines are installed, after any maintenance activity, and after final abandonment of a decommissioned line.

A stormwater pollution prevention plan (SWPPP) is required for this project. On Indian land in North Dakota the EPA is responsible for permitting SWPPPs through permit NDR1000I using the National Pollutant Discharge Elimination System (NPDES). A "Construction General Permit" is required. A NOI will be filed at the appropriate time prior to construction. Field practices will conform to standard recommendations of the NPDES permit and may include: installing construction ditches, silt fences, water bars and erosion fabric, as needed, to control stormwater pollution.

Regrading, contouring and reseeding of disturbed areas will occur as soon as practical after construction but no later than the next appropriate planting season. The ROW will be reseeded with certified seed mixtures approved by the BIA. All reseeding and planting will comply with BIA directions to ensure successful reclamation. Further, the ROW will be monitored for areas of excessive erosion and subsidence. Periodic monitoring will be performed and repeated reclamation efforts will be undertaken in problem areas until the ROW is certified as reclaimed.

Decommissioning of pipelines would result in mandatory final reclamation of the corridor. All surface facilities would be removed. Foundations, if any, would be hauled to an approved disposal site. Gravel pad would be buried on site or hauled to a disposal site. Compacted areas would be scarified, ripped and re-contoured. Stockpiled topsoil would be redistributed and re-vegetated. Long-term monitoring would be required to ensure successful reclamation and implementation of any necessary remedial efforts. The pipeline would be purged with water to remove hydrocarbons, capped and abandoned in place.

2.5 Operation and Maintenance

After construction is complete, maintenance of the ROW would be confined to the 50-foot ROW width. Access to both sections of this line would be confined to the well pads either from the Burr #16-44 or Voigt #24-11. Excessive rutting or other surface disturbances, such as installing additional lines, will be immediately repaired and reclaimed under guidelines from the previous section. Should any surface damage occur that affects crops or other surface activities, repairs will be made immediately. Landowners will be compensated for damages accordingly.

Repair, replacement, inspection or additional lines that require extensive excavation may require ROW increased to 100 feet on a temporary basis. In that event, the BIA will be notified immediately. In the case of an emergency, the BIA may be notified during or after repairs have begun. In all cases, BIA will be consulted as soon as possible. All applicable regulations and best management practices will be followed.

2.6 Preferred Alternative

The preferred alternative is to complete all administrative actions and approvals necessary to authorize or facilitate the installation of the pipelines and electric transmission line in order to protect the environment, reduce public hazards and increase economic gain associated with production of oil and gas.

3. The Affected Environment and Potential Impacts

Located in west-central North Dakota, the Fort Berthold Indian Reservation is home of the Three Affiliated Tribes of the Mandan, Hidatsa, and Arikara nations. With the completion of the Garrison Dam in 1954 and the subsequent creation of Lake Sakakawea, the reservation was separated into three sections. Today, the reservation occupies sections of six counties (Dunn, McKenzie, McLean, Mercer, Mountrail, and Ward) and encompasses approximately 988,000 acres. About half of the reservation land is held in trust by the United States for the Three Affiliated Tribes or individual allottees. The majority of land within the reservation is owned by non-Indians.

Land surface within Dunn County primarily consists of the Missouri Plateau Ecoregion, which is where the proposed project is located. The Missouri Plateau Ecoregion consists of glaciated uplands, river breaks, valley wall site and footslopes, coulees, alluvial terraces, and floodplains. The floodplains are primarily located in the bottomlands of the Missouri River. Annual precipitation on the plateau averages between 15 and 17 inches. Mean temperatures fluctuate between -3° and 21° F in January and between 55° and 83° F in July, with 95 to 130 frost-free days each year.

The proposed project is located within a predominantly rural area. Land within the pipeline corridor is primarily grassland/rangeland (83%) with the remainder consisting of woody vegetation (17%). **See Figure 3: View of Project Corridor—West End, and Figure 4: View of Project Corridor—East End.** The pipelines would be located on grasslands that are currently either idle or used to graze livestock. The landscape has been previously disturbed by dirt trails and gravel roadways. There are two residences along the project corridor.

The following sections address the positive and negative environmental impacts of the proposed project alternatives. The inventory and evaluation of the existing environment provides the necessary baseline from which to determine the impacts of the proposed project alternatives. The potential direct, indirect, and cumulative effects of the proposed project to the environment are discussed below.

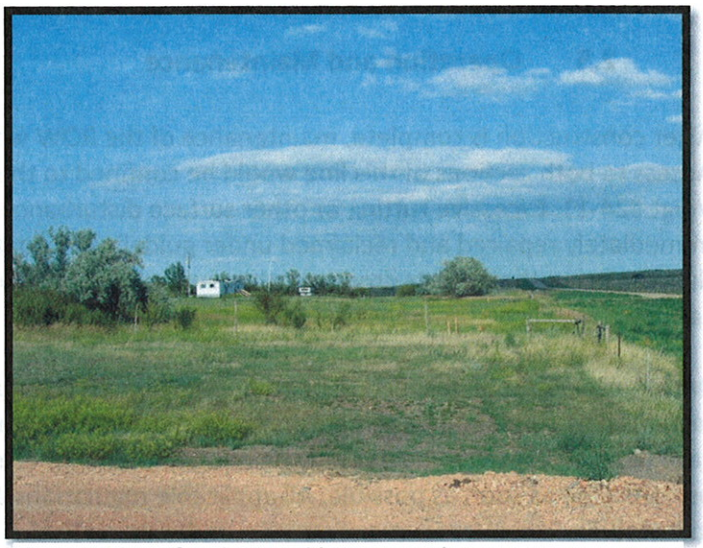

Figure 3: View of Project Corridor-West End

3.1 No Action Alternative

Under the No Action Alternative, the proposed project would not be constructed or operated. Existing conditions would not be impacted for the following critical elements: public health and safety, water resources, wetland/riparian habitat, threatened and endangered species, soils, vegetation and invasive species, cultural resources, and environmental justice. There would be no project-related ground disturbance or right-of-way acquisition. Surface disturbance, deposition of potentially harmful biological material, trucking, and other traffic would not change from present levels. However, under the No Action Alternative air quality may not be improved due to the continuation of flaring of gas which would maintain the higher air emissions than if the heavy hydrocarbons were recovered. Additionally, trucks would still be required to travel to the well site, rather than to one consolidated location at the WHP, and mobile source air toxics from trucking would not be reduced.

Figure 4: View of Project Corridor-East End

3.2 Air Quality

The Clean Air Act, as amended, requires the Environmental Protection Agency (EPA) to establish air quality standards, known as National Ambient Air Quality Standards (NAAQS), for pollutants considered harmful to public health and the environment. There are six criteria pollutants that require NAAQS: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10}), and sulfur dioxide (SO_2). The nearest North Dakota Department of Health Ambient Air Quality Monitoring

station is located in Dunn Center in Dunn County. This station does not monitor Pb or CO. **See Table 1: Air Quality Standards and Dunn County Air Quality Data.**

Table 1: Air Quality Standards and Dunn County Air Quality Data			
Pollutant	**Averaging Period**	**NAAQS**	**Dunn County Air Quality Data**
CO	1-Hour	35 ppm	—
	8-Hour	9 ppm	—
Pb	3-month	0.15 $\mu g/m^3$	—
NO_2	Annual Mean	0.053 ppm	0.002 ppm
O_3	1-hour	0.12 ppm	0.069 ppm
	8-hour	0.075 ppm	0.062 ppm
PM_{10}	24-hour	150 $\mu g/m^3$	108 $\mu g/m^3$
	Annual Mean	50 $\mu g/m^3$	14.2 $\mu g/m^3$
SO_2	24-hour	0.14 ppm	0.004 ppm
	Annual Mean	0.03 ppm	0.004 ppm

According to the North Dakota Department of Health (NDDH), North Dakota is one of thirteen states in attainment for all of the criteria pollutants (NDDH 2009). As such, Dunn County and the Fort Berthold Reservation also comply with NAAQS.

The Clean Air Act mandates the prevention of significant deterioration in designated attainment areas. The nearest Class I area to the project corridor is the Theodore Roosevelt National Park, which is located approximately 28 miles south of the proposed project at its nearest point. The proposed project is located within a Class II attainment area.

In North Dakota, the EPA has delegated enforcement of the Clean Air Act standards to the NDDH. Construction of the project would result in temporary emissions of PM_{10}, SO_2, NO_2, CO, and volatile organic compounds. These temporary air emissions during construction are not anticipated to cause or contribute to a violation of NAAQS or to adversely affect the Theodore Roosevelt National Park. The proposed project is anticipated to have a long-term benefit to air quality in the project area because it would reduce emissions associated with gas flaring at the Burr well site location. In addition, instead of trucks having to travel to the well site to collect oil, gas, and possibly produced water, there would ultimately be one consolidated storage location. In the long-term, this may improve air quality in the area by reducing mobile source air toxics associated with trucking operations. No mitigation or monitoring measures are recommended.

3.3 Public Health and Safety

Health and safety are key concerns on any construction project, and one objective in designing a pipeline is to minimize the risk to public health and safety. Typically, the highest probability of accident occurs during the construction phase due to the variety of equipment, number of personnel and types of activity which are present during this period.

Generally, negative impacts, such as noise, dust, air pollution from the use of fossil fuel, ground water contamination from liquid spills as well as traffic hazards from construction are temporary. These

temporary negative impacts can be controlled through routine education, safety reminders/briefings, careful planning and proper preparation.

It is equally important to remember that combustion and explosive hazards, although an extremely unlikely possibility in and around operating pipelines, are a consideration when evaluating public health and safety for any project. The risk and extent of negative impact from system operation is much more difficult to predict than the impact from construction due to the many variables involved.

The size of an area which can potentially be affected by a pipeline leak or rupture and possible resulting fire, or even an explosion is specific to each particular site. In many instances it is impossible to find a route which does not have some possible negative impact during the life of a project. The ultimate goal is therefore to route, design and construct the pipeline in a manner which has the least probable impact on the environment and on society.

Factors which must be considered in establishing a pipeline corridor location and width include:

- Pipeline diameter, pipe material, and pressure rating
- Normal operating pressure of pipeline
- Product to be conveyed by the pipeline
- Depth of bury below the ground surface
- Type of soil
- Presence of vegetation (grass, trees, shrubs, barren etc.)
- Possibility of leak, fire, explosion, product discharge to surface or ground water etc.
- Topography (flat, rolling, badlands etc) and minimum and maximum gradients of terrain
- Historical wind speed and direction
- Existing nearby structures, occupied and unoccupied
- Nearby roads and trails

The proposed 16-inch or smaller diameter steel gas pipeline proposed for this project is to be buried a minimum of 4 feet below the ground surface and soil conditions vary from sandy to clay. The initial normal operating pressure is expected to be less than 50 psig but future pressures could be greater than 200 psig. The products being conveyed within the pipelines are natural gas and crude oil, which can be highly flammable. The topography is variable, ranging from flat with nearly no slope to 1:1 slopes. Vegetation is primarily range grass. Historical wind direction is from the northwest and velocity varies from 0 mph to >40 mph.

An explosion, although extremely unlikely, is possible; therefore, human safety and structural damage is potentially at risk. A pipeline rupture under normal operating pressure could, depending on soil conditions and exact location, create a crater 10–20 feet in diameter to the depth of the buried pipeline. If a fire resulted, temperatures could reach well in excess of 1,000 degrees Fahrenheit at the point of rupture and decrease outward, depending upon wind speed and direction as well as ambient temperatures in the area. This could cause structural damage in an area up to 2,000 feet downwind of the point of the blast. **See Figure 5: Blast Overview.**

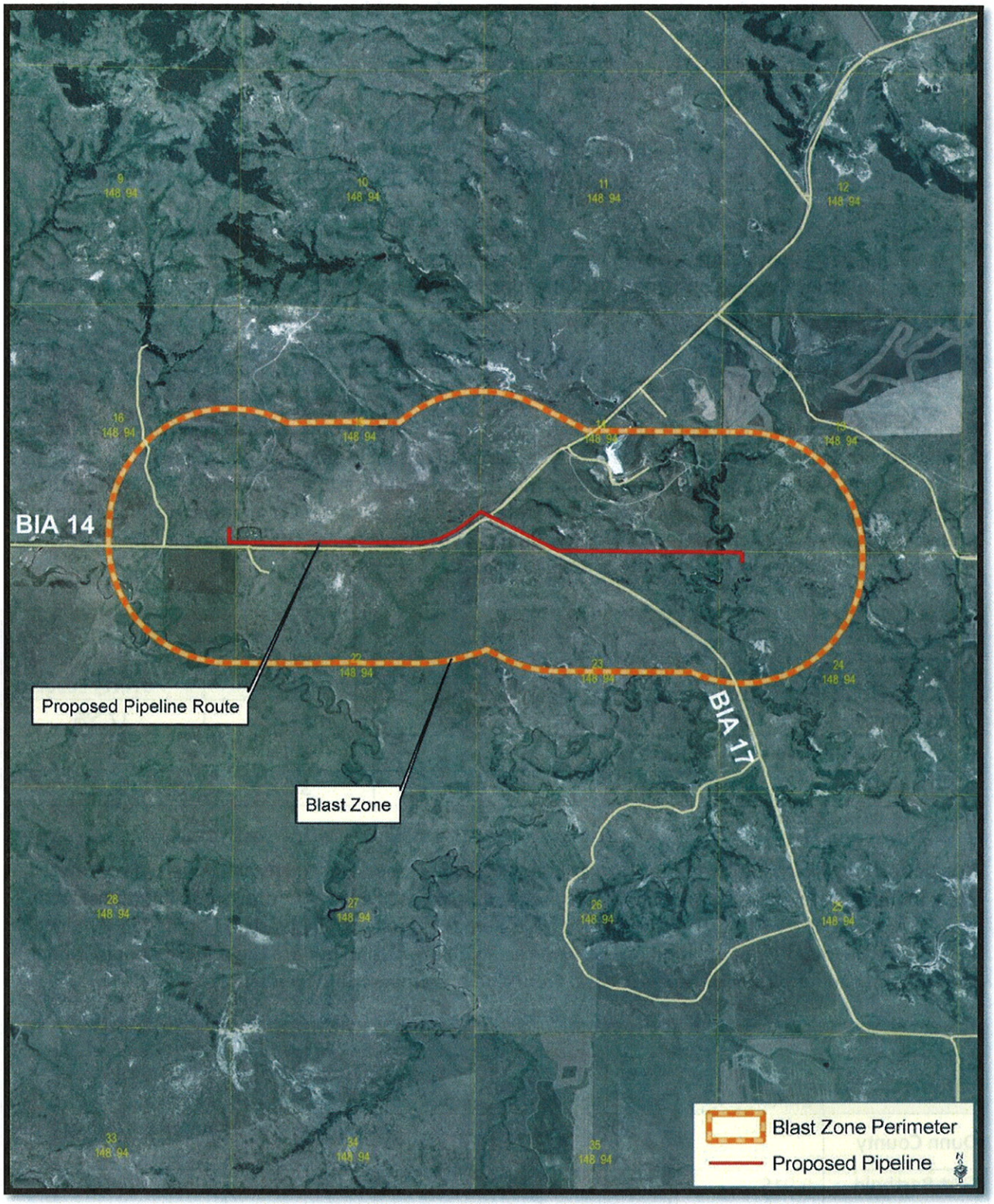

Figure 5: Blast Overview

Based upon the above information, the blast impact corridor width would be approximately one mile (one half mile on each side of the proposed pipeline). Aerial view imagery shows two residences located within this mile wide corridor. This corridor also includes approximately three miles of trails/roads which could be utilized at various times of the year.

There are no known local, state or federal regulations for an established "set-back" from occupied dwellings. Pipeline operations will conform to instructions from BIA and Tribal fire management staff.

Negative impacts from this project are considered to be minimal based upon the proposed route selected and design parameters. No waivers to laws, regulations or other requirements have been requested or issued and no compensatory mitigation measures are required based upon the available information utilized herein.

3.4 Socioeconomics

Socioeconomic conditions depend on the character, habits, and economic conditions of people living within the proposed action area. The proposed action's effects on businesses, employment, transportation, utilities, etc., are factors that affect the social climate of a community. The Fort Berthold Reservation and Dunn County have lower than statewide averages of per capita income and median household income. In addition, they have higher rates of unemployment and individuals living below poverty level than the state. **See Table 2: Employment and Income.**

Table 2: Employment and Income

Location	Per Capita Income	Median Household Income	Unemployment Rate	Individuals Below Poverty Level
Dunn County	$14,624	$30,015	4.0%	17.5%
Fort Berthold Reservation	$10,291	$26,274	6.4%	28.1%
North Dakota	$17,769	$34,604	3.0%	11.9%

Source: U.S. Census Bureau, 2000

Population decline in rural areas of North Dakota has been a growing trend as individuals move toward metropolitan areas of the state, such as Bismarck and Fargo. While Dunn County's population has been slowly declining, the Fort Berthold Reservation has witnessed a steady increase in population. American Indians are the majority population on the Fort Berthold Reservation but are the minority population in Dunn County and the state of North Dakota. **See Table 3: Demographic Trends.**

Table 3: Demographic Trends

Location	Population in 2000	% of State Population	% Change 1990–2000	Predominant Race	Predominant Minority
Dunn County	3,600	0.56%	-10.1%	White	American Indian (12%)
Fort Berthold Reservation	5,915	0.92%	+9.8%	American Indian	White (26.9%)
North Dakota	642,000	—	+0.5%	White	American Indian (5%)

Source: U.S. Census Bureau, 2000

The proposed project is not expected to have measurable impacts on demographic distributions, but short-term construction employment may have a beneficial economic impact by easing unemployment.

3.5 Environmental Justice

Per Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, measures must be taken to avoid disproportionately high adverse impacts on minority or low-income communities.

The Three Affiliated Tribes qualify for environmental justice consideration as both a minority and low-income population. The population of North Dakota is predominantly Caucasian. Tribal members comprise only 5% of North Dakota residents and 12% of the population of Dunn County. Even in a state with relatively low per capita and household income, Indian individuals and households are distinctly disadvantaged.

The surface owners would be compensated for any productive acreage lost through ROW acquisition or inadvertent damage to crops during construction. Tribal members without surface rights within the project area would not receive any direct benefits. Two residences do occur within the project area; however, only one would be impacted by construction across the access to their residence. This impact would be temporary, and the developer would be required to maintain access to the residence. Potential impacts to tribes and tribal members also include disturbance of cultural resources. This potential may be reduced pending the determination by the BIA that there would be no effect to historic properties. Additionally, no traditional cultural properties are known to occur within the project area.

The proposed project has not been found to pose significant impacts to any other critical element—public health and safety, water, wetlands, wildlife, soils or vegetation— within the human environment, other than the potential to improve air quality within the area. The temporary nature of the project impacts, other than the potential overhead electric transmission line, also makes disproportionate impacts to low-income or minority populations unlikely. The proposed project is not anticipated to result in disproportionately adverse impacts to minority or low-income populations. No laws, regulations or other requirements have been waived; no compensatory mitigation measures are required.

3.6 Cultural Resources

Section 106 of the National Historic Preservation Act of 1966, as amended, requires that projects needing federal approval and/or federal permits be evaluated for the effects on historic and cultural properties included or eligible for listing on the National Register of Historic Places (NRHP). The Archaeological and Historic Preservation Act of 1974 provides for the survey, recovery, and preservation of significant scientific, prehistoric, archaeological, or paleontological data when such data may be destroyed or irreparably lost due to federal, federally licensed, or federally funded projects.

The Native American Graves Protection and Repatriation Action of 1990 is triggered by the possession of human remains or cultural items by a federally-funded repository or by the discovery of human remains

or cultural items on federal or tribal lands and provides for the inventory, protection, and return of cultural items to affiliated Native American groups.

The American Indian Religious Freedom Act of 1978 requires consultation with Native American groups concerning proposed actions on sacred sites on federal land or affecting access to sacred sites. It established federal policy to protect and preserve for American Indians, Eskimos, Aleuts, and Native Hawaiians their right to free exercise of their religion in the form of site access, use and possession of sacred objects, and freedom to worship through ceremonial rites. The Act requires federal agencies to consider the impacts of their actions on religious sites and objects important to these peoples, regardless of eligibility for listing on the NRHP.

In accordance with 16 U.S.C. 470hh(a), confidentiality of information concerning nature and location of archaeological resources and traditional cultural properties, detailed information regarding archaeological and cultural resources is exempt from the Freedom of Information Act and is not included in this EA.

Ten previously recorded sites and seven site leads/isolated finds were identified during a Class I literature search. The Area of Potential Effect (APE) was identified as 100 feet centered on the proposed pipeline route. Nine of the previously recorded sites are located outside of the APE. One previously recorded site would be impacted, but was noted to have poor integrity. Beaver Creek Archaeology conducted a Class III pedestrian survey of the approximately 38.5 acre APE and identified one isolated find (Pollman and Burns 2009). The Three Affiliated Tribes' Tribal Historic Preservation Officer (THPO) participated in the field survey and did not recommend avoiding the identified isolate. As the lead federal agency, and as provided for in 36 CFR 800.5, on the basis of the information provided, BIA reached a determination of **no historic properties affected** for this undertaking. This determination was communicated to the THPO on September 1, 2009, and the THPO concurred on September 16, 2009 (see Appendix A).

3.7 Wildlife

Threatened and Endangered Species

According to the United States Fish and Wildlife Service (USFWS) North Dakota field office website, endangered species that may be found within Dunn County are the black-footed ferret, interior least tern, whooping crane, pallid sturgeon, and gray wolf. The piping plover is listed as a threatened species for Dunn County and the county contains designated critical habitat for the piping plover. In addition, the Dakota skipper is listed as a candidate species for Dunn County. A field survey conducted in August 2009 confirmed that no threatened or endangered species would be impacted the proposed project.

Black-footed Ferret (*Mustela nigripes*) Status: endangered Likelihood of occurrence: **unlikely**
The black-footed ferret historically could be found throughout the Rocky Mountains and Great Plains. In North Dakota, the black-footed ferret may potentially be present in prairie dog towns. However, they have not been confirmed in North Dakota for over 20 years and are presumed extirpated. Their preferred habitat includes areas around prairie dog towns, as they rely on prairie dogs for food and live in prairie dog burrows. Black-footed ferrets require at least an 80-acre prairie dog town to survive.

One prairie dog town does exist on the west end of the pipeline. However, the prairie dog town is approximately 47.5 acres and is not large enough to sustain a black-footed ferret population. In addition, while the pipelines would disturb approximately 5.3 acres of the prairie dog town (2.9 acres within permanent ROW and 2.4 within temporary ROW), the impacts would generally be temporary and reclamation would follow construction. Permanent impacts associated with the electric transmission line are anticipated to be negligible. The area has also been previously disturbed by the installation of the FBRW water pipeline, which can be seen as disturbed ground in **Figure 6**.

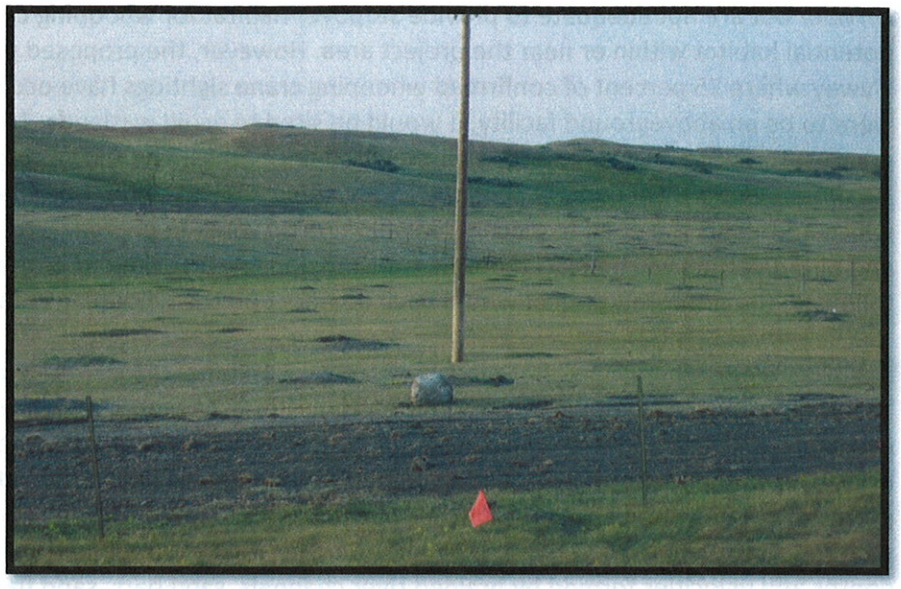

Figure 6: Prairie Dog Town View to the North

Interior Least Tern (*Sterna antillarum*) Status: endangered Likelihood of occurrence: **unlikely**

The interior least tern nests along inland rivers rather than along the coast. The interior least tern is found in isolated areas along the Missouri, Mississippi, Ohio, Red, and Rio Grande Rivers. In North Dakota, it is sighted along the Missouri River during the summer nesting season. The interior least tern nests in sandbars or barren beaches, preferably in the middle of a river for increased safety while nesting. These birds nest close together, using safety in numbers to scare away predators.

Lake Sakakawea is approximately 14 miles northeast of the project area while the Little Missouri River is approximately 4 miles south of the project area. There is no existing or potential habitat within or near the project area. The proposed project would have no effect on the interior least tern or associated habitat.

Whooping Crane (*Grus americana*) Status: endangered Likelihood of occurrence: **rare**

The whooping crane is the tallest bird in North America. In the United States, this species ranges through the Midwest and Rocky Mountain regions from North Dakota south to Texas and east into Colorado. Whooping cranes migrate through North Dakota along a band running from the south central to the northwest parts of the state. They use shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting and various cropland and emergent wetlands for feeding. During migration, whooping cranes are often recorded in riverine habitats, including the Missouri River. Currently there are three wild populations of whooping cranes, yielding a total species population of 365. Of these flocks, only one is self-sustaining.

Lake Sakakawea is approximately 14 miles northeast of the project area while the Little Missouri River is approximately 4 miles south of the project area. Two wetlands were identified within the project

corridor but are not adequate to provide stopover habitat for whooping cranes. There is no existing or potential habitat within or near the project area. However, the proposed project is located in the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. If the transmission line were to be an aboveground facility, it would be sited to avoid wetlands. Transmission lines pose the greatest threat to migratory birds such as whooping cranes. The USFWS *Interim Guidelines For Recommendations On Communications Tower Siting, Construction, Operation, and Decommissioning*, which addresses the need to place visual markers on wires to prevent bird collisions, will be followed and bird diverters will be placed on the transmission line. Provided that the mitigation measures are followed, the proposed project would have no effect on the whooping crane or associated habitat.

Pallid Sturgeon (*Scaphirhynchus albus*) Status: endangered Likelihood of occurrence: **unlikely**
The pallid sturgeon is known to exist in the Yellowstone, Missouri, middle and lower Mississippi, and Atchafalaya Rivers, and seasonally in some tributaries. In North Dakota, the pallid sturgeon is found principally in the Missouri River and upstream of Lake Sakakawea in the Yellowstone River. Dating to prehistoric times, the pallid sturgeon has become well adapted to living close to the bottom of silty river systems. According to the US Fish & Wildlife Service, its preferred habitat includes "a diversity of water depths and velocities formed by braided river channels, sand bars, sand flats, and gravel bars." Weighing up to 80 pounds, pallid sturgeons are long lived, with individuals possibly reaching 50 years of age.

Lake Sakakawea is approximately 14 miles northeast of the project area while the Little Missouri River is approximately 4 miles south of the project area. There is no existing or potential habitat within or near the project area. The proposed project would have no effect on the pallid sturgeon or associated habitat.

Gray Wolf (*Canis lupus*) Status: endangered Likelihood of occurrence: **unlikely**
The gray wolf is the largest wild canine species in North America. In North America, the gray wolf is found throughout northern Canada, Alaska, and the forested areas of Northern Michigan, Minnesota, and Wisconsin. They have been re-introduced to Yellowstone National Park in Wyoming. While the gray wolf is not common in North Dakota, occasionally individual wolves do pass through the state. Historically, its preferred habitat includes biomes such as boreal forest, temperate deciduous forest, and temperate grassland. Gray wolves live in packs of up to 21 members, although some individuals will roam alone.

It is unlikely that gray wolves would inhabit the project area as it does not contain preferred habitat for suitable prey to sustain a population and is far from other known wolf populations. The proposed project would have no effect on the gray wolf or associated habitat.

Piping Plover (*Charadrius meoldus*) Status: threatened Likelihood of occurrence: **unlikely**
The piping plover is a small migratory shorebird. Historically, piping plovers could be found throughout the Atlantic Coast, Northern Great Plains, and the Great Lakes. Drastically reduced, sparse populations presently occur throughout this historic range. In North Dakota, breeding and nesting sites can be found along the Missouri River. Preferred habitat for the piping plover includes riverine sandbars, gravel beaches, alkali areas of wetlands, and flat, sandy beaches with little vegetation. The USFWS has identified critical habitat for the piping plover on the Missouri River system. Critical habitat includes reservoir reaches composed of sparsely vegetated shoreline beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with water bodies.

Lake Sakakawea is approximately 14 miles northeast of the project area while the Little Missouri River is approximately 4 miles south of the project area. Potential habitat for the piping plover does not occur within or near the project area. The proposed project would have no effect on the piping plover or associated habitat.

Dakota Skipper (*Hesperia dacotae*) Status: candidate Likelihood of occurrence: **unlikely**
The Dakota skipper is a small butterfly with a one-inch wing span. These butterflies historically ranged from southern Saskatchewan, across the Dakotas and Minnesota, to Iowa and Illinois. Preferred habitat for the Dakota skipper consists of high quality native prairie containing vast diversity of wildflowers and grasses, including both wet and dry prairie ecosystems.

The project area has been fragmented by roadways, oil and gas pads, human activity, and is used for grazing activities. Therefore, the project area does not contain the high quality native prairie necessary for a Dakota skipper. The proposed project would have no effect on the Dakota skipper or associated habitat.

Big Game Species

The proposed project corridor contains suitable habitat for whitetail deer (*Odocoileus virginianus*) and antelope (*Antilocapra americana*); however, whitetail deer and antelope were not observed during the field survey. The proposed project would cause a temporary disturbance to big game wildlife species in the area during construction, but following construction habitat for these species would be restored. The proposed project would have no effect on big game wildlife species.

Small Game Species

The proposed project corridor contains suitable habitat for cottontail rabbit (*Sylvilagus floridanus*), turkey (*Meleagris gallopavo*), and sharp-tail grouse (*Tympanuchus phasianellus*). No cottontail rabbits, turkeys, or sharp-tailed grouse were observed in the field. In addition, no grouse leks were observed. The proposed project would cause a temporary disturbance to small game wildlife species in the area during construction, but following construction potential habitat for these species would be restored. The proposed project would have no effect on small game wildlife species.

Raptor Species

The Bald and Golden Eagle Protection Act of 1940, 16 U.S.C. 668–668d, as amended, was written with the intent to protect and preserve bald and golden eagles, both of which are treated as species of concern within the Department of the Interior. In addition, the Migratory Bird Treaty Act (916 U.S.C. 703–711) regulates impacts to these species such as direct mortality, habitat degradation, and/or displacement of individual birds.

The bald eagle (*Haliaeetus leucocephalus*) is not common in North Dakota, but is sighted along the Missouri River during spring and fall migration periods and periodically in other places in the state such as the Devils Lake and Red River areas. There are approximately 15 breeding pairs of bald eagles in North Dakota, most of which nest along the Missouri River. Its preferred habitat includes open areas, forests, rivers, and large lakes. Bald eagles tend to use the same nest year after year, building atop the

previous year's nest. The project area does not contain suitable roosting/perching habitat, concentrated feeding areas, or other special habitat. While there are ash and elm trees in the project area, there is no dependable water source located near the project area; therefore, it is unlikely that bald eagles would use the trees for roosting/perching. If the transmission line is constructed aboveground, it has the potential to impact bald eagles. If the transmission line is an aboveground facility, "Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996," (SPLIC, 1996) will be followed in order to minimize the potential for bald eagle impacts. Provided that these minimization measures are followed, the proposed project is not anticipated to impact bald eagles.

The golden eagle (*Aquila chrysaetos*) can be spotted in North Dakota throughout the badlands and along the upper reaches of the Missouri River in the western part of the state. Golden eagle pairs maintain territories that can be as large as 60 square miles and nest in high places including cliffs, trees, and human-made structures. They perch on ledges and rocky outcrops and use soaring to search for prey. Golden eagle preferred habitat includes open prairie, plains, and forested areas. The project area does not contain suitable roosting/perching habitat, concentrated feeding areas, or other special habitat. While there are ash and elm trees in the project area, there is no dependable water source located near the project area; therefore, it is unlikely that golden eagles would use the trees for roosting/perching. If the transmission line is constructed aboveground, it has the potential to impact golden eagles. If the transmission line is an aboveground facility, "Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996," (SPLIC, 1996) will be followed in order to minimize the potential for golden eagle impacts. Provided that these minimization measures are followed, the proposed project is not anticipated to impact golden eagles.

Additional raptor species, including red tail hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*), may be found in the surrounding area. However, no indicators of either species were observed during the on-site visits. No raptor nests were observed during the field survey. Raptor species frequenting the project area are transitory in nature and are generally expected to adapt to changing conditions and continue to thrive. If the transmission line is constructed aboveground, it has the potential to impact other raptor species. If the transmission line is an aboveground facility, "Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996," (SPLIC, 1996) will be followed in order to minimize the potential for impacts to raptors. Provided that these minimization measures are followed, the proposed project is not anticipated to impact raptor species.

Non-Game Wildlife

A variety of non-game wildlife species, including song birds, coyote, fox, badger, and jackrabbit may traverse the project area. Black-tailed prairie dogs were observed on the westernmost edge of the proposed project, where a prairie dog town was identified. Other non-game wildlife may use the area for feeding. However, these species are transitory in nature and non-game species frequenting the project area are generally expected to adapt to changing conditions and continue to thrive. Disturbance to the prairie dog town and potential habitat for other non-game wildlife would be temporary in nature and, following construction, habitat for these species would be restored. The proposed project may affect individual black-tailed prairie dogs, but is not likely to adversely affect the population to result in a trend towards listing of the species. The proposed project would have no effect on non-game wildlife species.

3.8 Soils

The published soil survey for Dunn County dates from 1986. Updated information is available online from the Natural Resources Conservation Service. Soils encountered in the project area are identified in **Table 4: Soil Mapping Units and Attributes.**

Table 4: Soil Mapping Units and Attributes

Soil Type	Map Unit Symbol	Slope (%)	Composition (in upper 60 inches)			Erosion Factor[1]		Hydrologic Soil Group[2]
			% sand	% silt	% clay	Kf	T	
Cabba loam	9E	15–45	41	39	20	.32	2	D
Belfield-Grail silty clay loams	18	1–3	22	43	35	.37	5	C
Bowdle loam	46B	2–6	63	25	12	.28	4	B
Morton Dogtooth silt loams	52C	0–6	19	58	23	.28	3	B
Rhoedes silt loam	62B	0–6	11	51	38	.32	2	D
Williams loam	88B	3–6	35	35	30	.28	5	B
Williams-Noonan loams	91B	3–6	35	35	30	.28	5	B
Daglum silt loam	106B	1–6	27	35	38	.32	2	D

The Cabba soil series consists of shallow, well drained soils that have moderate permeability. These soils are primarily located on uplands and formed in residuum weathered from siltstone.

The Grail soil series consists of deep, well drained soils with slow permeability. These soils are primarily located on uplands and formed in alluvium.

The Bowdle soil series consists of well drained soils with moderate permeability. These soils are primarily located on outwash plains and stream terraces and formed in loamy alluvium underlain by sand and gravel.

The Dogtooth soil series are primarily located on hills and ridges and formed in residuum. This series consists of moderately deep, well drained soils with very slow permeability.

[1] Erosion Factors indicate susceptibility of a soil to sheet and rill erosion by water. Kf indicates the erodibility of material less than two millimeters in size. Values of K range from 0.02 to 0.69. Higher values indicate greater susceptibility. T Factors estimate maximum average annual rates of erosion by wind and water that will not affect crop productivity. Tons/acre/year range from 1 for shallow soils to 5 for very deep soils. Soils with higher T values can tolerate higher rates of erosion without loss of productivity.

[2] Hydrologic Soil Groups (A, B, C, and D) are based on estimates of runoff potential according to the rate of water infiltration under the following conditions: soils are not protected by vegetation, soils are thoroughly wet, and soils receive precipitation from long-duration storms. The rate of infiltration decreases from Group A (high infiltration, low runoff) to D (low infiltration, high runoff).

The Rhoades soil series consists of deep, moderately well drained soils with very slow permeability. These soils are primarily located on uplands and formed from clayey alluvium.

The Williams soil series primarily occur on uplands and formed in loam or clay loam till. This series consists of deep, well drained soils with moderately slow permeability.

The Noonan soil series primarily occur on uplands and formed in calcareous till. This series consists of deep, moderately well drained soils with slow permeability.

The Daglum soil series consists of deep, moderately well drained soils with very slow permeability. This series primarily occurs on uplands and formed in silty and clayey alluvium.

Table 5: Acres of Disturbance by Soil Mapping Unit

Soil Type	Temporary ROW	Permanent ROW	Total
Cabba loam	2.3	2.4	4.7
Belfield-Grail silty clay loams	1.7	1.7	3.4
Bowdle loam	1.3	1.3	2.7
Morton Dogtooth silt loams	0.5	0.6	1.1
Rhoades silt loam	5.2	5.1	10.3
Williams loam	0.9	0.9	1.8
Williams-Noonan loams	0.4	0.3	0.7
Daglum silt loam	1.7	1.6	3.3
Total Impacts			**28.0**

The Farmland Protection Policy Act (FPPA), the United States Department of Agriculture (USDA) regulation implementing FPPA (7 CFR Part 658), and USDA Departmental Regulation No. 9500-3, Land Use Policy, provide protection for prime and important farmland and prime rangeland and forestland. While there are approximately 8 acres of statewide important farmland in the project area, pipeline-associated disturbances would be temporary. Upon completion of construction, disturbed land use would be restored to its pre-construction condition and, if previously farmed, the land would be available for cultivation. Therefore, the FPPA does not apply to the pipelines. If the proposed electric transmission line is constructed, it may result in the conversion of a small amount of farmland into foundations for poles; therefore, FPPA would apply. Prior to the installation of the transmission line, the Farmland Conversion Impact Rating Form AD-1006 would be completed and submitted to the Natural Resources Conservation Service. Any conversion of farmland due to transmission line installation is expected to be minor.

Erosion potential would be minimized by the use of best management practices and re-vegetating disturbed areas following construction. Erosion and sediment control would also be regulated under the NPDES permit, which will be obtained from the NDDH prior to construction, and controlled by the development of a SWPPP.

3.9 Water Resources

The Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act of 1977, provides the authority to establish water quality standards, control discharges into surface and ground waters, develop waste treatment management plans and practices, and issue permits for discharges (Section 402) and for dredged or fill material (Section 404).

Surface Water

The proposed project is located in the Waterchief Bay watershed and the Upper Moccasin Creek sub-watershed. Across the proposed pipelines, sheet-flow runoff carries water towards Moccasin Creek which eventually flows into Lake Sakakawea. The proposed project is located 14 miles west of Lake Sakakawea and four miles west of the Little Missouri River.

The proposed project has been sited to avoid direct impacts to surface water and minimize disruption of drainages. Erosion control measures, which will be addressed in the SWPPP, would mitigate migration of sediment downhill or downstream. No measurable increase in runoff or impacts to surface waters is expected. **See Figure 7: Water Resources.**

Groundwater

Review of the electronic records of the North Dakota State Water Commission revealed that there are no permitted water wells or surface water impoundments in the project corridor. Within five miles of the project corridor, there are ten permitted water wells; eight are domestic and two are considered stock wells. **See Figure 7: Water Resources.** The proposed project would not impact groundwater resources.

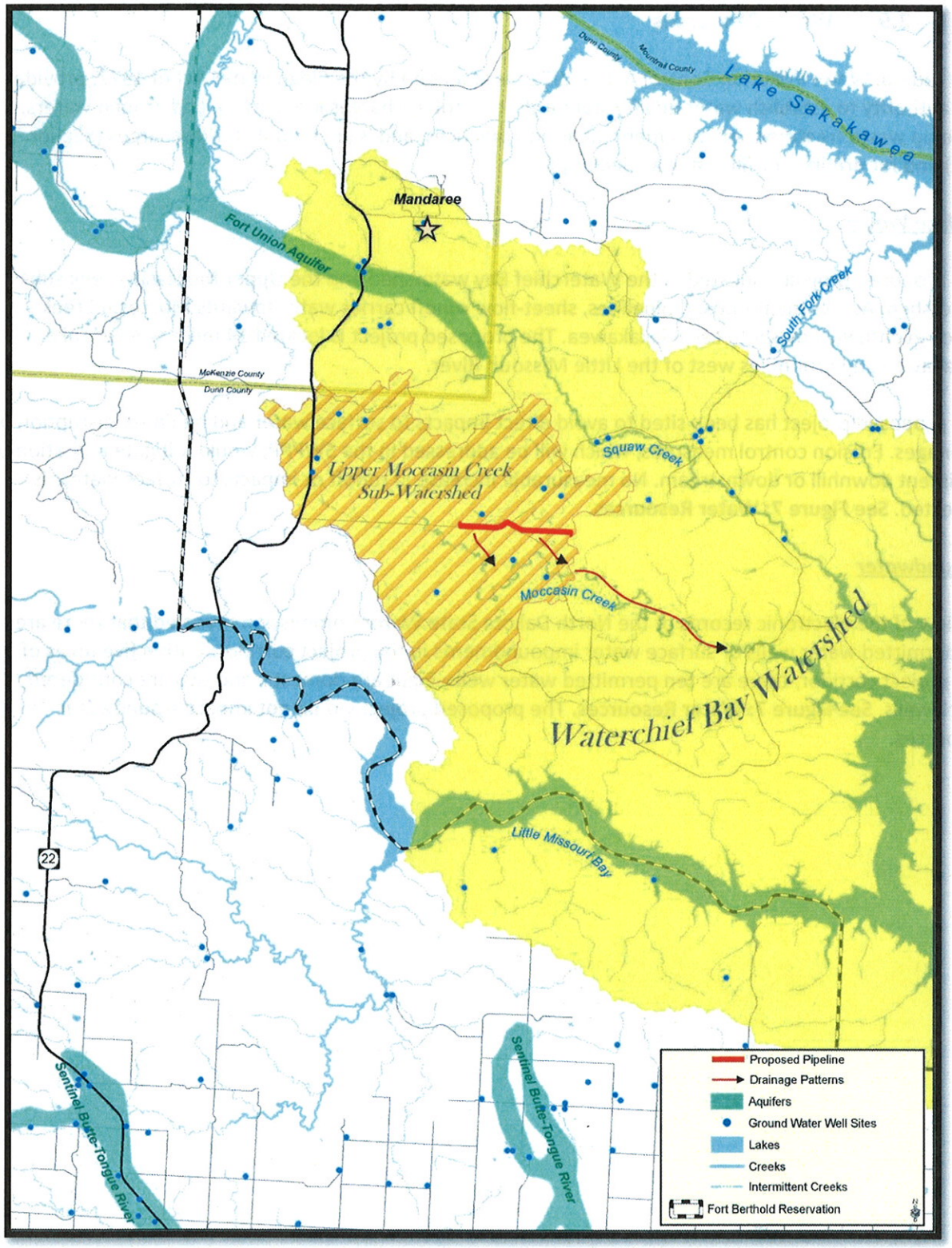

Figure 7: Water Resources

3.10 Wetlands

Wetlands are defined in Executive Order 11990, Protection of Wetlands, as those areas that are inundated by surface or groundwater with a frequency to support, and under normal circumstances do support, a prevalence of vegetation or aquatic life that requires saturated soil conditions for growth and reproduction. Three parameters that define a wetland, as outlined in the Federal Manual for Delineating Jurisdictional Wetlands (US Army Corps of Engineers, 1987), are hydrophytic vegetation, hydrology, and hydric soils. The term "wetlands" generally includes lakes, ponds, rivers, streams, sloughs, prairie potholes, and wet meadows. Wetlands are an important natural resource serving many functions, such as providing habitat for wildlife, storing floodwaters, recharging groundwater, and improving water quality through purification.

A field wetlands delineation was conducted by Kadrmas, Lee & Jackson on August 5, 2009. Results of the field delineation indicated two areas with positive wetland indicators present. **See Table 6: Wetlands Summary.**

Table 6: Wetlands Summary

	Wetland 1	**Wetland 2**
Location	NE/NE ¼ Section 23 T148N – R94W	NE/NE ¼ Section 23 T148N – R94W
Latitude/Longitude	-102.613902 / 47.631645	-102.609635 / 47.63166
Cowardin Classification	R2EMA	R4SB4
Wetland Type	Intermittent Stream	Intermittent Stream
Wetland Feature	Natural	Natural
Wetland Size (Acres)	0.15	0.14
Wetland Protected Under E.O. 11990	✓	✓
Likely USACE Jurisdictional Wetland	✓	✓
Permanent ROW Impacted Wetland Acres	0.05	0.02
Temporary ROW Impacted Wetland Acres	0.04	0.02
TOTAL IMPACTED ACRES	**0.13**	

Disturbance of each wetland would result in less than 0.10 acres of impact; therefore, a Section 404 permit would not be required prior to construction. Additionally, the wetland impacts would be temporary in nature and, following construction, wetlands would be returned to their original contours and reseeded in-kind. Poles associated with the electric transmission line would be sited to avoid wetlands within the project corridor. Besides mitigation associated with reclamation, no other mitigation or monitoring is recommended.

3.11 Vegetation and Invasive Species

Botanical resources were evaluated using visual inspection, GPS data collection, and mapping of dominant plant communities. The project corridor was also investigated for the presence of invasive plant species. **Table 7: Plant Species Summary, and Figure 8: Dominant Plant Species and Noxious Weed Distribution, reflect the dominant plant species found within the project corridor.**

Table 7: Plant Species Summary

Scientific Name	Common Name	Vegetation Type
Andropogon gerardii	Big bluestem	Grass
Artemisia campestris	Green Sagewort	Forb
Artemisia cana	Silver Sagebrush	Forb
Artemisia frigid	Fringed Sagewort	Forb
Artemisia ludoviciana	Cudweed Sagewort	Forb
Bouteloua gracilis	Blue Grama	Grass
Carex lanuginosa	Wooly Sedge	Forb
Echinacea angusifolia	Purple Coneflower	Forb
Fraxinus pennsylvanica	Green Ash	Woody
Grindelia squarrosa	Curly Cup Gumweed	Forb
Hordeum jubatum	Foxtail Barley	Grass
Koeleria macrantha	Junegrass	Grass
Lygodesmia juncea	Rush Skeleton-plant	Forb
Opuntia humifusa	Prickly Pear Cactus	Forb
Pascopyrum smithii	Western Wheatgrass	Grass
Poa pratensis	Kentucky Bluegrass	Grass
Prunus virginiana	Chokecherry	Woody
Psoralea argophylla	Silverleaf scurfpea	Forb
Ratibida pinnata	Prairie coneflower	Forb
Rosa arkansa	Prairie Wild Rose	Forb
Schizachyrium scoparium	Little Bluestem	Grass
Shepherdia argentea	Silver Buffalo Berry	Forb
Solidago mollis	Soft goldenrod	Forb
Spartina pectinata	Prairie Cordgrass	Grass
Stipa comata	Needle and Thread	Grass
Stipa viridula	Green Needle Grass	Grass
Symphoricarpos occidentalis	Western Snowberry	Forb
Ulmus americana	American Elm	Woody

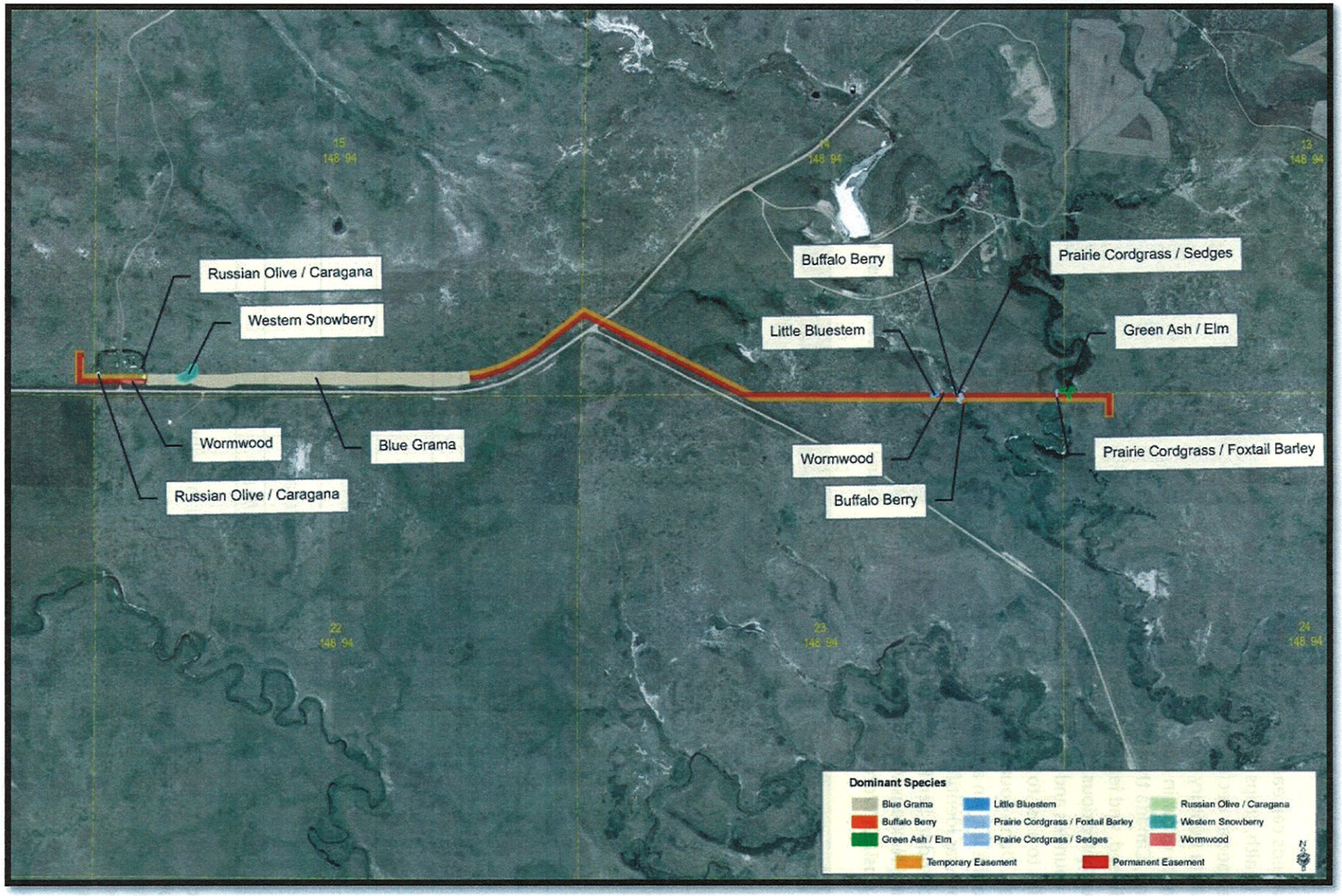

Figure 8: Dominant Plant Species and Noxious Weed Distribution

Noxious weeds can easily spread to the detriment of public health, crops, livestock and recreation. Of twelve species declared noxious under the North Dakota Century Code (Chapter 63-01.1) five are known to occur in Dunn County: absinth wormwood, Canada thistle, dalmation toadflax, field bindweed, and leafy spurge. **See Table 8: Dunn County Noxious Weed Distribution**. In addition, counties and cities have the option to add species to a list to be enforced only in their jurisdiction. Dunn County has not added any species to the list. An absinth wormwood infestation was identified along two areas of the pipeline corridor. **See Figure 8: Dominant Plant Species and Noxious Weed Distribution, and Figure 9: Absinth Wormwood Infestation.**

Figure 9: Absinth Wormwood Infestation

Table 8: Dunn County Noxious Weed Distribution

Common Name	Scientific Name	Dunn County Acres	Present in the Study Area
Absinth wormwood	*Artemesia abinthium* L.	38,600	Yes
Canada thistle	*Cirsium arvense* (L.) Scop	32,800	No
Dalmation toadflax	*Linaria genistifolia* ssp. *dalmatica*	1	No
Diffuse knapweed	*Centaurea diffusa* Lam	—	No
Field bindweed	*Convolvulus arvensis* L.	33,000	No
Leafy spurge	*Euphorbia esula* L.	10,500	No
Musk thistle	*Carduus nutans* L.	2	No
Purple loosestrife	*Lythrum salicaria*	—	No
Russian knapweed	*Acroptilon repens* (L.) DC.	—	No
Saltcedar (tamarisk)	*Tamarix ramosissima*	—	No
Spotted knapweed	*Centaurea maculosa* Lam.	—	No
Yellow starthistle	*Centaurea solstitalis* L.	—	No

Careless construction of the proposed project could introduce undesirable species to the area. Infestations within the project area could spread to neighboring tracts, causing reductions in the quality or quantity of forage or crop production. This EA requires the developer to control noxious weeds within the project area. Prior to construction, the developer shall be responsible for treatment of the absinth wormwood infestation. Treatment methods shall be coordinated with the Dunn County weed

coordinator. This requirement and surface disturbance being temporary in nature largely negates potential to establish or spread noxious weeds.

3.12 Mitigation and Monitoring

Many protective measures and procedures are described in this document. No laws, regulations, or other requirements have been waived; no compensatory mitigation measures are required. Monitoring of cultural resource impacts by qualified personnel is recommended during all ground-disturbing activities. In addition, it is recommended that all areas reclaimed and reseeded are monitored following reclamation efforts to ensure the area is properly reclaimed and the spread of noxious weeds is prevented.

3.13 Irreversible and Irretrievable Commitment of Resources

Potential irreversible and irretrievable commitments of resources include soil lost through wind and water erosion, cultural resources inadvertently destroyed, wildlife killed during earthmoving or in collisions with vehicles, and energy expended during construction and operation.

3.14 Short-term Use of the Environment versus Long-term Productivity

Short-term activities would not detract significantly from long-term productivity of the project area. The project area would generally remain available for livestock grazing, wildlife habitat and other uses. The Tribe and/or allottees with surface rights would be compensated for loss of productive acreage during construction. Successful and ongoing reclamation of the landscape would quickly support wildlife and livestock grazing, stabilize the soil, and reduce the potential for erosion and sedimentation. Long-term productivity of the oil and gas well would improve as previously lost hydrocarbons are collected and brought to market. In addition, there would be a long-term benefit as the proposed project would reduce air emissions associated with flaring and trucking of stored liquids at the well site.

3.15 Cumulative Impacts

Cumulative impacts result from the incremental consequences of an action "when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR 1508.7). Effects of an action may be minor when evaluated in an individual context, but these effects can add to other disturbances and collectively may lead to a measureable environmental change. By evaluating the impacts of the proposed action with the effects of other actions, the relative contribution of the proposed action to a projected cumulative impact can be estimated.

There are no existing exploratory oil and gas wells, other than those associated with the proposed project, within the project area or directly adjacent to the project area. One oil and gas pipeline is located approximately five miles southwest of the western end of the proposed project and the FBRW water pipeline was recently installed directly adjacent to the proposed project. Pipelines within the area generally result in temporary surface disturbance, as would the proposed pipelines; therefore, when adding on to past, present, or reasonably foreseeable pipeline proposals, it is not anticipated that a significant cumulative impact would occur.

Furthermore, the proposed project impacts are mainly related to construction and, therefore, would not add to the impacts resulting from construction and operation of the existing oil and gas wells associated with the project or potential future oil and gas wells. In the long-term, the proposed project is anticipated to aid in the reduction of air emissions within the project area through reduced flaring from the well site and reduced truck traffic to the site. When added to potential impacts of future phases of the pipeline, the reduction in air emissions is anticipated to provide a cumulative benefit.

Installation of overhead electric transmission lines may negatively impact migratory bird species. However, negative cumulative impacts are not anticipated as the proposed project, and future phases of the project, would follow mitigation measures set forth by the USFWS to ensure the protection of migratory bird species.

3.16 Permits

Prior to construction, the developer will obtain a NPDES Permit from the NDDH. No other permits are required for construction of the proposed project.

4. Consultation and Coordination

The BIA has completed many EAs for the oil and gas projects at Fort Berthold since 2007. For the first 18 of these projects, prior notice was sent to about 60 tribes, government agencies, non-profit organizations and individuals. BIA consulted directly and repeatedly with the USFWS to identify issues and incorporate best management practices for wildlife protection. BIA also routinely cooperated on every project with the BLM regarding operational standards and reclamation procedures.

Responses to previous notifications quickly became repetitious, usually consisting of form letters advising BIA that the respondent had no concerns or that the same general concerns applied to every project proposal. BIA has therefore discontinued mailing of individual notices for Fort Berthold oil and gas environmental review, except where proposals include unusual components not previously considered with other interested parties. There are no such components to the proposals analyzed in the EA. BIA is satisfied that the proper scope of analysis for such projects is known.

This justified simplification of NEPA procedures does not impact in any way BIA practices regarding cultural resource regulations and standard practices under the National Historic Preservation Act. **See Appendix A, THPO Correspondence.**

5. List of Preparers

Kadrmas, Lee & Jackson, Inc. (KL&J) prepared this EA and conducted field work under a contractual agreement between Saddle Butte Pipeline, LLC and KL&J, and under the direction of the BIA, Great Plains Regional Office, Division of Energy and Environment. **See Table 9: Preparers and Reviewers.**

Table 9: Preparers and Reviewers		
Organization and Title	**Name and Title**	**Role**
Saddle Butte Pipeline, LLC	Jim Nichols, Project Manager	Project Development, Purpose and Need Development, and Alternatives Development
Kadrmas, Lee & Jackson, Inc.	Shanna Braun, Environmental Scientist	Agency and Client Coordination
Kadrmas, Lee & Jackson, Inc.	Charlotte Brett, Environmental Planner	Client Coordination and Senior Review
Kadrmas, Lee & Jackson, Inc.	Jerry Krieg, Senior Engineer	Project Development
Kadrmas, Lee & Jackson, Inc.	Becky Rude, Environmental Planner	Existing Conditions and Impact Analysis
Kadrmas, Lee & Jackson, Inc.	Skip Skattum, GIS Analyst	Existing Conditions, Impact Analysis, and Exhibit Creation
Kadrmas, Lee & Jackson, Inc.	Grady Wolf, Environmental Scientist	Biological and Botanical Surveys
Beaver Creek Archaeology	Wade Burns, Principal Investigator	Cultural Resource Surveys and Traditional Cultural Property Surveys
Beaver Creek Archaeology	Jennifer Pollman, Archaeologist	Cultural Resource Surveys and Traditional Cultural Property Surveys

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ACRONYMS

APE	Area of Potential Effect
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
CO	Carbon Monoxide
EA	Environmental Assessment
FBRW	Fort Berthold Rural Water
FPPA	Farmland Protection Policy Act
FONSI	Finding of No Significant Impact
MAOP	Maximum Allowable Working Pressure
NAAQS	National Ambient Air Quality Standards
NDDH	North Dakota Department of Health
NEPA	National Environmental Policy Act
NGL	Natural Gas Liquid
NO_2	Nitrogen Dioxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	Ozone
Pb	Lead
PM_{10}	Particulate Matter
ROW	Right-of-way
SBP	Saddle Butte Pipeline, LLC
SO_2	Sulfur Dioxide
SWPPP	Stormwater Pollution Prevention Plan
THPO	Tribal Historic Preservation Officer
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Department
WHP	Wellhead Processing Unit

Appendix A

THPO Correspondence

Three Affiliated Tribes
MANDAN * HIDATSA * ARIKARA

TTRIBAL HISTORIC PRESERVATION
Mandan Hidatsa Ankara
Perry 'No Tears' Brady, Director.
404 Frontage Road,
New Town, North Dakota 58763
Ph/701-862-2474 fax/701-862-3401
pbrady@mhanation.com

September 16, 2009

Mr. Carson Murdy

Archaeologist Bureau of Indian Affairs 115 4th
Avenue SE Aberdeen, South Dakota 57401

RE: BIA Case Number AAO-1645/FB/09

Dear Mr. Murdy:

As per correspondence received September 1, 2009, regarding **BIA Case Number AAO-1645/FB/098,** the Mandan, Hidatsa, & Arikara Nation Tribal Historic Preservation Office, (THPO), are in receipt of your letter and have had the opportunity to review it.

The MHA Nation THPO has also reached a determination of **no historic or cultural properties affected** for these undertakings.

Therefore, the THPO concurs with this determination and the project is ready to proceed. If you have any questions or need additional information, please contact me at (701) 862-2474

Sincerely:

"No Tears" Brady

Perry 'No Tears' Brady:
Director
Mandan, Hidatsa, & Aarikara Nation
Tribal Historic Preservation Office

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Great Plains Regional Office
115 Fourth Avenue S.E.
Aberdeen, South Dakota 57401

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
DESCRM
MC-208

SEP 01 2009

Perry 'No Tears' Brady, THPO
Mandan, Hidatsa and Arikara Nation
404 Frontage Road
New Town, North Dakota 58763

Dear Mr. Brady:

We have considered the potential effects on cultural resources of an oil pipeline in Dunn County, North Dakota. Approximately 38.5 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the area depicted in the enclosed report. One previously recorded archaeological site (32DU1406) and an isolated find were recorded in the inventory, however, 32DU1406 is much disturbed by utility lines and rodent activity such that it does not appear to possess the quality of integrity and meet at least one of the criteria (36 CFR 60.4) for inclusion on the National Register of Historic Places. No properties were located that appear to qualify for protection under the American Indian Religious Freedom Act (16 USC 1996).

As the surface management agency, and as provided for in 36 CFR 800.5, we have therefore reached a determination of **no historic properties affected** for this undertaking. Catalogued as **BIA Case Number AAO-1645/FB/09,** the proposed undertaking, location, and project dimensions are described in the following report:

Pollman, Jennifer, and Wade Burns
(2009) Saddle Butte Pipeline Project Burr-Voigt Connection: A Class III Cultural Resource Inventory, Dunn County, North Dakota. Beaver Creek Archaeology for Saddle Butte Pipeline, LLC, Durango, CO.

If your office concurs with this determination, consultation will be completed under the National Historic Preservation Act and its implementing regulations. The Standard Conditions of Compliance will be adhered to.

If you have any questions, please contact Dr. Carson N. Murdy, Regional Archaeologist, at (605) 226-7656.

Sincerely,

Regional Director

Enclosure
cc: Chairman, Three Affiliated Tribes
Superintendent, Fort Berthold Agency
Chief, Division of Energy and Environment

NOTICE OF AVAILABILITY

THE BUREAU OF INDIAN AFFAIRS (BIA) AND THE THREE AFFILIATED TRIBES ARE PLANNING ON CONSTRUCTING THREE 2.31-MILE PIPELINES; NATURAL GAS, CRUDE OIL, PRODUCED WATER AND ELECTRICAL UTILITY LINES LOCATED IN SECTIONS 13-16 AND 21-24 OF TOWNSHIP 148 NORTH, RANGE 94 WEST ON THE FORT BERTHOLD RESERVATION. CONSTRUCTION IS SCHEDULED TO BEGIN IN THE FALL OF 2009.

BASED ON THE ENVIRONMENTAL ASSESSMENT (EA), IT HAS BEEN DETERMINED THAT THE ACTION WILL NOT RESULT IN SIGNIFICANT IMPACTS TO THE QUALITY OF THE HUMAN ENVIRONMENT; THEREFORE, AN ENVIRONMENTAL IMPACT STATEMENT IS NOT REQUIRED.

FOR FURTHER INFORMATION OR TO OBTAIN A COPY OF THE FINDING OF NO SIGNIFICANT IMPACT (FONSI) AND EA, CONTACT HOWARD BEMER, SUPERINTENDENT AT THE FORT BERTHOLD AGENCY AT 701-627-4707.

THE FONSI IS A FINDING ON ENVIRONMENTAL EFFECTS, NOT A DECISION TO PROCEED WITH AN ACTION, THEREFORE CANNOT BE APPEALED.