



United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Great Plains Regional Office
115 Fourth Avenue S.E., Suite 400
Aberdeen, South Dakota 57401



IN REPLY REFER TO:
DESCRM
MC-208

FEB 16 2012

MEMORANDUM

TO: Superintendent, Fort Berthold Agency

FROM: *ACTING* Regional Director, Great Plains Region 

SUBJECT: Environmental Assessment and Finding of No Significant Impact

In compliance with the regulations of the National Environmental Policy Act (NEPA) of 1969, as amended, an Environmental Assessment has been completed and a Finding of No Significant Impact (FONSI) has been issued. The addendum authorizes land use for the West Van Hook Gathering System on the Fort Berthold Indian Reservation.

All the necessary requirements of the National Environmental Policy Act have been completed. Attached for your files is a copy of the EA, FONSI and Notice of Availability. The Council on Environmental Quality (CEQ) regulations require that there be a public notice of availability of the (40 C.F.R. Section 1506.6(b)). Please post the attached notice of availability at the Agency and Tribal buildings for 30 days.

If you have any questions, please call Marilyn Bercier, Regional Environmental Scientist, Division of Environment, Safety and Cultural Resources Management, at (605) 226-7656.

Attachment

cc: Tex Hall, Chairman, Three Affiliated Tribes (with attachment)
Elgin Crows Breast, Tribal Historic Preservation Officer (with attachment)
Derek Enderud, BLM, Bureau of Land Management (with attachment)
Ryan Krapp, Carlson McCain (with attachment)
Jonathon Shelman, Corps of Engineers
Jeff Hunt, Fort Berthold Agency

Finding of No Significant Impact

Dakota-3 E&P Company, LLC

*Environmental Assessment
West Van Hook Gathering System*

*Fort Berthold Indian Reservation
Mountrail County, North Dakota*

The U.S. Bureau of Indian Affairs (BIA) has received a proposal to construct the West Van Hook Gathering System (VHGS). Dakota-3 E&P Company, LLC (D-3) is proposing the installation of pipelines and utilities from existing and proposed D-3 well pads to a central delivery point (CDP) on the Fort Berthold Indian Reservation. The proposed project area, the West Van Hook Gathering System (West VHGS), will connect to the existing the Van Hook Gathering System (VHGS). The VHGS will collect oil, gas and produced water from existing and proposed wells located on the Sanish Peninsula on the Fort Berthold Indian Reservation (FBIR). Developments have been proposed across land held in trust by the United States in Mountrail County, North Dakota. Associated federal actions by BIA include determinations of impacts and effects regarding environmental resources for developments on tribal lands.

The potential of the proposed actions to impact the human environment is analyzed in the attached addendum to an existing EA, as required by the National Environmental Policy Act. Based on the recently completed addendum to the EA, I have determined that 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. Agency and public involvement solicited for the preceding NEPA document was sufficient to ascertain potential environmental concerns associated with the currently proposed project.
2. 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 actions and the No Action alternative.
3. Guidance from the U.S. Fish and Wildlife Service has been fully considered regarding wildlife impacts, particularly in regard to threatened or endangered species. This guidance includes the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.), the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds", and the Endangered Species Act (16 U.S.C. 1531 et seq.).
4. The proposed actions are designed to avoid adverse effects to historic, archaeological, cultural and traditional properties, sites and practices. Compliance with the procedures of the National Historic Preservation Act is complete.
5. Environmental justice was fully considered.
6. Cumulative effects to the environment are either mitigated or minimal.
7. No regulatory requirements have been waived or require compensatory mitigation measures.
8. The proposed projects will improve the socio-economic condition of the affected Indian community.

ACTING

Regional Director



2/16/12

Date

ENVIRONMENTAL ASSESSMENT

United States Bureau of Indian Affairs

**Great Plains Regional Office
Aberdeen, South Dakota**



Dakota-3 E&P Company, LLC

West Van Hook Gathering System

Fort Berthold Indian Reservation

January 2012

For information contact:
Bureau of Indian Affairs, Great Plains Regional Office
Division of Environment, Safety and Cultural Resources
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Environmental Assessment West Van Hook Gathering System Dakota-3 E&P Company, LLC

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APPENDICES

- Appendix A** West Van Hook Gathering System Scoping Letter
Appendix B West Van Hook Gathering System Comments Received

ACRONYMS

AAQM	Ambient Air Quality Monitoring (site)
AIRFA	American Indian Religious Freedom Act
APD	Application for Permit to Drill
APE	Area of Potential Affect
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FONSI	Finding of No Significant Impact
FBRWS	Fort Berthold Rural Water System
GPRO	Great Plains Regional Office
MHA Nation	Three Affiliated Tribes of the Mandan, Hidatsa, and Arikara Nation
NAGPRA	Native American Graves Protection and Repatriation Act
NDCC	North Dakota Century Code
NDDH	North Dakota Department of Health
NDIC	North Dakota Industrial Commission
NDGFD	North Dakota Game and Fish Department
NDNH	North Dakota Natural Heritage
NDSWC	North Dakota State Water Commission
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPAL	Northern Plains Agro-ecosystems Laboratory
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTL	Notice to Lessees
SHPO	State Historic Preservation Officer
TCP	Traditional Cultural Property
TERO	Tribal Employment Rights Office
THPO	Tribal Historic Preservation Officer
TVD	Total Vertical Depth
USACE	United States Army Corps of Engineers
USC	United States Code
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 Purpose and Need for the Proposed Action

Dakota-3 E&P Company, LLC (D-3) is proposing the installation of pipelines and utilities from existing and proposed D-3 well pads to a central delivery point (CDP) on the Fort Berthold Indian Reservation (Reservation). The proposed project area, the West Van Hook Gathering System (West VHGS), will connect to the existing the Van Hook Gathering System (VHGS) (Figure 1). The VHGS will collect oil, gas and produced water from existing and proposed wells located on the Sanish Peninsula of the Reservation.

The project will include the installation of a natural gas gathering pipeline, an oil gathering pipeline, a produced water gathering pipeline, and a fresh water delivery pipeline. Utilities, including electrical and fiber optic cables will be installed underground within the same 130-foot right-of-way (ROW). This document addresses construction and operation of the proposed system that crosses fee, tribal and tribal allotted lands in Sections 11, 12 & 13, in T150N, R93W and Sections 6, 7 & 18, in T150N, R93W in Mountrail County, North Dakota (Figures 2 and 3). These tribal and individual allotted lands are held in trust by the United States. The Bureau of Indian Affairs (BIA) is the surface management agency for potentially affected tribal land and individual allotments.

The economic development of available resources and associated BIA actions are consistent with BIA's general mission. Leasing and development of mineral resources offers substantial economic benefits to both the Three Affiliated Tribes of the Mandan, Hidatsa, and Arikara Nations and to individual tribal members. The West VHGS is being proposed to reduce waste of valuable natural resources through continued flaring of natural gas and to mitigate environmental and public safety concerns – including visual impacts, noise, heavy truck traffic and road deterioration. The proposed project is expected to reduce the amount of truck traffic to area roadways over the life of the oil field

Oil and gas exploration and development activities are conducted under authority of the Indian Mineral Leasing Act of 1938 (25 USC 396a, *et seq.*), the Indian Mineral Development Act of 1982 (25 USC 2101, *et seq.*), the Federal Onshore Oil and Gas Royalty Management Act of 1982 (30 USC 1701, *et seq.*), and the Energy Policy Act of 2005 (42 USC 15801, *et seq.*). BIA actions in connection with the proposed project are largely administrative and include approval of ROW and determinations regarding effects on cultural resources.

These proposed federal action requires compliance with the *National Environmental Policy Act* of 1969 (NEPA) and regulations of the Council on Environmental Quality (CEQ, 40 CFR 1500-1508). Analysis of the proposal's potential to affect the human environment is expected to both improve and explain federal decision-making. The procedures and practices described in the application are critical elements in both the project proposal and the BIA's decision regarding environmental impacts. This EA will result in either a Finding of No Significant Impact (FONSI) or a decision to prepare an Environmental Impact Statement (EIS).

Any authorized project will comply with all applicable federal, state, and tribal laws, rules, policies, regulations, and agreements. No construction or other ground-disturbing operations will begin until all necessary leases, easements, surveys, clearances, consultations, permissions, determinations, and permits are in place. Additional NEPA analysis, findings, and federal actions are required prior to any other development beyond what is described and analyzed in this EA.

Figure 1. VHGS Overview



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Figure 2. West VHGS Proposed Route

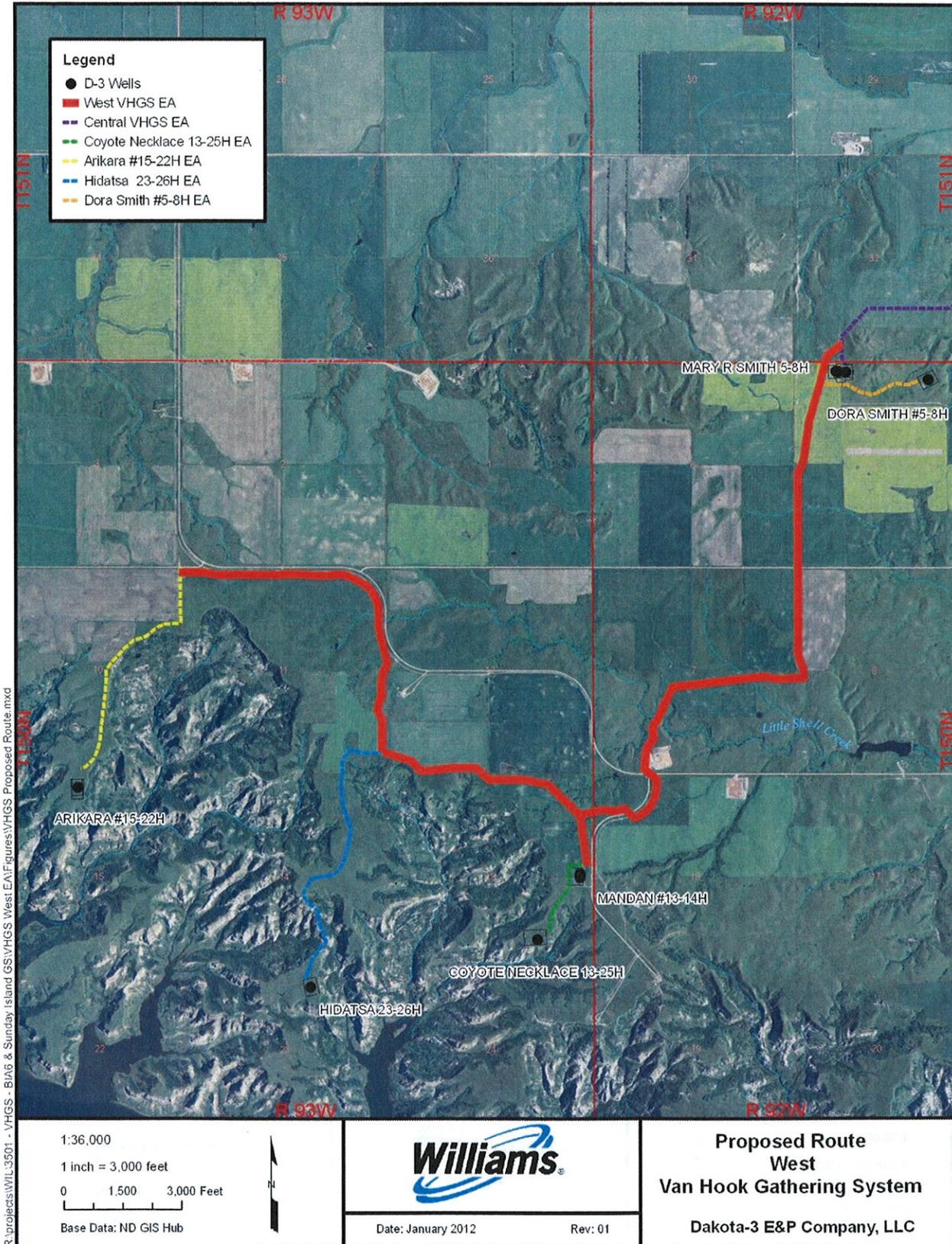
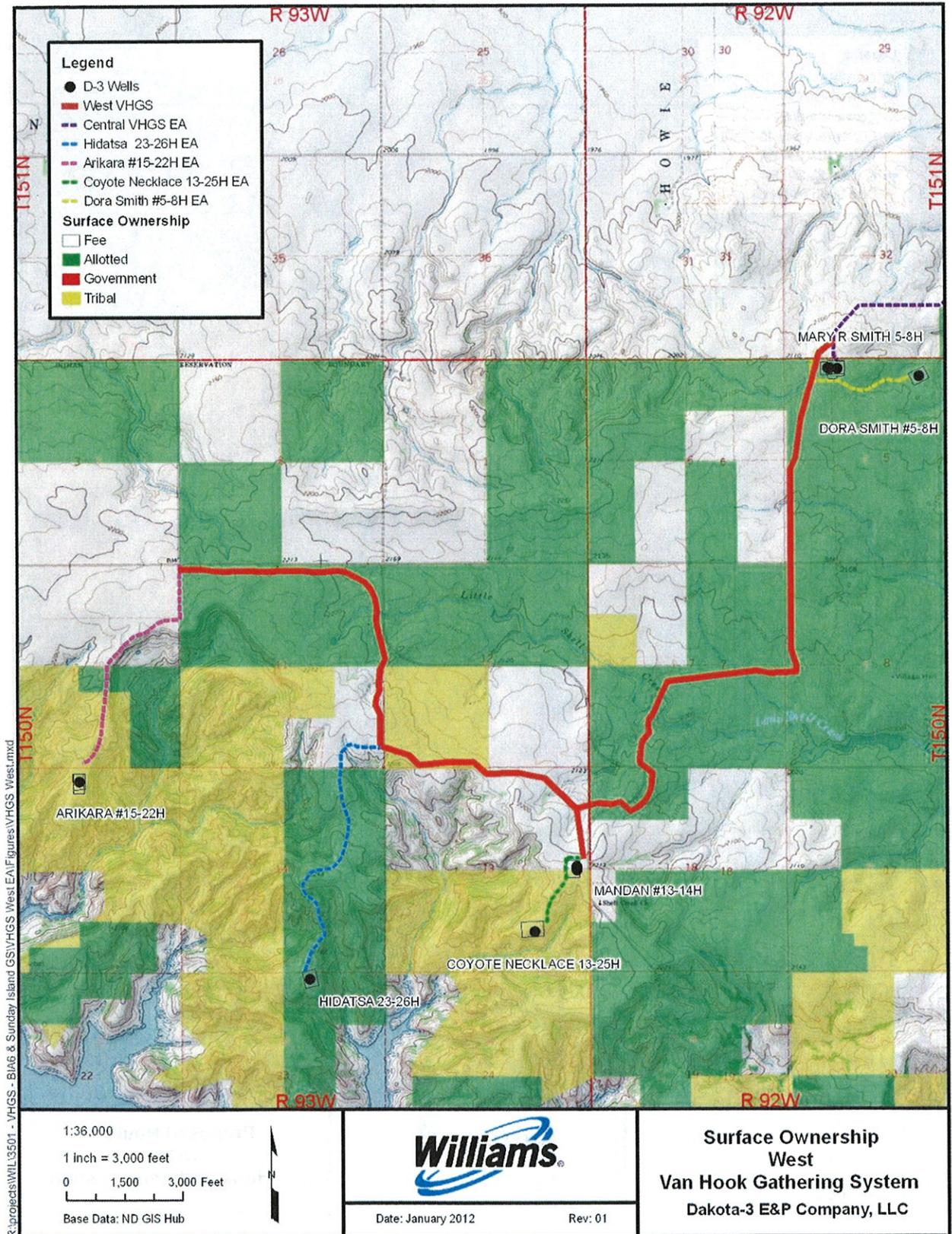


Figure 3. Surface Ownership West VHGS



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2.0 Proposed Action and Alternatives

2.1 The Proposed Action

The **Proposed Action** consists of construction and operation of an oil, gas and produced water pipeline gathering system established across mixed surface ownership within the boundaries of the Reservation. The proposed gathering system will collect and transport natural gas, oil and water produced from wells drilled in the Bakken and the Three Forks Formations. Site-specific actions will or may include several components, including temporary construction right-of-ways, permanent right-of-ways, underground utility (electric and fiber optic) construction, drainage crossings, and reclamation.

Construction activities will follow lease stipulations, practices, and procedures outlined in this document, guidelines and standards in *Surface Operating Standards for Oil and Gas Explorations and Development* (BLM/US Forest Service, Fourth Edition, also known as the Gold Book), and any conditions added by the BIA. Pipeline operations will be conducted in full compliance with applicable laws and regulations. The proposed action is described in more detail in the following sections.

The specific pipeline route was determined after numerous pre-on-site inspections by the proponent, the civil surveyor, the environmental consultant, BIA Environmental Specialists, and the Tribal Historic Preservation Office (THPO) monitor in November 8, 2010 and August 9 and November 7, 2011. Those in attendance included BIA Environmental Specialists (Jeff Desjarlais and/or Chris McLaughlin), Uintah Surveyors; D-3 Regulatory Specialist (Nelson Klitzka), Jeske Consultants (John Jeske); SWCA Archeologists; Tribal Historic Preservation Office (THPO) monitors; and Carlson McCain NEPA biologist (Ryan Krapp).

Resource surveys were conducted at the time of pre-on-site inspections to determine potential impacts to cultural and natural (i.e., biological and physical) resources. The location was inspected in consideration of topography, location of topsoil/subsoil stockpiles, natural drainage and erosion control, flora, fauna, habitat, historical and cultural resources, and other surface issues. The final location was determined in consideration of the previously identified issues. Avoidance measures and other protective measures were incorporated into the final project design to minimize impacts to evaluated resources, as appropriate (see Section 3). During the inspections, the BIA gathered information needed to develop site-specific mitigation measures that will be incorporated in the Permit to Construct.

2.2 The No Action Alternative

Under the No Action Alternative, the proposed project will not be installed or operated. Truck traffic transporting oil and gas products will progressively increase on local roads as proposed wells begin production. Flaring of produced gas at the well sites will be necessary to continue, as it is the only alternative at this time without a pipeline gathering system. Produced water, oil and fresh water will also be necessary to continue to be trucked.

Existing conditions could be impacted for the following critical elements if the No Active Alternative is selected:

- Air quality;
- Public health and safety;
- Socioeconomic conditions; and
- Environmental justice.

Flaring of gas from increasing numbers of wells may lead over time to measurable degradation of air quality. Increasing truck traffic will result in increased degradation of public roadways, traffic safety concerns, and even allow for potential spreading of invasive weed species. The No Action alternative will exacerbate the waste of resources and loss of potential revenue. Gas income loss due to flaring is estimated at 2 million dollars over the life of each well (Energy Information Administration, 2009). Under the No Action Alternative, the MHA Nation, tribal members, and allottees will not have the opportunity to realize potential financial gains resulting from the flaring of gas resources at these well locations nor the significantly reduced truck traffic over the life of the wells.

2.3 System Design

The proposed West VHGS route is approximately 6.5 miles in length. The West VHGS will include the lateral connection to the Mandan 13-14H. The gathering system connections to the Arikara 15-22H, Hidatsa 23-26H, Coyote Necklace 13-25H, Dora Smith 5-8H and Mary R. Smith 5-8H have been or will be addressed in their respective EAs. All pipelines and underground utilities will be installed within a 130-foot ROW. The natural gas pipelines will be constructed of polyethylene, eight-inch diameter trunk lines and three-inch diameter well lateral connections. The proposed oil pipelines will be constructed of 8-10-inch diameter welded steel for trunk lines and 6-8-inch diameter for well lateral connections. Produced water pipelines will consist of 4-8-inch diameter polyethylene pipe. Fresh water delivery pipelines will also be polyethylene pipe, 4-6-inch diameter. Electrical and fiber optic utilities are planned to be installed underground at the time of pipeline installation. If utilities cannot be installed at that time they may be buried at a later date by utilizing the spider-plow or comparable method.

Natural gas and oil pipelines will be installed in one trench and the produced water and fresh water pipelines will be installed in a second trench. Trenches will be approximately 2.5 feet wide and will be placed 10-15 feet apart. Pipelines will be installed at a minimum depth of six feet except as needed at road and stream crossings or as needed for safety considerations.

2.4 Construction Procedures

The pipelines will be designed, assembled, and installed in accordance with U.S. Department of Transportation (DOT) regulations (DOT Title 49 CFR Parts 195 and 192) and other standards as applicable. Natural gas and oil pipelines will be installed in one trench with produced water and fresh water pipelines installed in a second, separate trench. Trenches will be approximately 2.5 feet wide and will be placed 10-15 feet apart (Figure 4). Pipelines will be installed at a minimum depth of six feet except as needed at road and stream crossings or as needed for safety considerations.

Electrical and fiber optic utilities will be installed underground at the same time or at a later date by utilizing the spider-plow or comparable method. The pipelines and utilities will be installed within the same 130-foot right-of-way.

County, state, private, BIA roads and field approaches used to access the ROW during construction will be maintained in the same or better condition as existed prior to the start of construction. The access roads and field approaches to the pipeline ROW depicted in Figure 5 were surveyed and cleared for use in previous EA's and at the on-site visits. Off-road driving, other than within the ROW, will be strictly prohibited. Signs may be installed on approved access roads and will be used to identify roads where access is prohibited. Excessive rutting or other surface disturbing activities will be avoided or immediately repaired.

Figure 4. Right-of-Way Typical

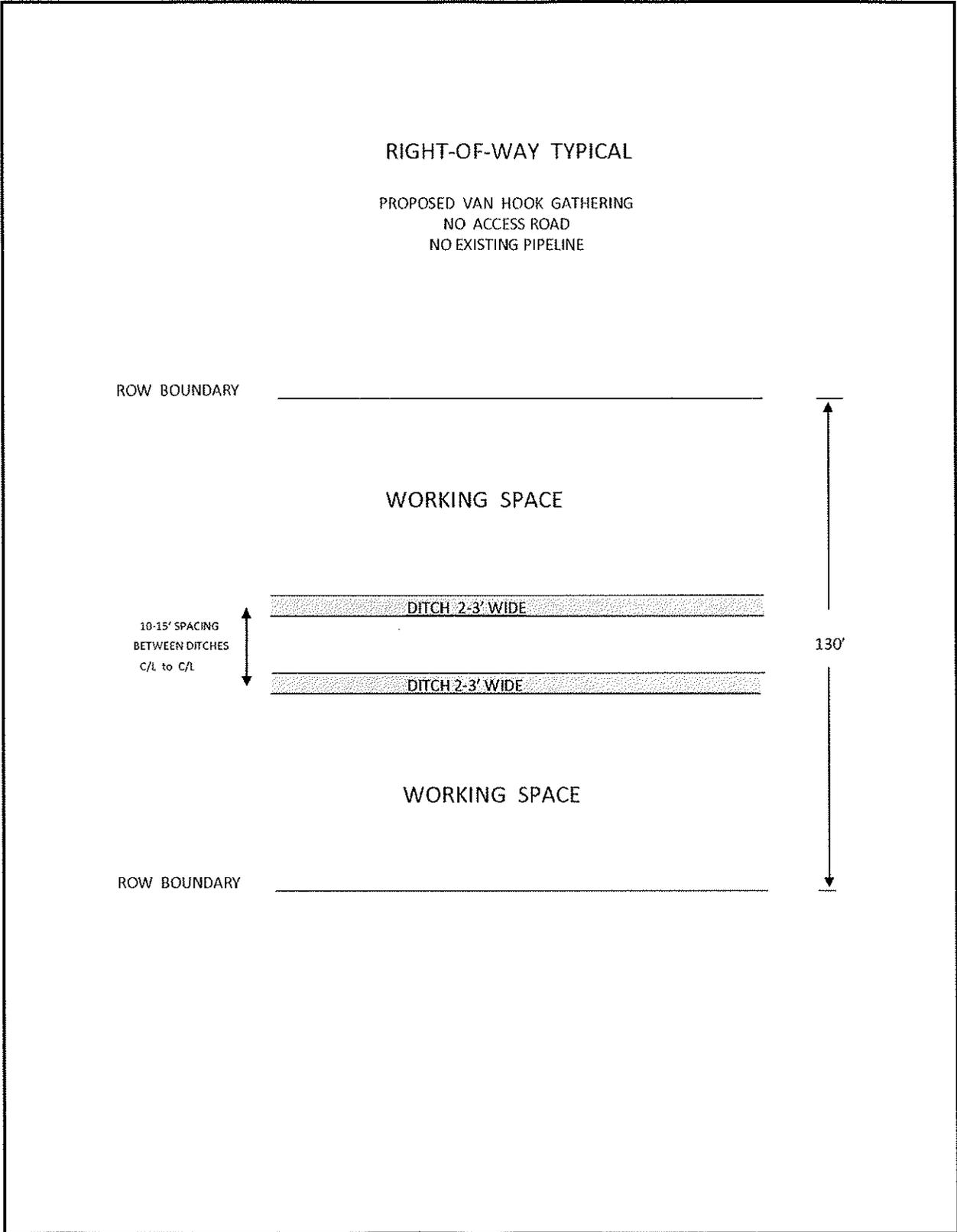
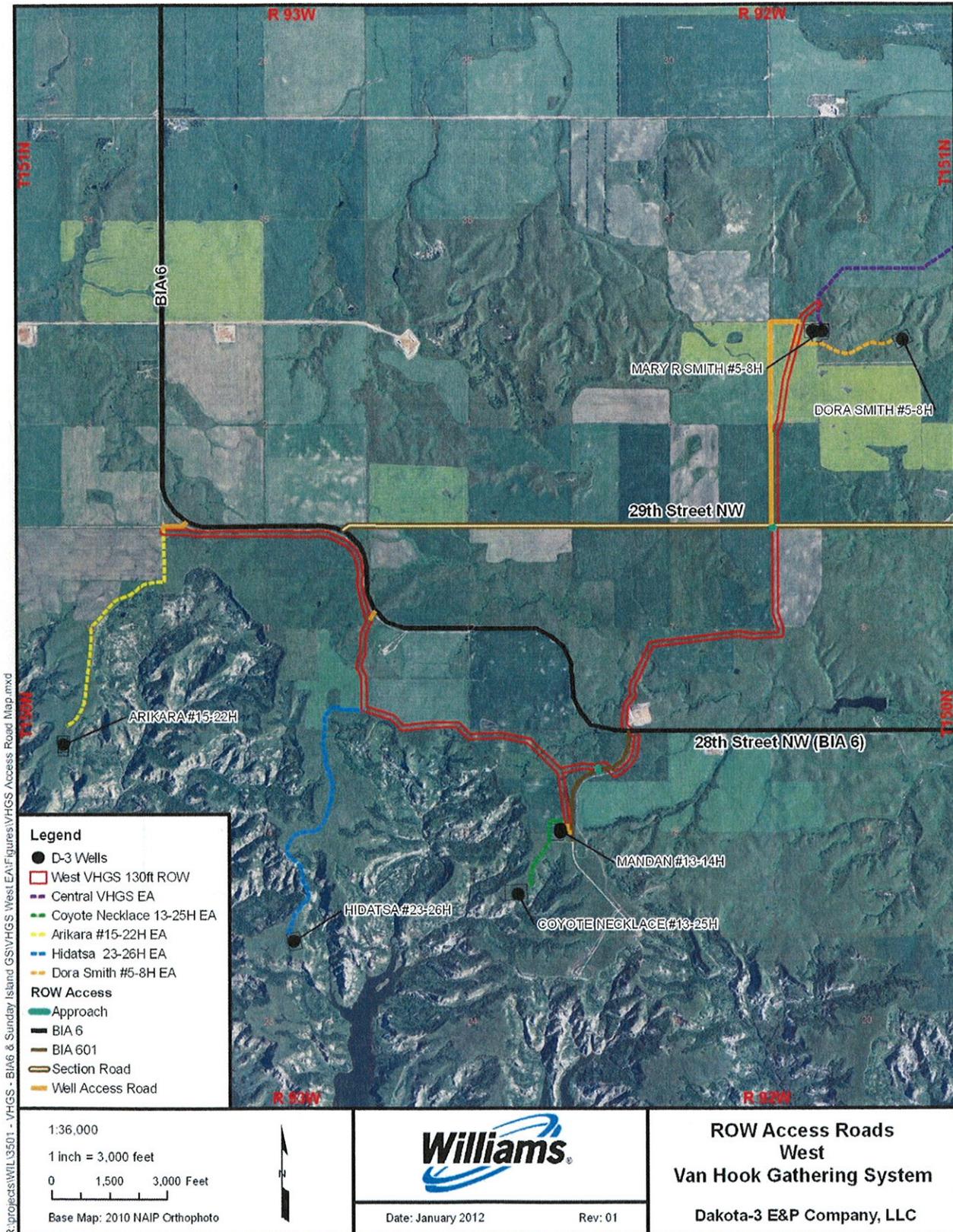


Figure 5. ROW Access Routes



2.4.1 Clearing and Grading

Construction of the pipelines and utilities will require clearing and grading within the construction ROW. Trees, boulders, and debris from the construction ROW will be removed and a level working surface will be prepared for the construction equipment. When ditching is implemented with a trenching machine, the topsoil will first be stripped and stored. The depth of topsoil stripping will vary according to the ROW landscape position as discussed in the following sections.

Construction activities will be suspended during abnormally wet conditions to prevent excessive rutting or mixing of topsoil with subsurface soils. Topsoil is typically stored at the far edge of the right-of-way on the opposite side of the trench from where construction machinery is utilized. In some instances, topsoil may be stored off site or on the "working side" of the trench. In the latter case, the topsoil is again stored away from where machinery will operate.

Fences and gates will be constructed during the clearing and grading operations to allow continuous use of pastures, grazing units, and livestock facilities. Erosion fabric, mats or logs along with construction of diversion ditches and/or water bars will be installed where necessary along the ROW adjacent to wetlands and streams.

2.4.2 Trenching

Trenches will be excavated using a wheel trencher or backhoe. The finer subsoils excavated will be stored closest to the open ditch. Special equipment may be used if large quantities of solid rock that cannot be excavated are encountered. Trenches will be approximately 2.5 feet wide and will be placed 10-15 feet apart. Pipelines will be installed at a minimum depth of six feet except as needed at road and stream crossings or as needed for safety considerations.

2.4.3 Stringing

Pipeline materials will be staged at storage areas located on Fee lands to the west and the north of the project area, at existing oil/gas well sites along the ROW and/or trucked directly to the construction. The pipe lengths are typically 40 to 80 feet long. A stringing crew using special trailers will move the pipe along the ROW.

2.4.4 Pipe Bending

A pipe-bending machine will be used to make slight bends in the pipe to account for changes in the pipeline ROW and to conform to the topography. The bending machine uses a series of clamps and hydraulic pressure to make a smooth, controlled bend in the pipe. All bending is performed in strict accordance with federally prescribed standards to ensure integrity of the bend.

2.4.5 Welding

Welding is the process that joins the various sections of the pipe together into one continuous length. Each welder must pass qualification tests to work on a particular pipeline job and each weld procedure must be approved for use on that job in accordance with federally adopted welding standards. D-3 will be purchasing steel pipe that is rated as API 5L X-42/52 and will inspect all pipe while at the mill to ensure quality. D-3 will ensure that external epoxy coating is applied to a minimum thickness of 14 millimeters.

2.4.6 Inspection

A certified welding inspector will visually inspect each weld for quality and completeness. In addition, qualified technicians take X-rays of the pipe welds to ensure completed welds meet federally prescribed quality standards. The X-ray technician processes the film in a small,

portable darkroom at the site. Any welds that do not pass the inspection process are repaired or cut out, and a new weld is made. Once welds have passed visual inspection, they are subjected to 20 percent Non Destructive Testing. After passing these tests, the weld areas are covered for corrosion protection. After the weld areas have been covered, the external coating of the pipe is inspected using a jeepmeter to detect holes and cracks.

2.4.7 Lowering In

A series of side-boom tractors will simultaneously lift welded sections of the pipe and carefully lower the sections into the trench. Non-metallic slings protect the pipe and coating as it is raised and moved into position. In rocky areas, the contractor may place sandbags or foam blocks at the bottom of the trench prior to lowering-in to protect the pipe and coating from damage.

2.4.8 Backfilling

The trench can be backfilled once the pipe has been placed. Soil is returned to the trench in the reverse order of excavation. Subsoil is placed first, followed by topsoil. The trench line (subsoil) will be compacted with a wheeled-roller. A 3-6 inch crown will be left over the trench line to allow for natural subsidence.

If the topsoil is excessively frozen the topsoil will not be re-spread and appropriate BMP's along the entirety of the ROW will be implemented to reduce the potential for excessive erosion. In areas where the spring thaw will likely bring considerable amounts of running water, trench breakers or surface breakers, along with temporary surface matting may be implemented to further minimize erosion potential on slopes.

Trenches will be backfilled immediately after pipe and utility installation and testing, waiting only if soils are overly wet or frozen. Appropriate temporary and long-term measures will be applied to all disturbed areas to minimize and control erosion. Field practices will conform with prescribed Best Management Practices (BMP's) and may include: 1) installing erosion fabric, mats or logs; 2) construction of ditches and/or water bars; 3) seeding, planting, mulching and creation of buffer strips; and 4) other measures identified at onsite meetings by BIA and during construction to minimize erosion and soil loss. Monitoring and any maintenance of erosion along the ROW will be ongoing and responsibility of D-3.

2.4.9 Pressure Testing

Prior to being put into service, the steel pipe will be pressure tested to approximately 115% of the maximum design pressure of 720 pounds per square inch gauge (psig). A cathodic protection system will be installed on the steel pipe to protect against corrosion of the pipe. The natural gas and produced water pipelines will be constructed with high density polyethylene pipe resin 4710. The polyethylene material is not subject to corrosion from reaction with the water so no external or internal coating is required for water service. The produced water pipe is designed to sustain a maximum pressure of 255 psig and will be air pressure tested to approximately 115% of 255 psig prior to being approved for service. The natural gas pipe is designed to sustain a maximum pressure of 255 psig and will be air pressure tested to approximately 115% of 255 psig prior to being approved for service. Annual surveys of the pipeline system will be conducted to assure the pipeline integrity and cathodic protection system is still functioning adequately.

2.4.10 Rural Water System Crossings

The project ROW is proposed to cross and connect to the Forth Berthold Rural Water utility in numerous locations. The rural water system is managed by the Bureau of Reclamation and by the Fort Berthold Rural Water System (FBRWS). Regulations that apply to crossings include:

- Clearance/spacing.
- Erosion control measures.
- Procedures, excavation plans, and schedules for crossings.
- Submittal of as-built documentation after construction.

The alignment map and the construction and crossing spec sheet are included in Appendix B and will be followed. The FBRWS will be notified of crossings and appropriate documentation will be submitted.

2.4.11 Directional Drilling and 24-HR Open Cuts

Directional drilling, sometimes referred to as horizontal drilling or boring, can reduce or mitigate surface disturbance, traffic interruptions, damage to roads, and environmental impacts to streams, wetlands, cultural resources or other sensitive areas. Directional drilling involves drilling a hole in a shallow arch from one surface location to another, beneath the feature to be avoided. The pipeline is then pulled through the hole or through a casing installed in the hole.

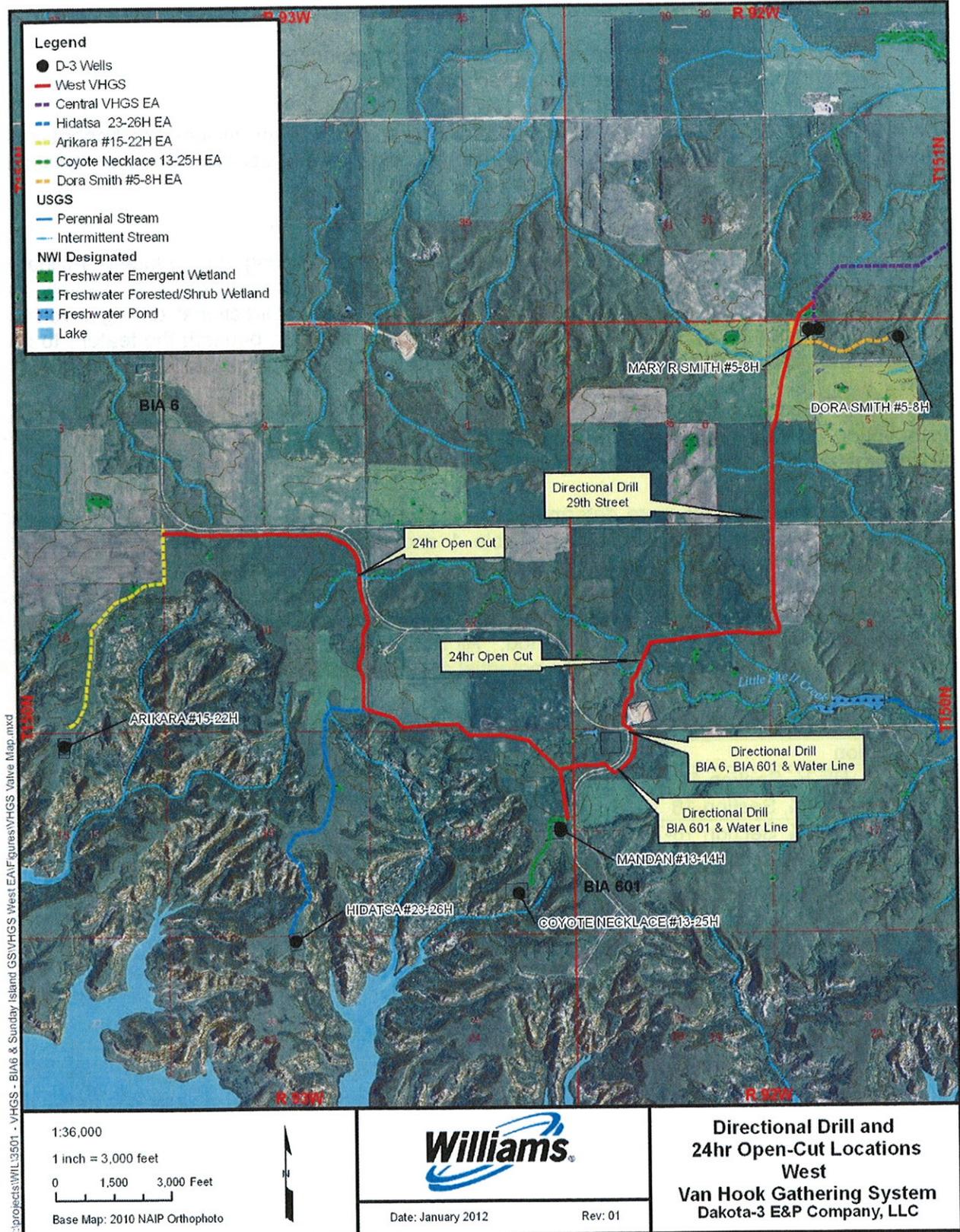
All improved road crossings will be directionally drilled to avoid surface disturbance and traffic disruptions. Private driveway crossings will be directionally drilled unless the ROW lease agreement with the landowner states otherwise.

Drainage crossing methods were determined at on-site investigations to either be directionally drilled or open cut and are identified in Table 1 and displayed in Figure 6. Locations of directional drilling pits were discussed at on the on-site visit in relation to topography and features. The minimum setback lengths will be displayed in the construction design plats. The surface of the 24-HR open-cut areas will be left undisturbed until the area can be completed (opened and closed) within a 24-hour period. All BMP's will be employed to ensure minimal surface disturbance and minimize erosion potential at all stream/drainage crossings.

Table 1. Directional Drill and 24-HR Open-cut Locations on Tribal Allotted Lands

Location	Feature	Crossing Method
NE ¼, NE ¼, Section 11	Ephemeral drainage	24-HR Open Cut
NW ¼, NW¼, Section 18	Road and rural water line	Directional Drill
NW ¼, NW¼, Section 18-7	Road(s) and rural water line	Directional Drill
NE ¼, SW ¼, Section 7	Intermittent drainage	24-HR Open Cut
SW ¼, SW¼, Section 5	Road(s) and rural water line	Directional Drill

Figure 6. Directional Drill and 24-HR Open-Cut Locations



2.4.12 Valve Locations

Above ground isolation valves will be constructed on each well pad site and at intervals of approximately 1-1.5 miles on new oil, gas and produced water pipelines (Figure 7). This will allow for pipeline sections to be isolated to minimize the potential for large spills and also for the repair or service of the pipelines. The pipeline valve placements have been determined by ROW accessibility and ability to quickly access and shutdown during winter months.

2.4.13 Spill Response Plan

D-3 has developed an Emergency Spill Contingency Plan (Plan) for the VHGS. The spill preventative measures and monitoring protocols, notification procedures, spill detection and on-scene spill mitigation procedures, response activities, contacts, training and drill procedures, and response plan review and update procedures, as referenced in the Plan, apply to the proposed pipelines, so long as D-3 remains the operator. A copy of the Plan has been filed with the BIA and D-3 has legally committed to adhering to the procedures and requirements as defined by federal law (Title 49 Code of Federal Regulations [CFR] 194).

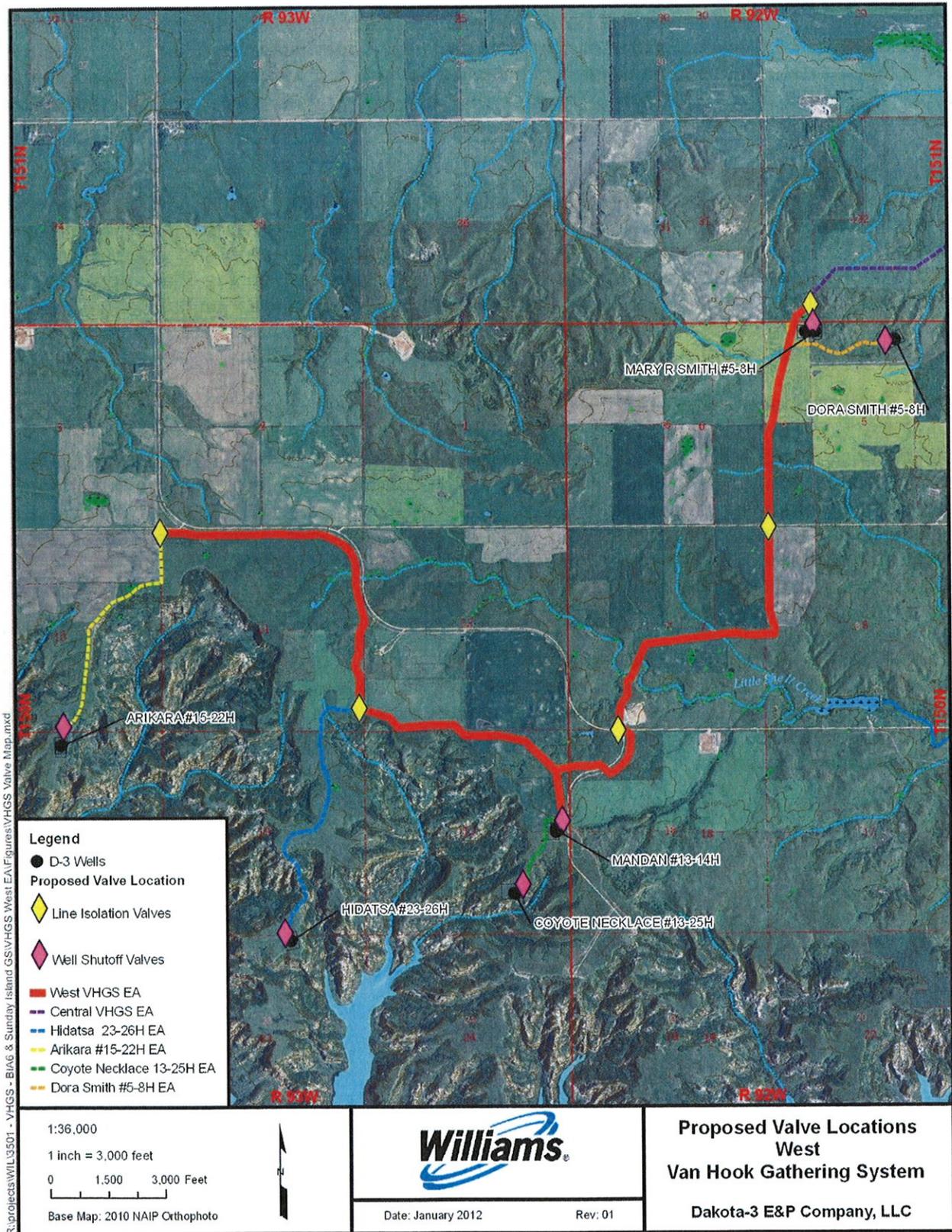
2.5 Operations and Maintenance

Maintenance of pipelines and underground utilities will be confined to the 130-foot permanent ROW. Annual surveys of the pipeline system will be conducted to assure the pipeline integrity and cathodic protection system is functioning adequately. In the unlikely event of corrosion detection or leak, replacement of system sections may be required. Loss of products or waste products may require excavation of contaminated soils and other remedial projects. Applicable regulations, including immediately notifying the BIA, will be implemented to minimize waste of resources and environmental damage.

2.5.1 Pipeline Marking Procedures

D-3 will adhere to the requirements of 49 CFR 192.707 with regard to the marking of buried pipelines. Specifically, D-3 would place pipeline markers within 1,000 feet of one another, at all public road crossings, railroad crossings, creek crossings, fence crossings, and at all points of major direction change.

Figure 7. Valve Locations



R:\projects\WIL\3501 - VHGS - BLAG & Sunday Island GS\HGS West EA\Figures\VHGS Valve Map.mxd

3.0 The Affected Environment and Potential Impacts

The Fort Berthold Indian Reservation is the home of the Three Affiliated Tribes of the MHA Nation. Located in west-central North Dakota, the Reservation encompasses more than one million acres, of which almost half are held in trust by the United States for either the MHA Nation or individual allottees. The remainder of the land is owned in fee simple title, sometimes by the MHA Nation or tribal members, but usually by non-members. The Reservation occupies portions of six counties, including Dunn, McKenzie, McLean, Mercer, Mountrail, and Ward. In 1945, the Garrison Dam was completed inundating much of the Reservation. The remaining land was divided into three sections by Lake Sakakawea, an impoundment of the Missouri River upstream of the Garrison Dam.

The Reservation is located within the northern Great Plains ecoregion, which consists of four physiographic units:

- Missouri Coteau Slope north of Lake Sakakawea;
- Missouri River Trench (not flooded);
- Little Missouri River Badlands; and
- Missouri Plateau south and west of Lake Sakakawea

Much of the Reservation is located on the Missouri Coteau Slope and is comprised of a glaciated gently rolling landscape. Elevations of the Reservation range from 1,838 feet at Lake Sakakawea to over 2,600 feet on Phaelan's Butte near Mandaree. Annual precipitation on the plateau averages between 15 to 17 inches. Mean temperatures fluctuate between -3° and 21°F in January and between 55° to 83° in July, with 95 to 130 frost-free days each year (Bryce et al. 1998; High Plains Regional Climate Center 2008).

The West VHGS is situated geologically within the Williston Basin, where the shallow structure consists of sandstones, silts and shales dating to the Tertiary Period (65 to 2 million years ago), including the Sentinel Butte and Golden Valley Formations. The underlying Bakken and Three Forks Formations are well-known sources of hydrocarbons. Although earlier oil/gas exploration activities within the Reservation were limited and commercially unproductive, recent economic and technological advancement have created feasible access to these formations.

The proposed gathering system is located in a rural area consisting primarily of grassland, shrubland, and cropland that is currently farmed, idle or used to graze livestock. The landscape has been previously disturbed by dirt trails and gravel roadways.

The broad definition of human and natural environment under NEPA leads to the consideration of the following elements:

- Air quality;
- Public health and safety;
- Water resources;
- Wetland/riparian habitat;
- Threatened and endangered species;
- Soils;
- Vegetation and invasive species;
- Cultural resources;
- Socioeconomic conditions; and
- Environmental justice.

Potential impacts to these elements are analyzed for both the No Action Alternative and the Proposed Action. Impacts may be beneficial or detrimental, direct or indirect, and short-term or long-term. The EA also analyzes the potential for cumulative impacts and ultimately makes a determination as to the significance of any impacts. In the absence of significant negative consequences, it should be noted that a significant benefit from the project does *not* in itself require preparation of an EIS. After consideration of the no-action alternative, existing conditions and potential impacts from proposed projects are described below.

3.1 Route Description on Tribal Lands

3.1.1 Section 11, T150N, R93W

The proposed ROW will originate at the connection to the Arikara 15-22H located in the NW ¼ of Section 11. The ROW continues to the east on the south side of the BIA 6 roadway and a rural water pipeline through a previously cultivated field planted to smooth brome (*Bromus inermis*), crested wheatgrass (*Agropyron cristatum*) and alfalfa (*Medicago sativa*). A small area of native hilltops and ephemeral drainages is encountered comprised of needle-and-thread (*Stipa comata*), western wheatgrass (*Agropyron smithii*), prairie junegrass (*Koeleria pyramidata*), with purple coneflower (*Echinacea angustifolia*) and buckbrush (*Symphoricarpos occidentalis*) patches. This area is invaded by smooth brome and yellow sweet clover (*Melilotus officinalis*) with Canada thistle (*Cirsium arvense*) found in the two ephemeral drains crossed. Standard best management practices (BMP's), including straw wattles and fiber matting will be utilized at these drainage crossings to reduce erosion potential. A buffalo berry (*Shepherdia argentea*) and chokecherry (*Prunus virginiana*) thicket with a few American elm (*Ulmus americana*) are located within the proposed ROW.

The ROW continues east and crosses a two-track trail and again into a smooth brome and alfalfa field. The ROW follows the curve of BIA 6 through a deep-cut ephemeral drain again with Canada thistle in the bottom. Standard BMP's will be utilized at this drainage crossing to reduce erosion potential. The rural water line reclamation scar regrowth is dominated by annual sunflower (*Helianthus annuus*), smooth brome and sow thistle (*Sonchus arvensis*). As the ROW nears the section line it will intercept the previously evaluated Hidatsa 23-26H access road and ROW. The ROW continues to the south and enters onto fee lands following the previously approved ROW to the Hidatsa 23-26H well pad.

3.1.2 Section 12, T150N, R93W

The ROW diverts to the east crossing onto tribal lands in SW ¼ Section 12 into a cultivated field of harvested wheat at time of survey (Figure 8). Mitigation efforts at the time of on-site included backing the ROW away from the grassy steep breaks at edge of field (~30 ft) to reduce potential of erosion into native drainages. The line continues back into private (fee) lands as it crosses into Section 13 and connects to the Mandan 13-14H well site.



Figure 8. Proposed ROW in Section 12.

Photo taken looking east along ROW across harvested wheat stubble.

3.1.3 Section 18, T150N, R92W

At the junction of the lateral lines to the Mandan 13-14H well, the ROW continues east and north towards the Mary R. Smith 5-8H well site. The ROW crosses on to tribal allotted lands in Section 18 as it rises out of an ephemeral drainage filled with hawthorn (*Crateagus spp.*) and chokecherry onto a native hillside dominated by blue grama (*Bouteloua gracilis*) and needle and thread with scattered purple cone flowers. A planted Russian olive (*Eleagnus angustifolia*) tree row is crossed as the ROW enters into an alfalfa field. Mulch and mix into the topsoil is not recommended for the Russian olive trees due to the invasive nature of this species. The ROW continues across an alfalfa field and nears a proposed well pad (Figure 9).



Figure 9. Proposed ROW in Section 18.

Photo taken in the NW $\frac{1}{4}$ facing northeast across alfalfa field.

Routing to the west of the staked pad was evaluated and determined that it would have the potential to impact the dammed drainage and should not be considered. The option of heading to the east and directional drilling (boring) under BIA 601 and the rural water pipeline into another alfalfa field was selected as the preferred alternative. The ROW would then parallel the Russian olive tree row and rural water pipeline up to BIA 6. It will be necessary to bore from the SE corner of the intersection of BIA 6 and BIA 601 and emerge on the NW corner of the intersection, Section 7, just west of an existing well pad.

3.1.4 Section 7, T150N, R92W

West of the existing well pad the ROW continues to the north and east across native prairie pasture. Dominant grass species included green needlegrass (*Stipa viridula*), needle-and-thread, little bluestem (*Andropogon scoparius*), and Kentucky bluegrass (*Poa pratensis*). Forbs across the area include purple coneflower, white sage (*Artemisia ludoviciana*), fringed sagebrush (*Artemisia frigid*), owl clover (*Orthocarpus luteus*), spotted gat feather (*Liatris punctata*) and silver leaf scurfpea (*Psoralea argophylla*). The ROW as it rounds the NW corner of the pad will be necked down and BMP's will be utilized to reduce potential impacts to the drainage west of the ROW. A buffalo berry patch was avoided as the ROW was staked across and down the gentle sloping flat to an area along the drainage that did not contain wetland

characteristics. The drainage crossing was evaluated and determined that a 24-HR open cut and heavy BMP's, including fiber matting, would suffice to mitigate any potential impacts to the drainage pools found further down along the bottoms (Figure 10).



Figure 10. Proposed ROW in Section 7.
Photo taken in the NE ¼ facing north at intermittent drainage crossing.

The ROW climbs the steep northern bank and into a cultivated field where it continues to the east. The cultivated field contains two shallow, poorly-drained areas but further evaluation did not warrant avoidance due to being cultivated through in most years. The ROW continues into the native prairie pasture and across two upland ephemeral drains before crossing into Section 8.

3.1.5 Section 8, T150N, R92W

The ROW turns north after crossing into Section 8 and into cultivated agricultural lands following the section line. The West VHGS 130-foot ROW will parallel the section line ROW as to allow the section line road to be used to access the construction ROW. The ROW approaches 29th Street NW. The pipelines and utilities will directionally drilled under the roadway and into Section 5.

3.1.6 Section 5, T150N, R92W

The cultivated lands in Section 5 have two shallow, poorly-drained areas along the ROW to the Mary R. Smith 5-8H. An area in the SW¼ NW ¼ was delineated as a wetland and the ROW was moved to avoid it. A seep was also discovered along this section of ROW and it was rerouted to avoid disturbance of subsurface water flow and reduce potential construction difficulties. The ROW diverts from paralleling the section line and takes a direct route near the west side of the Mary R. Smith well pad. It crosses the rural water pipeline before it crosses the Mary R. Smith access road and onto fee lands for connection to the Central VHGS.

3.2 Air Quality

The North Dakota Department of Health (NDDH) network of Ambient Air Quality Monitoring (AAQM) stations includes Watford City in McKenzie County, Dunn Center in Dunn County, and Beulah in Mercer County. These stations are located west, south, and southeast of proposed well sites. Criteria pollutants tracked under National Ambient Air Quality Standards (NAAQS) of the *Clean Air Act* include sulfur dioxide (SO₂), particulate matter (PM₁₀), nitrogen dioxide (NO₂), and ozone (O₃). Lead (Pb) and carbon monoxide (CO) and fine particulates (PM_{2.5}) are not pollutants of concerns in this area. Table 2 summarizes federal air quality standards and available air quality data from the three-country study area.

Table 2. Summary of Federal Air Quality Standards

Pollutant	Averaging Period	NAAQS ($\mu\text{g}/\text{m}^3$)	NAAQS (ppm)	County		
				Dunn	McKenzie	Mercer
SO ₂	24-Hour	365	0.14	0.004 ppm	0.004 ppm	0.011 ppm
	Annual Mean	80	0.3	0.001 ppm	0.001 ppm	0.002 ppm
PM ₁₀	24-Hour	150	--	50 ($\mu\text{g}/\text{m}^3$)	35 ($\mu\text{g}/\text{m}^3$)	35 ($\mu\text{g}/\text{m}^3$)
	Annual Mean	50	--	--	--	--
PM _{2.5}	24-Hour	35	--	--	--	--
	Weighted Annual Mean	15	--	--	--	--
NO ₂	Annual Mean	100	0.053	0.002 ppm	0.001 ppm	0.003 ppm
CO	1-Hour	40,000	35	--	--	--
	8-Hour	10,000	9	--	--	--
Pb	3-Month	1.5	--	--	--	--
O ₃	1-Hour	240	0.12	0.071 ppm	0.072 ppm	0.076 ppm
	8-Hour	--	0.08	0.061 ppm	0.066 ppm	0.067 ppm

All of the monitored pollutants indicated in Table 2, show very low levels of ambient concentrations when compared to the NAAQS; which is considered very protective of public health and the environment.

North Dakota was one of nine states in 2006 that met standards for all criteria pollutants. The state also met standards for fine particulates and the eight-hour ozone standards established by the U.S. Environmental Protection Agency (EPA) (NDDH 2007). The three counties addressed in Table 2 are also in full attainment and usually far below established limits (American Lung Association 2006). The Clean Air Act mandates prevention of significant deterioration in designated attainment areas. Class I areas are of national significance and include national parks greater than 6,000 acres in size, national monuments, national seashores, and federal wilderness areas larger than 5,000 acres and designated prior to 1977. There is a Class I air shed at nearby Theodore Roosevelt National Park (TRNP), which covers approximately 110 square miles in three units within the Little Missouri National Grassland between Medora and Watford City, located 30-40 miles west of the proposed project. The reservation can be considered a Class II attainment air shed, which affords it a lower level of protection from significant deterioration.

The proposed project is similar to other nearby approved previously installed projects. Construction traffic will generate temporary, intermittent, and nearly undetectable gaseous emissions of particulates, SO₂, NO₂, CO₂, and volatile organic compounds. Road dust will be

controlled as necessary and other best management practices implemented as necessary to limit emissions to the immediate project areas (BLM 2005).

No detectable or long-term impacts to air quality or visibility are expected within the air sheds of the Reservation, state, or TRNP. Despite temporary minor construction impacts, the proposed project is expected to have a overwhelming positive and long-term impact on air quality. In addition to eliminating flaring of gas from tied-in wells, the gathering system will drastically reduce the heavy truck traffic and increased dust in the air. No laws, regulations or other requirements have been waived; no monitoring or compensatory measures are required.

3.3 Public Health and Safety

Health and safety concerns include hazards posed by temporary heavy truck traffic and equipment during construction activities, hazardous materials used or generated during installation or production, and burning or explosive hazards during operation of the pipelines. Negative impacts from construction will be largely temporary. Noise fugitive dust, and traffic hazards will be present during construction and then diminish sharply during operations.

The U.S. EPA specifies chemical reporting requirements under Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, as amended. No materials used or generated by this project for production, use, storage, transport, or disposal are on either the SARA list or on EPA's list of extremely hazardous substances in 40 CFR 355. The most common and potentially hazardous substances used during the construction of the pipeline will include diesel fuel, gasoline, lubricating oils, paints, and solvents. The Spill Prevention Control and Countermeasure (SPCC) plan includes procedures for hazardous material storage, handling, disposal, cleanup, and reporting (D-3, 2011). Potentially hazardous materials will be stored only in designated and permitted staging areas at least 100 feet from watercourses and wetlands. Vehicle refueling will comply with the same minimum setback. Materials Safety Data Sheets for each potentially hazardous substance will be maintained onsite at the point of use at all times.

According to the Pipeline and Hazardous Materials Safety Administration (PHMSA 2009), pipelines are a reliable and cost-effective means to transport natural gas and hazardous liquids. PHMSA statistics show one gallon of oil is spilled for every barrel of oil that is transported one million miles: "In household terms, this is less than one teaspoon of oil spilled per thousand barrel-miles". In the event of a spill, D-3 will notify local emergency management authorities and state or federal response centers. After the pipeline is operational, D-3 will also install and utilize the following programs for public safety: operator training, cathodic protection, detailed ROW marking, regular inspections, and integrity management programs (automated PIG launcher). Pipeline pressure will also be monitored at both ends of the system; significant leaks causing pressure drops will be located by launching a special PIG or other detection equipment down a line.

Project design and operational precautions mitigate against impacts from traffic or hazardous materials. The size of the area potentially impacted by leaks, fire or explosion is a function of relatively small diameter of the proposed pipeline and the burial depth of six feet. Operations will conform to instructions from BIA fire management staff.

Impacts from the proposed project are considered minimal, insignificant or unlikely. No laws, regulations or other requirements have been waived; no compensatory mitigation measures are required.

3.4 Socioeconomics

Socioeconomic conditions include population, demographics, income, employment, and housing. These conditions can be analyzed and compared at various scales. This analysis focuses on the reservation, the four counties that overlap the majority of the Reservation and the state of North Dakota. The state population showed little change between the last two censuses (1990-2000), but there were notable changes locally, as shown in Table 3. Populations in Dunn, McKenzie, McLean, and Mountrail counties declined 5 to 11%, while population on the Fort Berthold Reservation increased by almost 10%. These trends are expected to continue (Rathge et al. 2002). While American Indians are the predominant group on the reservation, they are a minority everywhere else in the state. More than two-thirds (3,986) of the Reservation population are tribal members.

Table 3. Population and Demographics.

County or Reservation	Population in 2000	% of State Population	% Change 1990-2000	Predominant Group	Predominant Minority
Dunn County	3,600	0.56	- 10.1	White	American Indian (12%)
McKenzie County	5,737	0.89	- 10.1	White	American Indian (21%)
McLean County	9,311	1.45	- 11.0	White	American Indian (6%)
Mountrail County	6,631	1.03	- 5.6	White	American Indian (30%)
Fort Berthold Reservation	5,915,	0.92	+ 9.8	American Indian	White (27%)
Statewide	642,200	100	+0.005	White	American Indian (5%)

Source: U.S. Census Bureau 2007.

In addition to the ranching and farming that are employment mainstays in western North Dakota, employment on the Reservation largely consists of ranching, farming, tribal government, tribal enterprises, schools, and federal agencies. The MHA Nation's Four Bears Casino and Lodge, near New Town, employs over 320 people, 90% of which are tribal members (Three Affiliated Tribes 2008).

As shown in Table 4 counties overlapping the Reservation tend to have per capita incomes, median household incomes, and employment rates that are lower than North Dakota statewide averages. Reservation residents have lower average incomes and higher unemployment rates compared to the encompassing counties. MHA Nation members are in turn disadvantaged relative to overall Reservation incomes and unemployment rates that average in non-Indian data. The most recent census found that per capita income for residents of the Reservation is \$10,291 (less than 1/3 the state average). Overcrowded housing skews the median reservation household income upward to \$26,274 (about 1/3 the state average). A BIA report in 2003 found that 33% of employed MHA Nation members were living below federal poverty levels. The unemployment rate of tribal members is 22% compared to 11.1% for the reservation as a whole and 4.6% statewide.

Table 4. Income and Unemployment.

Unit of Analysis	Per Capita Income	Median Household Income	Unemployment Rate (2007)	Employed but Below Poverty Level	Percent of All People in Poverty
MHA Nation	--	--	22%	33%	Unknown
Fort Berthold Reservation	\$10,291	\$26,274	11.1%	--	Unknown
Mountrail County	\$29,071	\$34,541	5.8%	--	15.4%
Dunn County	\$27,528	\$35,107	3.4%	--	13%
McKenzie County	\$27,477,	\$35,348	3.1%	--	15.8%
McLean County	\$32,387	\$37,652	4.7%	--	12.8%
North Dakota	\$31,871	\$40,818	3.2%		11.2%

Source: U.S. Department of Agriculture Economic Research Data 2008 and BIA 2003.

Availability and affordability of housing can affect oil and gas development and operations. Housing information from the year 2000 is summarized in Table 5. The tribal Housing Authority manages a majority of the housing units within the reservation. Housing typically consists of homes built through various government programs, low-rent housing units, and scattered-site homes. Private purchase and rental housing are available in New Town. New housing construction has recently increased within much of the analysis area, but availability remains low.

Table 5. Housing

Housing Development	Fort Berthold Reservation	Dunn County	McKenzie County	McLean County	Mountrail County
Existing Housing					
Owner-Occupied Units	1,122	1,570	2,009	4,332	2,495
Renter Occupied Units	786	395	710	932	941
Total	1,908	1,965	2,719	5,264	3,436
New Private Housing Building Permits 2000-2005	--	18	4	135	113
Housing Development Statistics					
State rank in housing starts	--	51 of 53	15 of 53	21 of 53	17 of 53
National rank in housing starts	--	3112 / 3141	2498 / 3141	2691 / 3141	2559 / 3141

Source: U.S. Census Bureau 2007 and 2008

The proposed projects are not expected to have measurable impacts on population trends, local unemployment rates or housing starts. Relatively high-paying construction jobs will result from exploration and development of oil and gas reserves on the reservation, but most of these opportunities are expected to be short-term. The proposed action will require temporary employees during the construction cycle. Short-term construction employment will provide

some economic benefit. Long-term commercial operations will provide significant royalty income and indirect economic benefits.

3.5 Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, was signed by President Clinton in 1994. The Order requires agencies to advance environmental justice (EJ) by pursuing fair treatment and meaningful involvement of minority and low-income populations. Fair treatment means such groups should not bear a disproportionately high share of negative environment consequences from federal programs, policies, decisions, or operations. Meaningful involvement means federal officials actively promote opportunities for public participation and participating groups and individuals can materially affect federal decisions.

The U.S. Environmental Protection Agency (EPA) headed the interagency workgroup established by the 1994 Order and is responsible for related legal action. Working criteria for designation of targeted populations are provided in *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses* (EPA 1998). This guidance uses a statistical approach to consider various geographic areas and scales of analysis to define a particular population's status under the Order.

Environmental Justice is an evolving concept with potential for disagreement over the scope of analysis and the implications for federal responsiveness. It is nevertheless clear that tribal members on the Great Plains qualify for EJ consideration as both a minority and low-income population. The population of the Dakotas is predominantly Caucasian. While some 70% of Reservation residents are tribal members, Indians comprise only 5% of North Dakota residents. Even in a state with relatively low per capita and household income, Indian individuals and households are distinctly disadvantaged.

There are, however, some unusual EJ considerations when proposed federal actions are meant to benefit tribal members. Determination of fair treatment necessarily considers the distribution of both benefits and negative impacts, due to variation in the interests of various tribal groups and individuals. There is also potential for major differences in impacts to resident tribal members and those enrolled or living elsewhere. A general benefit to the MHA Nation government and infrastructure has already resulted from tribal leasing, fees, and taxes. Oil and gas leasing has also already brought much-needed income to MHA Nation members who hold mineral interests, some of whom may eventually benefit further from royalties on commercial production. Profitable production rates at proposed locations may lead to exploration and development on additional tracts owned by currently non-benefitting allottees. The absence of lease and royalty income does not preclude other benefits. Exploration and development will provide many relatively high-paying jobs, with oversight from the Tribal Employment Rights Office.

The owners of allotted surface within the project areas may not hold mineral rights. In such case, surface owners do not receive oil and gas lease or royalty income and their only income will be compensatory for productive acreage lost due to road and well pad construction. Tribal members without either surface or mineral rights will not receive any direct benefits whatsoever. Indirect benefits of employment and general tribal gains will be the only potential offsets to negative impacts.

Potential impacts to tribes and tribal members include disturbance of cultural resources. There is potential for disproportionate impacts, especially if the impacted tribes and members do not

reside within the Reservation and therefore do not share in direct or indirect benefits. This potential is significantly reduced following the surveys of proposed routes and determination by the BIA that there will be no affect to historic properties. Research and survey has found nothing to be present on the site that qualifies as a traditional cultural property (TCP) or that requires protection under the *American Indian Religious Freedom Act*. Potential for disproportionate impacts is further mitigated by requirements for immediate work stoppage following an unexpected discovery of cultural resources of any type. Mandatory consultations will take place during any such work stoppage, affording an opportunity for all affected parties to assert their interests and contribute to an appropriate resolution, regardless of their home location or tribal affiliation.

The proposed project has not been found to pose significant impacts to any other critical element – air, public health and safety, water, wetlands, wildlife, vegetation, or soils – within the human environment. The proposed action offers many positive consequences for tribal members, while recognizing Environmental Justice concerns. Procedures summarized in this document and in the APD are binding and sufficient. No laws, regulations, or other requirements have been waived; no compensatory mitigations measures are required.

3.6 Water Resources

3.6.1 Surface Water

The proposed West VHGS is located across the glaciated uplands in the Missouri River Regional Water Basin and within the Garrison Dam Sub-Basin. It traverses the Independence Point and Van Hook State Wildlife Management Area Watersheds within the Little Shell Creek Church, the Lower Van Hook Arm, and the Muskrat Lake Sub-Watersheds. Surface water runoff generally starts as sheet-flow until collected by ephemeral drainages leading to Lake Sakakawea. The ephemeral drainages, in turn, combine to form intermittent and/or perennial streams that flow into Lake Sakakawea. Lake Sakakawea is part of the Missouri River sub-regional watershed and is the receiving water for runoff from the land area. The closest direct drainage on this evaluated ROW is to Lake Sakakawea is approximately 1-mile.

3.6.2 Wetlands

National Wetland Inventory (NWI) maps maintained by the United States Fish and Wildlife Service (USFWS) identify and classify wetlands. The directive of the BIA and USFWS is that wetlands be avoided to the extent possible. The on-site assessments conducted with representatives from BIA identified and confirmed riparian or wetland habitats along the proposed ROW. If the ROW was near a isolated wetland habitat, the ROW was rerouted to avoid it. Drainage or intermittent stream crossings that supported riparian species, that were not able to be avoided, will be either directionally drilled or crossed by open-cut 24-HR methods as discussed in Sections 2.4 and 3.1.

As stated no isolated wetlands will be impacted and only two intermittent stream crossings, in areas with no riparian or wetland species, have been identified as unavoidable and will be crossed by 24-HR open-cut methods (Table 1 and Figure 6). All other potential wetlands in the area identified at on-site field visits were avoided during final ROW planning.

3.6.3 Groundwater

The principal uses of ground water in Mountrail County are for domestic and livestock supplies, public supplies, industrial supplies, and irrigation. Practically all of the water used for industrial purposes in Mountrail County either is used in connection with the production of petroleum or is obtained from public supplies and no records are kept. The largest use of ground water in the county is for pressure maintenance during well drilling.

Ground water in Mountrail County is obtained from aquifers in the glacial drift of Quaternary age, the Sentinel Butte and Tongue River Formations in the Fort Union Group of Tertiary age, and the Fox Hills Formation, Hell Creek Formation, and the Dakota Group of Cretaceous age. The Dakota Group, Fox Hills Formation, Hell Creek Formation, Fort Union Group, and the glacial drift contain the only aquifers that are presently of economic importance.

The pipeline will be placed at a depth of six feet, except at directional drill locations and/or road crossings. Seepage and infiltration of hazardous materials from the pipelines are considered unlikely. Impacts to shallow aquifers from surface activities and spills will be avoided or managed by implementation of a Spill Prevention, Control, and Countermeasure (SPCC) Plan (D-3, 2011).

No significant impacts to surface water or groundwater are expected because of the proposed action. No applicable laws or regulations will be waived; no compensatory mitigation measures are required to protect surface water or groundwater.

3.7 Habitat and Wildlife

3.7.1 Critical Habitats

The North Dakota Parks and Recreation Department (NDPR) houses the North Dakota Natural Heritage biological conservation database. A review by the NDPR was done to determine if any current or historic plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the ROW. Based upon the review and the onsite visits the proposed ROW is not located across or within ¼-mile of any recorded significant ecological community and is not likely to adversely affect critical wildlife habitats (Appendix B).

The on-site surveys did not reveal any additional species observations or habitat areas of concern. Native vegetation will be reseeded according to recommendations provided by the BIA. Wetlands encountered along the ROW were few and the ROW completely avoids them to preserve the integrity of these basins. Major drainages, perennial and intermittent stream crossings have either been avoided, directionally drilled or crossed with 24-HR open-cut methods. Native prairie has been avoided to the extent possible. Best management practices (BMP's) including contouring, fiber matting, waddles, soil compaction and native reseeding will be implemented along the entire ROW for the life of the project.

3.7.2 Threatened and Endangered Species

Assessments for Federally listed threatened and endangered species were conducted by evaluating historic and present occurrences, and by determining if potential habitat exists within the project area. The USFWS was consulted on the proposed project ROW during the scoping period. Comments were received and presented in Appendix B. Mitigation commitments incorporated in the construction practice and plans throughout this document. Determinations were made concerning direct and cumulative effects of the proposed activities on each species and their habitat. Currently, seven species and one Designated Critical Habitat are listed in Mountrail County, North Dakota (Table 6).

Table 6. County status of Endangered, Threatened, and Candidate species and Designated Critical Habitat ¹

Species	Status
Interior Least Tern	Endangered
Whooping Crane	Endangered
Pallid Sturgeon	Endangered
Gray Wolf	Endangered
Piping Plover and Designated Critical Habitat	Threatened
Sprague's Pipit	Candidate
Dakota Skipper	Candidate

¹ USFWS (updated December, 2011)

Determinations made for federally listed species are:

- No effect
- May affect, is not likely to adversely affect
- May affect, is likely to adversely affect

3.7.3 Biological Species Assessment

Assessments for Federally listed threatened and endangered species were conducted by evaluating historic and present occurrences and by determining if potential habitat exists along the project area. A determination was made concerning direct and cumulative effects of the proposed activities on each species.

3.7.3.1 Gray Wolf

Gray wolves, an Endangered Species in North Dakota, were historically found throughout much of North America including the Upper Great Plains. Human activities have restricted their present range to the northern forests of Minnesota, Wisconsin, and Michigan and the Northern Rocky Mountains of Idaho, Montana, and Wyoming. They now only occur as occasional visitors in North Dakota. The most suitable habitat for the gray wolf is found around the Turtle Mountains region where documented and unconfirmed reports of gray wolves in North Dakota have occurred (Grondahl and Martin, no date). Due to the transient nature and no recent recorded sightings in the area the proposed project **may affect, is not likely to adversely affect** this species.

3.7.3.2 Interior Least Tern

The interior least tern nests on midstream sandbars along the Yellowstone and Missouri River systems. Interior least terns construct bowl-shaped depression nests on sparsely vegetated sandbars and sandy beaches. Their nesting period occurs between mid-May through mid-August. During the nesting season the least tern has been documented to travel 7.5 miles or more from the lake to forage in wetlands. The proposed ROW construction activity will be within 7.5 miles from (nearest activity approximately one mile) but not within direct line-of-sight of the Missouri River system shoreline. No individuals were observed in the area during the onsite visit. The project ROW will not impact any isolated wetlands and mitigation practices will be employed to protect drainages and the lake. Following these guidelines, it is reasonable to expect that the proposed activities **may affect, is not likely to adversely affect** this species.

3.7.3.3 Pallid Sturgeon

Pallid sturgeon are found in the Mississippi, Missouri, and Yellowstone River systems and are adapted for living close to the bottom of large, shallow rivers with sand and gravel bars. Pallid sturgeon populations in North Dakota have decreased since the 1960's (Grondahl and Martin no date).

The proposed ROW will not disrupt the Missouri River habitat and above ground isolation valves will be constructed on each well pad site and at intervals of approximately 1-1.5 miles on the oil, gas and produced water pipelines. This will allow for sections to be isolated to minimize potential for large spills and affect critical habitat and water sources. The proposed project **may affect, is not likely to adversely affect** this species.

3.7.3.4 Whooping Crane

The primary nesting area for the whooping crane is in Canada's Wood Buffalo National Park. Aransas National Wildlife Refuge in Texas is the primary wintering area for whooping cranes. In the spring and fall, the cranes migrate primarily along the Central Flyway. During the migration, cranes make numerous stops, roosting in large shallow marshes, and feeding and loafing in harvested grain fields. The primary threats to whooping cranes are aboveground power lines, illegal hunting, and habitat loss (Texas Parks and Wildlife 2008).

The proposed project is located within the Central Flyway. Approximately 75% of the whooping crane sightings in North Dakota occur within a 90-mile corridor that includes the proposed project area location. Utility lines will be constructed underground as collisions with power lines have been the primary cause for fledgling mortality. Land use in the area is cultivated agricultural lands, planted grass/alfalfa fields, and rolling native and mixed grass prairie communities. The ROW crosses through areas that could be potential for whooping crane stop-over habitat. No individual whooping cranes were observed in the area during the on-site visits.

Construction activities may cause migratory cranes to divert from the area but are not likely to result in fatalities. If a crane is sighted within one mile of the construction area, construction activities will cease and will be immediately reported to the US Fish and Wildlife Service (USFWS), North Dakota Game and Fish Department (NDGFD), and the BIA. In coordination with the USFWS and the BIA construction will resume once the bird(s) have left the area. Following these guidelines, it is reasonable to expect that the proposed activities **may affect, is not likely to adversely affect** whooping cranes.

3.7.3.5 Piping Plover and Critical Habitat

Piping plovers are found along the Missouri and Yellowstone River systems on gravel shorelines and sandbars and also on large alkaline wetlands. Nesting sites have been documented on the shorelines of Lake Sakakawea. In addition, critical habitat has been designated along Lake Sakakawea. NDPRD does not have any historic records indicating piping plover sightings and critical habitat within 2-miles of the project ROW.

The nearest proposed ROW construction activity will be approximately one mile from and not within direct line-of-sight of the Missouri River system shoreline. No individuals were observed in the area during the onsite visit. The project ROW will not impact any isolated wetlands and mitigation practices will be employed to protect drainages and the lake. Following these guidelines, it is reasonable to expect that the proposed activities **may affect, is not likely to adversely affect** this species.

3.7.3.6 Sprague's Pipit

The Sprague's pipit is a ground nesting bird that breeds and winters on open grasslands. It feeds mostly on insects and spiders and some seeds. The Sprague's pipit is closely tied with native prairie habitat and breeds in the north-central United States in Minnesota, Montana, North Dakota and South Dakota as well as south-central Canada. During the breeding season, Sprague's pipits prefer large patches of native grassland with a minimum size requirement thought to be approximately 145 ha (358.3 ac). The species prefers to breed in well-drained, open grasslands and avoids grasslands with excessive shrubs. Preferred grass height is estimated to be between 10 and 30 cm. They may avoid roads, trails, and habitat edges.

The proposed project will be constructed across portions of native prairie pasture dissected by roads, fences and cultivated fields. The native pastures were heavily grazed and vegetation height was low to moderate (10-20cm). Shrub species (hawthorn and chokecherry) occur along the ROW and in the immediate landscape. Based upon these landscape conditions the proposed activities **may affect, is not likely to adversely affect** this species.

3.7.3.7 Dakota Skipper

Dakota skippers can be found in native prairie containing a high diversity of wildflowers and grasses. Habitat includes two prairie types: 1) low (wet) prairie dominated by bluestem grasses, wood lily, harebell, and smooth camas; and 2) upland (dry) prairie on ridges and hillsides dominated by bluestem grasses, needlegrass, pale purple coneflower and upright coneflowers and blanket flower. Dakota skipper populations have declined historically due to widespread conversion of native prairie.

Activities from pipeline installation may temporarily disturb some forage species of the Dakota skipper. Therefore the proposed project **may affect, is not likely to adversely affect** this species at this time due to the availability of large native grassland pastures in the immediate area. Native species will be replanted during reclamation activities.

3.7.4 Migratory Birds, Raptors and Resident Wildlife

Proposed oil and gas development in the area may affect raptor and migratory bird species through direct mortality, habitat degradation, and/or displacement of individual birds. These impacts are regulated in part through the *Migratory Bird Treaty Act* (16 USC 668-6682) and the Bald and Golden Eagle Protection Act (BGEPA).

A ground survey for cliff, tree, and ground raptor nests was conducted within ½ mile and line-of-sight of the proposed ROW. No nests were observed during the on-site reviews between August 9 and November 7, 2011. The project ROW was also surveyed for migratory bird species. The timing of the surveys was not within the typical nesting window and therefore may not be an accurate account of nesting species in the project area. Species observed using the immediate area at the time of the surveys included song sparrows (*Melospiza melodia*), savannah sparrow (*Passerculus sandwichensis*), turkey vultures (*Cathartes aura*) and red-winged blackbirds (*Agelaius phoeniceus*). Non-migratory (resident) species included the sharp-tailed grouse (*Tympanuchus phasianellus*) and the ring-necked pheasant (*Phasianus colchicus*) (Table 8).

A raptor and migratory bird survey will again be conducted five days prior to construction if construction takes place between February 1 and July 15 and/or mowing and grubbing will take place across the project ROW the preceding fall. If nests are discovered, construction will be stopped and the BIA and USFWS will be consulted for additional information on how to proceed. Mitigation measures recommended will be taken to avoid any disturbance of raptor or migratory

bird nesting sites. If mowing or grubbing does take place maintenance of the habitat in a degraded state will occur until construction begins.

Table 7. Wildlife (General)

Observed	Suitable Habitat
song sparrow, savannah sparrow, turkey vulture, sharp-tailed grouse, ring-necked pheasant	Sharp-tailed grouse, ring-necked pheasant, Hungarian partridge, mule deer, white-tailed deer, pronghorn antelope, small mammals, and a variety of migratory grassland and song birds

Potential impacts to wildlife include temporary displacement due to construction activities and temporary loss of ground cover in native and planted grassland areas. These effects are not likely to cause long-term declines in populations in the area. Ground clearing may temporarily unavoidably impact habitat for unlisted species, including small migratory birds, ground dwelling mammals, and other wildlife species.

Fragmentation of native prairie habitat is a specific concern for grouse species, but the limited disturbance from pipeline installation is small in the landscape context. Trenches will be backfilled immediately after pipeline and utility installation and testing, waiting only if soils are overly wet or frozen. Final and complete reclamation will proceed immediately after construction is completed, and no later than by the next appropriate planting season (fall or spring).

3.8 Soils

The Natural Resource Conservation Services (NRCS) soils data was reviewed prior to the on-site assessment and verified during the field visit. The majority of the soils along the proposed ROW are classified as Williams-Zahl, Zahl-Williams and Zahl-Max loams with slopes ranging from 0-60% and lesser amounts of Bowbells loam with 0-3% slopes and Rhoades-Cabba loam with 3-25% slopes.

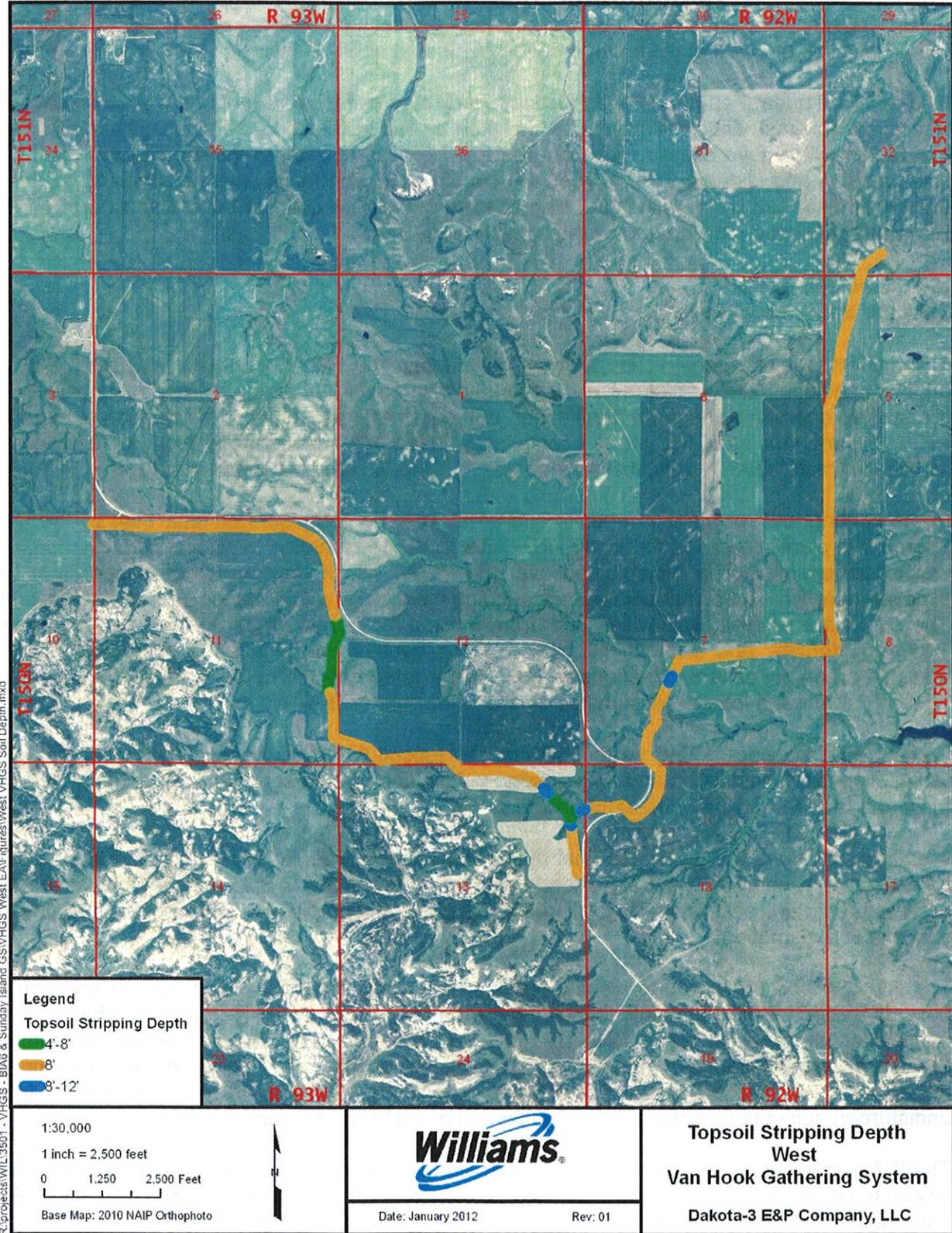
Generally, the pipeline ROW is located on fine-grained soils with low to moderate erosion potential. The sites are suitable for construction and surface soils will allow for successful reclamation. The pipeline ROW was considered in relation to erosion potential and potential for successful reclamation efforts on steep inclines or side-slopes. The ROW soils will be stripped and carefully separated as described in detail in Section 2.3.1 and 2.5.1. Best management practices will be implemented to control erosion as necessary and the ROW will be continually monitored for erosion problem areas.

Topsoil on the native grassland tops such as in Section 11, 12, 13, 18 and 7 is a dark silty/loam 4-8 inches deep. At greater depths, the soil turns to a lighter brown silty-clay. At the toe of slopes and drainage areas, the topsoil is a black organic silty-loam approximately 8-12 inches deep. At greater depths, the soil turns a lean, light brown clay.

Majority of the surface along the ROW is or has been cultivated. The cultivated areas are used for small grain production and/or have been replanted to alfalfa/brome hayfield. Topsoil across these areas is approximately eight inches in depth and is a silty-clay. At depths greater than eight inches, the soil composition is a lean, light colored clay/loam.

Topsoil will be stripped from across the ROW prior to trenching. Generally, topsoil will be stripped to a depth of 4 to 8 inches on native grassland areas. Topsoil will be stripped to a depth of 8 to 12 inches in drainage areas and at an average of eight inches in agricultural fields. Recommended topsoil stripping depths along the proposed ROW are depicted in Figure 11.

Figure 11. Topsoil Stripping Depths



R:\projects\WLL\3501 - VHGS - BIAS & Sunday Island GSI\HGS West EAI\Figures\West VHGS Soil Depth.mxd

Water body, tributary, wetland, and other directional drill locations are identified in Figure 6. Topsoil shall be stripped at the recommended depth at entry- and exit-hole locations. Should drilling fail, and open cutting of these crossings is necessary BIA will be notified. At minimum topsoil shall be stripped at the recommended depth and all BMP's will be employed.

Rocks will be unearthed during construction. Rock may be included as backfill in the excavated trench except immediately surrounding the pipe or within the top 12 inches of backfill. The contractor will remove excess rock from the top 12 inches of soil to the extent practical. The size, density, and distribution of rock on the construction work area shall be similar to adjacent areas not disturbed by construction. Segregated rock will be collected and disposed of off the ROW or at a location designated by the landowner or BIA.

3.9 Reclamation

3.9.1 Interim Reclamation

The final step in the construction process is restoring the ROW as closely as possible to its original condition. Successful reclamation is and will remain the obligation and responsibility of the system operator throughout the lifespan of the gathering systems. Reclamation is required within six months after the initial construction, after any maintenance work or addition of auxiliary infrastructure, and at final abandonment of the decommissioned system.

Re-contouring and reclamation of disturbed areas is to be completed no later than by the next appropriate planting season (fall or spring). After subsoil is scarified to alleviate compaction, the stockpiled topsoil will be redistributed over the ROW. Rock may be used as backfill in the excavated trench except immediately surrounding the pipe or within the top 12 inches of backfill. The contractor will remove excess rock from the top 12 inches of soil to the extent practical. The size, density, and distribution of rock on the construction work area shall be similar to adjacent areas not disturbed by construction. Segregated rock will be collected and disposed of off the ROW or at a location designated by the landowner or BIA.

If construction occurs during winter months, the topsoil will likely have chunks of frozen soil within. Topsoil redistribution and final grading will be done in the spring following complete frost thaw and required drying of the right-of-way.

Weather conditions will determine final reclamation timing. The ROW on non-tilled land will be re-seeded with certified, weed-free seed mixtures established by BIA. Native species will be used to the extent possible and seeding and planting will comply with BIA directions to ensure successful reclamation.

The ROW will be monitored to identify areas of excessive erosion, subsidence, or invasion of noxious weeds. Periodic monitoring will be performed and repeated reclamation efforts will be undertaken in problem areas until BIA has certified the ROW as successfully reclaimed. Successful reclamation is defined by the BIA to include the following observable factors: 1) reproduction of seeded and re-established species; 2) natural invasion of plants from undisturbed adjacent communities; and 3) control or exclusion of noxious weeds.

The BIA has developed a weed management plan to facilitate the treatment of known and likely noxious/invasive weed species. If seeding is not successful within two growing seasons, BIA may require extra efforts to stabilize the site, such as matting the entire affected area, or using a mix of rapidly growing forbs and annual grasses, followed by reseeding with grasses, forbs, and shrubs with rapidly expanding, deep root systems.

3.9.2 Final Reclamation

Decommissioning of the pipeline will result in mandatory final reclamation of the ROW. All above-ground facilities will be removed. Due to economic costs and additional environmental disturbance associated with excavation and removal, pipelines will be purged with water to remove hydrocarbons, and then abandoned in place. All disturbed areas would be reclaimed, reflecting the BIA's view of oil and gas exploration and production as temporary intrusions on the landscape. Long term monitoring will be required to ensure successful reclamation and implementation of any necessary remedial efforts.

3.10 Cultural Resources

Historic properties, or cultural resources, on federal or tribal lands are protected by many laws, regulations and agreements. The *National Historic Preservation Act of 1966* (16 USC 470 *et seq.*) at Section 106 requires, for any federal, federally assisted or federally licensed undertaking, that the federal agency take into account the effect of that undertaking on any district, site, building, structure or object that is included in the National Register of Historic Places (National Register) before the expenditure of any federal funds or the issuance of any federal license. Cultural resources is a broad term encompassing sites, objects, or practices of archaeological, historical, cultural and religious significance. Eligibility criteria (36 CFR 60.6) include association with important events or people in our history, distinctive construction or artistic characteristics, and either a record of yielding or a potential to yield information important in prehistory or history. In practice, properties are generally not eligible for listing on the National Register if they lack diagnostic artifacts, subsurface remains or structural features, but those considered eligible are treated as though they were listed on the National Register, even when no formal nomination has been filed. This process of taking into account an undertaking's effect on historic properties is known as "Section 106 review," or more commonly as a cultural resource inventory.

The area of potential effect (APE) of any federal undertaking must also be evaluated for significance to Native Americans from a cultural and religious standpoint. Sites and practices may be eligible for protection under the *American Indian Religious Freedom Act of 1978* (42 USC 1996). Sacred sites may be identified by a tribe or an authoritative individual (Executive Order 13007). Special protections are afforded to human remains, funerary objects, and objects of cultural patrimony under the *Native American Graves Protection and Repatriation Act* (NAGPRA, 25 USC 3001 *et seq.*).

Whatever the nature of the cultural resource addressed by a particular statute or tradition, implementing procedures invariably include consultation requirements at various stages of a federal undertaking. The MHA Nation has designated a Tribal Historic Preservation Officer (THPO) by Tribal Council resolution, whose office and functions are certified by the National Park Service. The THPO operates with the same authority exercised in most of the rest of North Dakota by the State Historic Preservation Officer (SHPO). Thus, BIA consults and corresponds with the THPO regarding cultural resources on all projects proposed within the exterior boundaries of the Fort Berthold Reservation.

A cultural resource inventory of this pipeline system was conducted by personnel of SWCA Environmental Consultants, using an intensive pedestrian methodology. Approximately 355 acres were inventoried between August 4 and November 10, 2011 (Moret-Ferguson 2011). Four archaeological sites were located that may possess the quality of integrity and meet at least one of the criteria (36 CFR 60.6) for inclusion on the National Register. In addition, one historic site was revisited and another newly recorded which are evaluated as **not eligible** for the National Register. 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, as the archaeological sites will be fenced out and avoided. This determination was communicated to the THPO on December 15, 2011; however, the THPO did not respond within the allotted 30 day comment period.

3.11 Vegetation and Noxious Weeds

The Missouri Plateau Ecoregion (Missouri Slope) is a western mixed-grass and short-grass prairie (Bryce et al. 1998). The U.S. Department of Agriculture soil surveys for Mountrail County describes vegetation within proposed project areas as mostly cultivated farmlands, native grasses, and wetland plants. Common grain and seed crops include wheat, oats, flax, canola, barley and peas. Native grasses include big bluestem, little bluestem, blue grama, side-oats grama, green needlegrass, and western wheatgrass. Typical wetland plants are smartweed, sedge species, bulrush, bluejoint, and cattail. Woody draws, coulees, and drainages may host communities of chokecherry, buffalo berry, western snowberry and gooseberry.

3.11.1 Vegetation

The proposed project ROW is located across cultivated agricultural lands, planted grass/alfalfa fields, and rolling native and mixed grass prairie communities. A few ephemeral and intermittent drainages dissect the area. Native areas are used for livestock grazing and at the time of the on-site investigations, residual cover was moderate to high in pasture areas.

Previously cultivated fields have been planted to smooth brome (*Bromus inermis*), crested wheatgrass (*Agropyron cristatum*) and alfalfa (*Medicago sativa*). Native hilltops and ephemeral drainages found along ROW are comprised of needle-and-thread (*Stipa comata*), western wheatgrass (*Agropyron smithii*), prairie junegrass (*Koeleria pyramidata*), green needlegrass (*Stipa viridula*), and little bluestem (*Andropogon scoparius*) scattered with purple coneflower (*Echinacea angustifolia*), white sage (*Artemisia ludoviciana*), fringed sagebrush (*Artemisia frigid*), owl clover (*Orthocarpus luteus*), spotted gat feather (*Liatris punctata*) and silver leaf scurfpea (*Psoralea argophylla*). Buckbrush (*Symphoricarpos occidentalis*) patches are common along the ROW. Native areas in numerous locations have been invaded by smooth brome, Kentucky bluegrass (*Poa pratensis*) and yellow sweet clover (*Melilotus officinalis*) in patches. Buffalo berry (*Shepherdia argentea*) and chokecherry (*Prunus virginiana*) thickets with a few American elm (*Ulmus americana*) are located within the proposed ROW.

The rural water pipeline reclamation scar regrowth is dominated by annual sunflower (*Helianthus annuus*), smooth brome and sow thistle (*Sonchus arvensis*). Smooth brome is typically found in all roadside ditches across the area. Cultivated fields in the ROW were either left fallow or contained wheat and canola stuble.

A few ephemeral drainages are filled with hawthorn (*Crateagus spp.*) and chokecherry near native hillsides dominated by blue grama (*Bouteloua gracilis*) and needle and thread with scattered purple cone flowers. Canada thistle (*Cirsium arvense*) is found in a few of the ephemeral drains crossed. Planted tree rows of Russian olive (*Eleagnus angustifolia*) are encountered along the ROW.

Woody debris cleared in the ROW will be mulched and mixed into the topsoil to be re-spread at reclamation. Russian olive trees that are cleared are not recommended to mulched and mixed and re-spread due to the invasive nature of the species.

3.11.2 Noxious Weeds

The North Dakota Agriculture Commission (ND Department of Agriculture 2002) identifies twelve noxious weed plant species in the state (Table 8). All twelve of the noxious weed species have been reported in Mountrail County (ND Department of Agriculture 2007). Canada thistle (*Cirsium arvense*) is present along ROW in drainages and cultivated field edges.

Table 8. Noxious weeds in Mountrail County

Common Name	Scientific Name	5 year (2003-2007) Average Reported Acres of Noxious Weeds ¹
		Mountrail County
Absinth wormwood	<i>Artemisia absinthium</i>	1,085
Canada thistle	<i>Cirsium arvense</i>	21,232
Dalmatian toadflax	<i>Linaria genistifolia</i>	NR
Diffuse knapweed	<i>Centaurea diffusa</i>	NR
Field bindweed	<i>Convolvulus arvensis</i>	1,429
Leafy spurge	<i>Euphorbia esula</i>	21,928
Musk thistle	<i>Carduus nutans</i>	2
Purple loosestrife	<i>Lythrum salicaria</i>	NR
Russian knapweed	<i>Acroptilon repens</i>	NR
Saltcedar	<i>Tamarix spp.</i>	721
Spotted knapweed	<i>Centaurea maculosa</i>	164
Yellow starthistle	<i>Centaurea solstitialis</i>	NR

¹ North Dakota Department of Agriculture 2003-2007

² Not Reported

Removal of existing soils and vegetation present opportunities for invasive species and threatens to reduce the quality or quantity of forage or crop production. Vehicles that have been driven in areas with invasive species must be cleaned with high-pressure sprayers before entering the project ROW area.

Surface disturbance and vehicular traffic must not take place outside approved ROW. Areas stripped of topsoil must be re-seeded and reclaimed at the earliest opportunity. Certified weed-free straw and seed must be used for construction, seeding, and reclamation efforts. Prompt and appropriate construction, operation, and reclamation are expected to reduce vegetative impacts to minimal levels, effectively negating the potential to establish or spread invasive species.

3.12 Irreversible and Irretrievable Commitment of Resources

Removal and consumption of oil and/or gas from the Bakken and Three Forks Formation will be an irreversible and irretrievable commitment of resources. Other potential resource commitments include acreage devoted to disposal of cuttings, soil lost through wind and water erosion, cultural resources inadvertently destroyed, wildlife inadvertently killed during earthmoving or in collisions with vehicles, and energy expended during construction and operation.

3.13 Short-Term Use versus Long-Term Productivity

Short-term activities will not detract significantly from long-term productivity of the project areas. The area dedicated to the ROW will be unavailable for livestock grazing, wildlife habitat, and other uses. Allottees with surface rights will be compensated for loss of productive acreage and ROW footprint. Successful and ongoing reclamation of the landscape will quickly support

wildlife and livestock grazing, stabilize the soil, and reduce the potential for erosion and sedimentation.

3.14 Cumulative Impacts

The landscape and vegetation of the Great Plains have undergone continual transformations due to the influences of nature and human actions. Cumulative effects have occurred as a loss and alteration of habitats caused by cultivation, range management practices, fire suppression, exotic species introductions, resource development, and other practices. Environmental impacts may accumulate either over time or in combination with similar activities in the area. Unrelated activities may also have negative impacts on critical elements, thereby contributing to cumulative degradation of the environment. Past and current disturbances near the proposed project include farming, grazing, roads, and other oil/gas development. Virtually all-available acreage is already organized into agricultural leases or range units to utilize surface resources for economic benefit; oil and gas development is not expected to have more than a minor effect on surface use patterns.

The proposed West VHGS will temporarily disturb approximately 52.1 acres of cultivated agricultural lands, 25.2 acres of native prairie pasture, 17.0 acres of planted mixed grass pasture, and 5.2 acres of grass/alfalfa hay fields for a total of 99.5 total acres.

Development of the gathering system will result in reduced truck traffic in the area over the life of the producing wells. Potential impacts to wildlife for construction will be minimal, temporary and should not significantly negatively affect unlisted species, including migratory birds, small and large mammals, and other wildlife species.

There are no wetlands, floodplains, or major drainage facilities that will be significantly negatively affected by the proposed project. Mitigation efforts mentioned above, including numerous line isolation valves, will greatly reduce potential negative effects of pipelines operations around Lake Sakakawea. Current land uses are expected to continue with little change other than the temporary acreage required for construction. Increased truck traffic on adjacent approved ROW access roadways can be expected and has a documented negative, but manageable and temporary impact on road conditions. The development of the gathering system will ultimately result in greatly reduced truck traffic in the area over the life of the oil and gas field and therefore a net reduced impact to the area.

The proposed actions have been planned to avoid impacts to wetlands, floodplains, surface water, cultural resources, and threatened and endangered species. Unavoidable impacts to these or other resources will be minimized and/or mitigated as described in this document. The operator of any facility will be required to complete reclamation following construction and completion. Implementation of other precautionary and protective measures detailed in this EA and applicable regulations are expected to minimize impacts to all critical elements of the human environment. Impacts from the proposed project is expected to generally be minor, temporary, manageable, and/or insignificant. No cumulative impacts are reasonably foreseen from existing and proposed activities, relative to the existing scale of development, other than increasingly positive impacts to the reservation economy.

3.15 Commitments/Mitigation

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.

Resource surveys were conducted at the time of on-site inspections to determine potential affects to cultural and natural (i.e., biological and physical) resources. The locations were inspected in consideration of topography, location of topsoil/subsoil stockpiles, natural drainage and erosion control, flora, fauna, habitat, historical and cultural resources, and other surface issues. The final locations were determined in consideration of the previously identified issues.

Avoidance measures and other protective measures were incorporated into the final project ROW design to minimize impacts to evaluated resources, as appropriate. During the onsite inspections, site-specific mitigation measures were discussed and developed. Those measures summarized here will be incorporated in the Permit to Construct.

3.15.1 Spill Prevention and Erosion Control

D-3 has made commitments to the following mitigation measures:

- Best management practices (BMP's) which are defined as soil contouring, erosion control matting, waddles, ditch blocks and soil compaction will be employed where necessary
- The company will monitor and repair any erosion areas along the entire ROW for the life of the pipeline.
- Interim reclamation will start within 6 months of initial construction disturbance or no later than by the next appropriate planting season (fall or spring).
- Implementation of the Emergency Spill Contingency Plan for the VHGS

3.15.2 Wildlife Protections

D-3 has made commitments to the following wildlife protection and mitigation measures:

- If portions of the ROW is to be constructed during the spring nesting season (February 1 - July 15) ground and/or aerial surveys for migratory birds (including raptors) and nests will again be conducted within five days of construction.
- If a migratory bird nest is located, the location will be recorded, monitored and documentation will be maintained. The USFWS will be consulted to determine mitigation measures to avoid disturbance of the nest. Measures may include applying an appropriate avoidance buffer to the nest or delaying construction in that area until the nest is fledged.
- If the site is scheduled to be constructed during the nesting season for piping plovers and least terns (April 15 - September 1) surveys will be conducted five days prior to construction. If birds or nests are discovered, all construction will be stopped and the BIA and USFWS will be consulted for additional information on how to proceed. Mitigation measures recommended will be taken to avoid any disturbance of raptor or migratory bird nesting sites.
- Construction will be stopped if whooping cranes are sighted within one mile of the construction activities and not resume until the birds have left the area. Any sightings will be immediately reported to the US Fish and Wildlife Service (USFWS), North Dakota Game and Fish Department (NDGFD), and the BIA.

3.15.3 Utilities

D-3 will install utilities, including electric, fiber optic, gas, water, and oil gathering lines underground within the evaluated corridor. Efforts will be made to install utilities at one time and reclamation will start within six months of initial construction disturbance or no later than by the next appropriate planting season (fall or spring).

3.15.4 Dust Control

D-3 will practice watering and/or application of a dust suppressant as necessary to the access roads during construction, especially during periods of high winds and/or low precipitation.

3.15.5 Fire Control

D-3 will implement fire prevention and control measures including, but not limited to, the following:

- Requiring construction crews to carry fire extinguishers in their vehicles and/or equipment.
- Training construction crews in the proper use of fire extinguishers.
- Contracting with the local fire district to provide fire protection.

3.15.6 Traffic and Roads

Cooperative efforts by operators, agencies, and the tribe are currently being developed and implemented across the FBIR. These measures include the following:

- Requiring construction personnel to stay within the ROW or follow designated access roads.
- Increasing the pipeline infrastructure, centralizing water depots, and developing salt water disposal wells to reduce overall truck traffic and road degradation.
- Utilizing Tribal TERO fees for oil and gas activities, TAT Tribal funds, and IRR funds to increase the pace of maintenance and repair of roads impacted by increased truck traffic and unusually adverse weather conditions.

3.15.7 Cultural Resources

If cultural resources are discovered during construction or operation, the operator shall immediately stop work, secure the affected site and notify BIA and THPO. Unexpected or inadvertent discoveries of cultural resources or human remains trigger mandatory federal procedures that include work stoppage and BIA consultation with all appropriate parties. Following any such discovery, operations will not resume without written authorization from the BIA. Project personnel are prohibited from collecting any artifacts or disturbing cultural resources in the area under any circumstances. Individuals outside the right-of-way are trespassing.

4.0 Consultation and Coordination

The proposed project is located near and adjacent to oil and gas development(s) currently being developed. These developments have been reviewed in previous Environmental Assessments and FONSI's issued prior to development. The area of influence for this project is within the scope of review of these current developments, and as such, is part of the overall development plan.

Project scoping letters and maps were mailed on November 23, 2011. Direct mail recipients and a record of comments received are listed in Table 10. An example scoping letters and all responses are found in Appendices A and B. Species effect determination concurrence was received from USFWS on February 6, 2012 and is found in Appendix B.

Table 10. Scoping Record

Agency Scoping	Comments
Bureau Of Land Management	No Response
Bureau of Reclamation	Rural water lines in area, crossing specs provided, consult with FBRWS
Dunn County	No Response
EPA	No Response
FAA Bismarck	No Response
FAA Minneapolis	No Response
FEMA - Denver	Coordinate with local flood specialist if applicable
Fort Berthold Rural Water Supply (FBRWS)	No Response
McKenzie Ranger District	No Response
McLean County Board of Commissioners	No Response
MHA Nation	No Response
MHA Nation District Rep	No Response
MHA Nation Chairman	No Response
MHA Nation Game & Fish	No Response
MHA Nation Natural Resources Dept.	No Response
MHA Nation THPO	No Response
Montana Dakota Utilities	No Response
Mountrail Board of Commissioners	No Response
National Park Service	No Response
ND DOT	No Response
ND Game and Fish	Avoid wetlands, wooded draws and fragmentation of native prairie
ND NRCS	Avoid wetland impacts
NDIAC	No Response
New Town Municipal Airport	No Response
NoDak Electric Cooperative, Inc.	No Response
North Dakota Department of Health	Control dust, BMP's on drainage crossings, minimize construction noise
North Dakota Parks and Recreation Dept.	No effect to recorded significant ecological communities
Parshall-Hankins Field Airport	No Response
Reservation Telephone Co-op	No Response

Southwest Water Authority	No Response
Spirit Lake Tribe	No Response
Standing Rock Sioux Tribe	No Response
State Historical Society	Request for cultural resource survey results
Turtle Mountain Band of Chippewa	No Response
USACOE - Bismarck	Nationwide Permit 12 information provided
USACOE - Riverdale	No Response
USFWS	Concurrence with mitigation efforts and T&E species determinations. Recommends development of Conservation Plan and Habitat Equivalency Analysis, which could include funding for conservation efforts in project area.
Ward County Board of Commissioners	No Response

5.0 List of Preparers

An interdisciplinary team contributed to this document, following guidance in Part 1502.6 of CEQ regulations. Portions of the documents were drafted by Carlson McCain, Inc, under contract to D-3 and under the direction of BIA. Federal officials, oil and gas representatives, and consultants included the following:

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Todd Hartleben, Senior Engineer
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Appendix A

West Van Hook Gathering System Scoping Letter

Appendix B

West Van Hook Gathering System Scoping Comments



November 23, 2011

US Fish and Wildlife Service
Mr. Jeffrey Towner
Field Supervisor
3425 Miriam Avenue
Bismarck, ND 58501

**Re: Request for Comments
Proposed BIA 6 - Sunday Island Gathering System
Dakota D-3 E&P Company, LLC**

Dear Mr. Towner:

On behalf of Dakota-3 E&P Company, LLC (D-3), Carlson McCain, Inc. is submitting information concerning installation of pipelines and utilities from existing and proposed D-3 well pads to a central delivery point (CDP) where it connects to existing pipeline infrastructure. The proposed project, the BIA 6 - Sunday Island Gathering System, will connect to the established Van Hook Gathering System (VHGS) near the D-3 Mary R. Smith 5-8H well pad (Figure 1). This is a reroute to the original proposed route that now avoids numerous Little Shell Creek crossings and reduces disturbance to native prairie pastures.

The route is located within the Fort Berthold Reservation (FBIR) boundaries across fee, tribal and tribal allotted lands in Sections 11, 12 & 13, in T150N, R93W and Sections 6, 7 & 18, in T150N, R93W in Mountrail County, North Dakota (Figure 2).

On-site biological assessments along the route were conducted by Carlson McCain Biologists in multiple visits between the dates of August 9 and November 7, 2011, with Bureau of Indian Affairs (BIA) Natural Resource Specialists in attendance. At the on-site visits the proposed 130 foot right-of-way (ROW) was "soft" staked for evaluation. An approximate 300-foot-wide survey corridor was reviewed in consideration of topography, natural drainage and erosion control, vegetation, T&E species, migratory birds, wildlife and habitats, historical and cultural resources and other surface impacts. Numerous routes were evaluated in response to potential effects on natural and cultural resources sites found at time of survey and landowner concern. Site-specific mitigation measures were discussed and incorporated into the final project route and design to minimize impacts to evaluated resources as discussed below.

Project Description

The project will include installation of a natural gas gathering pipeline, an oil gathering pipeline, a produced water gathering pipeline along with a fresh water delivery pipeline. Utilities, including electrical and fiber optic cables, will also be installed underground within the same 130 foot right-of-way (ROW). This is a reroute to the original proposed route. The proposed project will dramatically reduce the amount of truck traffic to area roadways over the life of the oil field.

The natural gas pipelines will be constructed of polyethylene pipe, 8 inch in diameter for trunk lines and 3 inch in diameter for well lateral connections. The proposed oil pipelines will be constructed of 8-10 inch diameter welded steel for trunk lines and 6-8 inch diameter for well lateral connections. Produced water pipelines will consist of 4-8 inches in diameter polyethylene pipe. Fresh water delivery pipelines will also be polyethylene pipe, 4-6 inches in diameter. Electrical and fiber optic utilities are planned to be installed at time of pipeline installation. If utilities are not able to be installed at that time they may be installed at a later date by utilizing the spider-plow method. Spider-plowing has very minimal impact to the ground surface and will be within the previously disturbed surface.

Construction Procedures

Natural gas and oil pipelines will be installed in one trench and the produced water and fresh water pipelines will be installed in a second trench. Trenches will be approximately 2.5 feet wide and will be placed 10-15 feet apart. All pipelines will be installed at a minimum depth of six feet except as needed at road and stream crossings or as needed for safety considerations. Electrical and fiber optic utilities will be installed at the same time or at a later date by utilizing the spider-plow method. The pipelines and utilities will all be installed within the same 130-foot right-of-way.

The pipelines will be designed, assembled, and installed in accordance with U.S. Department of Transportation (DOT) regulations (DOT Title 49 CFR Parts 195 and 192) and other standards as applicable.

Pipeline materials will be staged at storage facilities located on Fee lands to be determined, at existing oil/gas well sites along the route and/or trucked directly to the construction ROW. County, state, private, BIA roads and field approaches used to access the ROW during construction and will be maintained in the same or better condition as existed prior to the start of the operations. The access roads and field approaches to the pipeline ROW were surveyed and cleared for use at the on-site visits. No new roads will be constructed for the installation of these pipelines. Off-road driving, other than within the ROW, will be strictly prohibited. Signs may be installed on approved access roads and will be used to identify roads where access is prohibited. Excessive rutting or other surface disturbing activities will be avoided or immediately repaired.

Ephemeral drains and USGS identified intermittent crossings were evaluated and crossing procedures were determined at on-site field investigations and are identified below and displayed in Figure 3. All BMP's will be employed to ensure minimal disturbance at all crossings.

Spill Response Plan

D-3 has developed an Emergency Spill Contingency Plan (Plan) for the VHGS. The spill preventative measures and monitoring protocols, notification procedures, spill detection and on-scene spill mitigation procedures, response activities, contacts, training and drill procedures, and response plan review and update procedures, as referenced in the Plan, apply to the proposed pipelines, so long as D-3 remains the operator. A copy of the Plan has been filed with the BIA and D-3 has legally committed to adhering to the procedures and requirements as defined by federal law (Title 49 Code of Federal Regulations [CFR] 194).

Pipeline Marking Procedures

D-3 will adhere to the requirements of 49 CFR 192.707 with regard to the marking of buried pipelines. Specifically, D-3 would place pipeline markers within 1,000 feet of one another, at all public road crossings, railroad crossings, creek crossings, fence crossings, and at all points of major direction change.

Quality Control/Quality Assurance Measures

D-3 would purchase steel pipe that is rated as API 5L X-42/52 and would inspect all pipe while at the mill to ensure quality. D-3 would ensure that external epoxy coating is applied to a minimum thickness of 14 millimeters. During construction, all welds are visually inspected for quality and completeness by qualified professionals. Once welds have passed visual inspection, they are subjected to 20 percent Non Destructive Testing. After passing these tests, the weld areas are covered for corrosion protection. After the weld areas have been covered, the external coating of the pipe is inspected using a jeepmeter to detect holes and cracks. The pipe is lowered into the trench and buried. Prior to being put into service, the steel pipe is hydrotested to approximately 115% of the minimum design pressure of 720 pounds per square inch gauge (psig). A cathodic protection system will be installed on the steel pipe to protect against corrosion of the pipe.

The natural gas and produced water pipelines will be constructed with high density polyethylene pipe resin 4710. The polyethylene material is not subject to corrosion from reaction with the water so no external or internal coating is required for water service. The produced water pipe is designed to sustain a minimum pressure of 255 psig and is hydrotested to approximately 255 psig prior to being approved for service. The natural gas pipe is designed to sustain a minimum pressure of 250 psig and is hydrotested to approximately 250 psig prior to being approved for service.

Annual surveys of the pipeline system will be conducted to assure the pipeline integrity and cathodic protection system is still functioning adequately.

Valve Locations

Above ground isolation valves will be constructed on each well pad site and at intervals of approximately 1-1.5 miles on the oil, gas and produced water pipelines (Figure 4). Foremost this will allow for sections to be isolated to minimize potential for large spills and also for repair or service of the lines. The line valve placement is determined by permanent ROW accessibility and ability to quickly access to shutdown during winter months.

Interim Reclamation

Reclamation will take place throughout the project lifespan. Reclamation will be required after the initial construction, after any maintenance work or addition of auxiliary infrastructure, and before final abandonment of the decommissioned system. Successful reclamation will remain the obligation and responsibility of the system operator.

Trenches will be backfilled immediately after pipe and utility installation and testing, waiting only if soils are overly wet or frozen. Appropriate temporary and long-term measures will be applied to all disturbed areas to minimize and control erosion. Field practices will conform with prescribed Best Management Practices (BMP's) and may include:

- 1) installing silt fences and erosion fabric, mats or logs;
- 2) construction of ditches and/or water bars;
- 3) seeding, planting, mulching and creation of buffer strips; and
- 4) other measures identified at onsite meetings by BIA to minimize erosion and soil loss.

Following winter construction, cleanup and reclamation will not be complete. When ditching is implemented with a trenching machine, the topsoil will first be stripped and stored on the far side of the spoil side of the right-of-way. This spoil will likely have chunks of frozen soil within. Then the trenching will occur resulting in finer subsoil which will be stored closest to the open ditch. Lower in and backfill will be performed as soon as possible depending on weather conditions. The subsoil will be backfilled first, then the topsoil. Using this practice most of the frozen soil will be on the top of the ditch line. Precautions will be made to minimize the snow in the ditch or mixed in with the backfill. Efforts will also be made to crush some of the frozen chunks as grading and compaction are completed. In areas where the spring thaw will likely bring considerable amounts of running water, trench breakers or surface breakers will be implemented to minimize erosion. Therefore, monitoring erosion will be ongoing. Final grading and reclamation will be done in the spring following complete frost thaw and required drying of the right-of-way. Weather conditions again will determine final reclamation timing. When trenching by double-ditching with a track hoe, like practices will be implemented.

After subsoil is scarified to alleviate compaction, stockpiled topsoil will be redistributed over the ROW. Re-contouring and reclamation of disturbed areas will be accomplished as soon as possible after construction is completed, and no later than by the next appropriate planting season (fall or spring). The ROW on non-tilled land will be re-seeded with certified, weed-free seed mixtures established by BIA. Native species will be used to the extent possible and seeding and planting will comply with BIA directions to ensure successful reclamation.

The ROW will be monitored to identify areas of excessive erosion, subsidence, or invasion of noxious weeds. Periodic monitoring will be performed - and repeated reclamation efforts will be undertaken in problem areas - until BIA has certified the ROW as successfully reclaimed. Successful reclamation is defined by the BIA to include the following observable factors: 1) reproduction of seeded and re-established species; 2) natural invasion of plants from undisturbed adjacent communities; and 3) control or exclusion of noxious weeds.

The BIA has developed a weed management plan to facilitate the treatment of known and likely noxious/invasive weed species. If seeding is not successful within two growing seasons, BIA may require extra efforts to stabilize the site, such as matting the entire affected area, or using a mix of rapidly growing forbs and annual grasses, followed by reseeding with grasses, forbs, and shrubs with rapidly expanding, deep root systems.

Final Reclamation

Decommissioning of the pipeline will result in mandatory final reclamation of the ROW. All facilities would be removed. All disturbed areas would be reclaimed, reflecting the BIA's view of oil and gas exploration and production as temporary intrusions on the landscape. Due to economic costs and additional environmental disturbance associated with excavation and removal, pipelines will be purged

with water to remove hydrocarbons, and then abandoned in place. Long term monitoring will be required to ensure successful reclamation and implementation of any necessary remedial efforts.

Operations and Maintenance

Maintenance of pipelines and utilities will be confined to the 130-foot permanent ROW. Annual surveys of the pipeline system will be conducted to assure the pipeline integrity and cathodic protection system is functioning adequately. In the likely event of corrosion detection or leak, replacement of system sections may be required. Loss of products or waste products may require excavation of contaminated soils and other remedial projects. Applicable regulations, including immediately notifying BIA and BMP's, will be implemented aggressively to minimize waste of resources and environmental damage.

Route Description on Tribal Lands

Section 11, T150N, R93W- BIA 6

The BIA 6 gathering system will originate at the connection to the Arikara 15-22H co-located access road and utility corridor in NW ¼ of Section 11. The route continues to the east on the south side of the BIA 6 roadway and a rural water pipeline through a previously cultivated field planted to smooth brome (*Bromus inermis*), crested wheatgrass (*Agropyron cristatum*) and alfafa (*Medicago sativa*). A small area of native rolling tops and ephemeral drainages is encountered comprised of needle-and-thread (*Stipa comata*), western wheatgrass (*Agropyron smithii*), prairie junegrass (*Koeleria pyramidata*), with purple coneflower (*Echinacea angustifolia*) and buckbrush (*Symphoricarpos occidentalis*) patches. This area is invaded by smooth brome and yellow sweet clover (*Melilotus officinalis*) with Canada thistle (*Cirsium arvense*) found in the two ephemeral drains crossed. Standard best management practices (BMP's); including straw waddles (logs) and matting will be utilized at these drainage crossings to reduce erosion potential. A buffalo berry (*Shepherdia argentea*) and chokecherry (*Prunus virginiana*) thicket with a few American elm (*Ulmus americana*) are located within the proposed ROW. It was discussed that the woody debris will be mulched and mixed into the topsoil to be spread at reclamation.

The route continues and crosses a 2-track trail and again into a smooth brome and alfalfa field. The route follows the curve of BIA 6 and through a deep-cut ephemeral drain again with Canada thistle in the bottom. Standard BMP's will again be utilized at this drainage crossing to reduce erosion potential. The rural water line reclamation scar regrowth is dominated by annual sunflower (*Helianthus annuus*), smooth brome and sow thistle (*Sonchus arvensis*). As the route nears the section 11-12 line it will intercept the previously evaluated Hidatsa 23-26H access road and will co-located within the 130 foot ROW and continue to the south on fee land.

Section 12, T150N, R93W- BIA 6

The BIA 6 gathering system will divert to the east crossing onto tribal lands in SW ¼ Section 12 into a cultivated field of harvested canola at time of survey. Mitigation efforts at the time of on-site included backing the ROW away from the grassy steep breaks at edge of field (~ 30 ft) to reduce potential of erosion into native drainages. The line continues back into private (fee) lands as it crosses into Section 13 and connects to the Mandan 13-14H well site.

Section 18, T150N, R92W - Sunday Island

At the junction of the lateral lines to the Mandan 13-14H the project continuing east up to the Mary R. Smith 5-8H is referred to as the Sunday Island gathering system. The route crosses on to tribal allotted lands into section 18 as it rises out of an ephemeral drainage filled with hawthorn (*Crateagus spp.*) and chokecherry into a native hillside dominated by blue grama (*Bouteloua gracilis*) and needle and thread with purple cone flowers scattered. A planted Russian olive (*Eleagnus angustifolia*) tree row is crossed as the route enters into an alfalfa field. Mitigation replacement or mulch and mix are not recommended for the removal of the olive trees due to the invasive nature of this species. The route continues across alfalfa field and nears a proposed well pad.



Proposed route in Section 18.

Photo taken in the NW ¼ facing northeast across alfalfa field.

Routing to the west of the staked pad was evaluated and determined that it would have the potential to impact the dammed drainage and should not be considered. The option of heading to the east and directional drilling (boring) under BIA 601 and the rural water pipeline into another alfalfa field was selected as the preferred alternative. The route would then parallel the Russian olive tree row and rural water pipeline up to BIA 6. It will be necessary to bore from the SE corner of the intersection of BIA 6 and BIA 601 and emerge on the NW corner of the intersection, Section 7, just west of an existing well pad.

Section 7, T150N, R92W

West of the existing well pad the route continues to the north and east across native prairie pasture. Dominant grass species included green needlegrass (*Stipa viridula*), needle-and-thread, little bluestem (*Andropogon scoparius*), and Kentucky bluegrass (*Poa pratensis*). Forbs across area include purple coneflower, white sage (*Artemisia ludoviciana*), fringed sagebrush (*Artemisia frigid*), owl clover (*Orthocarpus luteus*), spotted gat feather (*Liatris punctata*) and silver leaf scurfpea (*Psoralea argophylla*). The ROW as it rounds the NW

corner of the pad will be necked down and BMP's will be utilized to reduce potential impacts to the drainage west of the route. A buffalo berry patch was avoided as the route was staked across and down the gentle sloping flat to an area along the drainage that did not contain wetland characteristics. The drainage crossing was evaluated and determined that a 24-hr open cut and heavy BMP's, including fiber matting, would suffice to mitigate any potential impacts to the drainage pools found further down along the bottoms.



Proposed route in Section 7.

Photo taken in the NE ¼ facing north at intermittent drainage crossing.

The route climbs the steep northern bank and into a cultivated field where it continues to the east. The cultivated field contains two shallow poorly drained areas along the route but further evaluation did not warrant avoidance due to being cultivated through on most years. The route continues back into the native prairie pasture and across two upland ephemeral drains before crossing into Section 8.

Section 7, T150N, R92W

The route turns north after crossing into section 8 and into cultivated agricultural lands following the section line. The Sunday Island gathering system 130 foot ROW will butt up against the section line ROW as to allow the section line road to be used to access the construction ROW. The route approaches and will be bored under 29th Street NW and continue into cultivated land across Section 5.

Section 5, T150N, R92W

The cultivated lands in section 5 have two shallow poorly drained areas along the route to the Mary R. Smith 5-8H. An area in the SW¼ NW ¼ was delineated as wetland and the route was moved to avoid. A seep was also discovered and rerouted to avoid disturbance of subsurface water flow and potential construction difficulties. The route diverts from the section line and takes a direct route to the west side

of the Mary R. Smith well pad. It crosses the rural water pipeline before it crosses the Mary R. Smith access road and onto fee lands for connection to the Central VHGS.

Migratory Birds and Raptors

Proposed oil and gas development in the area may affect raptor and migratory bird species through direct mortality, habitat degradation, and/or displacement of individual birds. These impacts are regulated in part through the *Migratory Bird Treaty Act* (916 USC 703-711) and the Bald and Golden Eagle Protection Act (BGEPA).

A ground survey for cliff, tree, and ground raptor nests was conducted within line-of sight of the proposed project. No nests were observed during the on-site reviews between August 9 and November 7, 2011. The project area was also surveyed for other migratory bird species. The timing of the surveys was not within the typical nesting window and therefore may not be an accurate account of nesting species along route. Species observed using the immediate area at the time of the surveys included song sparrows (*Melospiza melodia*), savannah sparrow (*Passerculus sandwichensis*), turkey vultures (*Cathartes aura*) and red-winged blackbirds (*Agelaius phoeniceus*). Non-migratory (resident) species included the sharptailed grouse (*Tympanuchus phasianellus*) and the ring-necked pheasant (*Phasianus colchicus*).

The location of the proposed project across rolling native and mixed grass prairie communities a raptor and migratory bird survey will again be conducted 5 days prior to construction if construction takes place between February 1 and July 15 and/or mowing and grubbing will take place across the project route the preceding fall. If nests are discovered, all construction will be stopped and the BIA and USFWS will be consulted for additional information on how to proceed. Mitigation measures recommended will be taken to avoid any disturbance of raptor or migratory bird nesting sites. If mowing or grubbing does take place maintenance of the habitat in a degraded state will occur until construction begins.

High Value Habitat Avoidance

The North Dakota Natural Heritage biological conservation database is maintained by the ND Parks and Recreation Department (NDPRD). A request for record review has been done to determine if any current or historic plant or animal species of concern or other significant ecological communities have been documented within an approximate one-mile radius of the project route.

The proposed project is located across cultivated agricultural lands, planted grass/alfalfa fields, and rolling native and mixed grass prairie communities. No high value wildlife habitat will be compromised by pipeline construction and effects on loss of cover will temporary. At the time of the field visits, no significant ecological communities were observed in the immediate area.

The disturbed ROW will be reseeded with a native seed mix as specified by the BIA. Dakota-3 E&P and the BIA will monitor the seeding success and weed species control over life of project.

Biological Species Assessment

Assessments for Federally listed threatened and endangered species were conducted by evaluating historic and present occurrences and by determining if potential habitat exists along the project area. A determination was made concerning direct and cumulative effects of the proposed activities on each

species. Threatened and endangered species with documented occurrences in Mountrail County are listed in Table 1.

Table 1. Mountrail County Threatened, Endangered and Candidate Species List

Species	Status
Interior Least Tern	Endangered
Whooping Crane	Endangered
Pallid Sturgeon	Endangered
Gray Wolf	Endangered
Piping Plover and Designated Critical Habitat	Threatened
Sprague's Pipit	Candidate
Dakota Skipper	Candidate

¹ USFWS (updated March, 2011)

Determinations made for federally listed species are:

- No effect
- May affect, is not likely to adversely affect
- May affect, is likely to adversely affect

Gray Wolf

Gray wolves, an Endangered Species in North Dakota, were historically found throughout much of North America including the Upper Great Plains. Human activities have restricted their present range to the northern forests of Minnesota, Wisconsin, and Michigan and the Northern Rocky Mountains of Idaho, Montana, and Wyoming. They now only occur as occasional visitors in North Dakota. The most suitable habitat for the gray wolf is found around the Turtle Mountains region where documented and unconfirmed reports of gray wolves in North Dakota have occurred (Grondahl and Martin, no date). Due to the transient nature and no recent recorded sightings in the area the proposed project **may affect, is not likely to adversely affect** this species.

Interior Least Tern

The interior least tern nests on midstream sandbars along the Yellowstone and Missouri River systems. Interior least terns construct bowl-shaped depression nests on sparsely vegetated sandbars and sandy beaches. Their nesting period occurs between mid-May through mid-August. During the nesting season the least tern has been documented to travel 7.5 miles or more from the lake to forage in wetlands. The proposed route construction activity will be within 7.5 miles from (nearest activity approximately 1.0 mile) but not within direct line-of-sight of the Missouri River system shoreline. No individuals were observed in the area during the onsite visit. The project route will not impact any wetlands and mitigation practices will be employed to protect drainages and the lake. Following these guidelines, it is reasonable to expect that the proposed activities **may affect, is not likely to adversely affect** this species.

Pallid Sturgeon

Pallid sturgeon are found in the Mississippi, Missouri, and Yellowstone River systems and are adapted for living close to the bottom of large, shallow rivers with sand and gravel bars. Pallid sturgeon populations in North Dakota have decreased since the 1960's (Grondahl and Martin no date).

The proposed project will not disrupt the Missouri River habitat and above ground isolation valves will be constructed on each well pad site and at intervals of approximately 1-1.5 miles on the oil, gas and produced water pipelines. This will allow for sections to be isolated to minimize potential for large spills and affect critical habitat and water sources. The proposed project ***may affect, is not likely to adversely affect*** this species.

Whooping Crane

The primary nesting area for the whooping crane is in Canada's Wood Buffalo National Park. Aransas National Wildlife Refuge in Texas is the primary wintering area for whooping cranes. In the spring and fall, the cranes migrate primarily along the Central Flyway. During the migration, cranes make numerous stops, roosting in large shallow marshes, and feeding and loafing in harvested grain fields. The primary threats to whooping cranes are aboveground power lines, illegal hunting, and habitat loss (Texas Parks and Wildlife 2008).

The proposed route is located within the Central Flyway. Approximately 75% of the whooping crane sightings in North Dakota occur within a 90-mile corridor that includes the proposed project area location. Utility lines will be constructed underground as collisions with power lines have been the primary cause for fledgling mortality. Land use in the area is cultivated agricultural lands, planted grass/alfalfa fields, and rolling native and mixed grass prairie communities. The route crosses through areas that could be potential for whooping crane stop-over habitat. No individual whooping cranes were observed in the area during the on-site visits.

Construction activities may cause migratory cranes to divert from the area but are not likely to result in fatalities. If a crane is sighted within one mile of the project area, construction activities will cease and will be immediately reported to the US Fish and Wildlife Service (USFWS), North Dakota Game and Fish Department (NDGFD), and the BIA. In coordination with the USFWS and the BIA construction will resume once the bird(s) have left the area. Following these guidelines, it is reasonable to expect that the proposed activities ***may affect, is not likely to adversely affect*** whooping cranes.

Piping Plover and Critical Habitat

Piping plovers are found along the Missouri and Yellowstone River systems on gravel shorelines and sandbars and also on large alkaline wetlands. Nesting sites have been documented on the shorelines of Lake Sakakawea. In addition, critical habitat has been designated along Lake Sakakawea. NDPRD will be consulted on historic records indicating piping plover sightings and critical habitat within 2-miles of the project site.

The proposed route nearest construction activity will be approximately 1.0 mile from and not within direct line-of-sight of the Missouri River system shoreline. No individuals were observed in the area during the onsite visit. The project route will not impact any wetlands and mitigation practices will be

employed to protect drainages and the lake. Following these guidelines, it is reasonable to expect that the proposed activities **may affect, is not likely to adversely affect** this species.

Sprague's Pipit

The Sprague's pipit is a ground nesting bird that breeds and winters on open grasslands. It feeds mostly on insects and spiders and some seeds. The Sprague's pipit is closely tied with native prairie habitat and breeds in the north-central United States in Minnesota, Montana, North Dakota and South Dakota as well as south-central Canada. During the breeding season, Sprague's pipits prefer large patches of native grassland with a minimum size requirement thought to be approximately 145 ha (358.3 ac). The species prefers to breed in well-drained, open grasslands and avoids grasslands with excessive shrubs. Preferred grass height is estimated to be between 10 and 30 cm. They may avoid roads, trails, and habitat edges.

The proposed route will be constructed across portions of native prairie pasture dissected by roads, fences and cultivated fields. The native pastures were heavily grazed and vegetation height was low to moderate (10-20cm). Shrub species (hawthorn and chokecherry) occur along the route and in the immediate landscape. Based upon these landscape conditions the proposed activities **may affect, is not likely to adversely affect** this species.

Dakota Skipper

Dakota skippers are found in native prairie containing a high diversity of wildflowers and grasses. Habitat includes two prairie types: 1) low (wet) prairie dominated by bluestem grasses, wood lily, harebell, and smooth camas; and 2) upland (dry) prairie on ridges and hillsides dominated by bluestem grasses, needlegrass, pale purple coneflower and upright coneflowers and blanket flower. Dakota skipper populations have declined historically due to widespread conversion of native prairie.

Activities from pipeline installation may temporarily disturb some forage species of the Dakota skipper. Therefore the proposed project **may affect, is not likely to adversely affect** this species at this time due to the availability of large native grassland pastures in the immediate area. Native species will be replanted during reclamation activities.

Cumulative Impacts

The proposed route will temporarily disturb approximately 52.1 acres of cultivated agricultural lands, 25.2 acres of native prairie pasture, 17.0 acres of planted mixed grass pasture and 5.2 acres of grass/alfalfa hay fields for a total of 99.5 total acres. The proposed installation (disturbance of surface) is to take place over the late winter months before thaw and return of nesting migratory grassland birds. Final reclamation will take place in spring after the land has dried out.

Development of the gathering system will result in reduced truck traffic in the area over the life of the producing wells. Potential impacts to wildlife for construction will be minimal, temporary and should not significantly negatively affect unlisted species, including migratory birds, small and large mammals, and other wildlife species.

There are no wetlands, floodplains, or major drainage facilities that will be significantly negatively affected by the proposed gathering system route. Mitigation efforts mentioned above, including numerous line isolation valves, will greatly reduce potential negative effects of pipelines operations around Lake

Sakakawea. Current land uses are expected to continue with little change other than the temporary acreage required for construction. Increased truck traffic on adjacent approved ROW access roadways can be expected and has a documented negative, but manageable and temporary impact on road conditions. The development of the gathering system will ultimately result in greatly reduced truck traffic in the area over the life of the oil and gas field and therefore a net reduced impact to the area.

Conclusion

D-3 has committed to the following site-specific construction procedures to be implemented to help reduce potential impacts to wildlife and habitat:

- Raptor and migratory bird survey up to 5 days prior to the construction of this proposed undertaking between February 1 and July 15
- Interim and final reclamation including:
 - Use of BMPs (soil compaction, fiber rolls, berms, sediment fences, fabric etc.) to reduce erosion potential
 - Monitoring and maintenance of potential erosion areas.
 - Seeding of native species.
 - Indefinite monitoring of seeding success and weed species control.
- Installation shut off valves at all well sites and line isolation valves every 1-1.5 miles on all pipelines
- Spill Prevention Plan implementation
- Annual surveys to assure the pipeline integrity and functioning cathodic protection system

Based on a review of a list of federally listed or proposed endangered or threatened species under U.S. Fish and Wildlife Service jurisdiction, in addition to occasional transient individuals, we have determined that these actions will either have *no effect* or *may affect, but is not likely to adversely affect* listed threatened, endangered or candidate species and habitats.

Please call me at 701-255-1475 if you have any questions or need additional information.

Sincerely,

Ryan J. Krapp
Ecologist/GIS Specialist

Figure 1. VHGS Overview Map



Figure 2. Surface Ownership Map

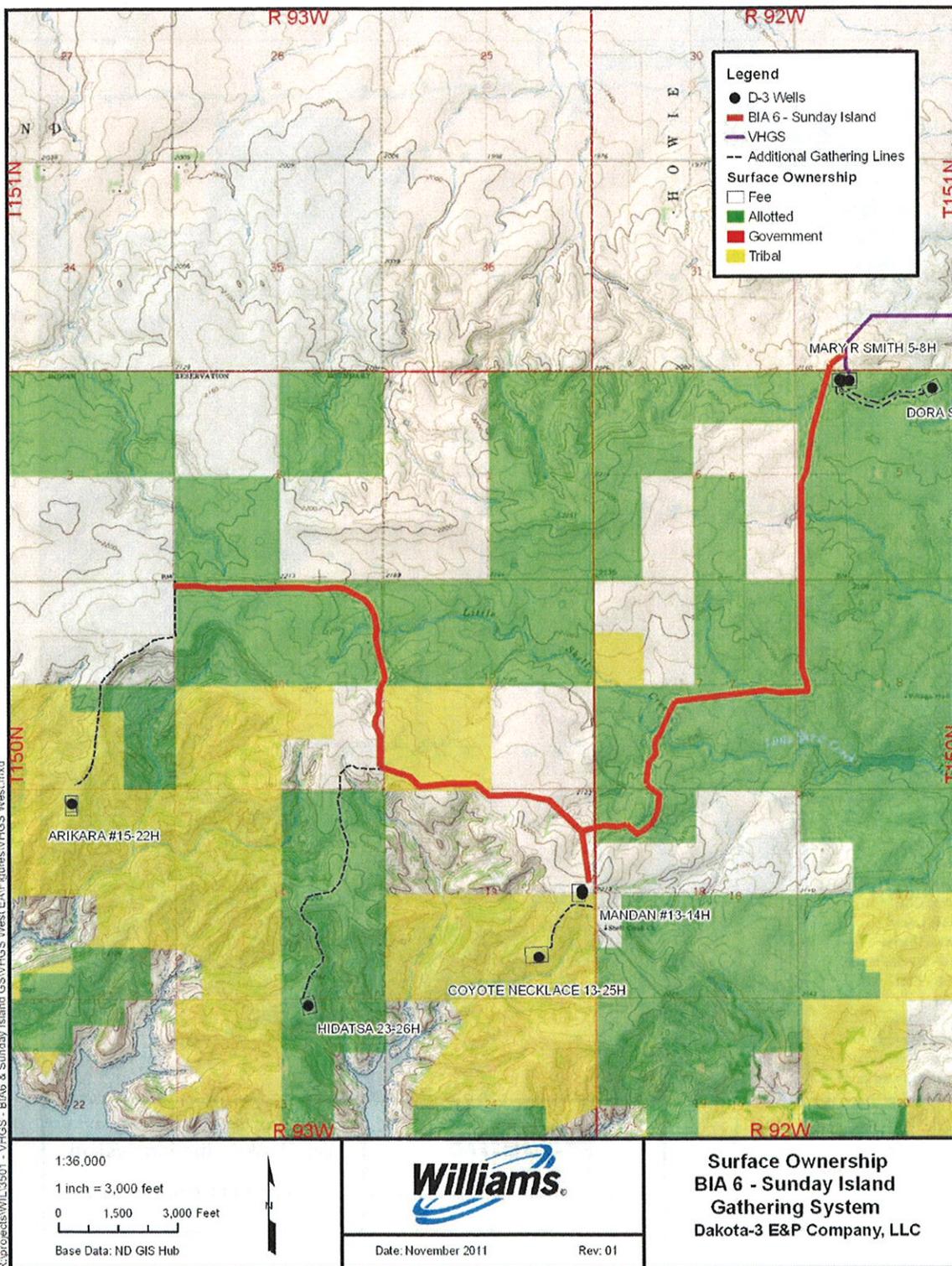
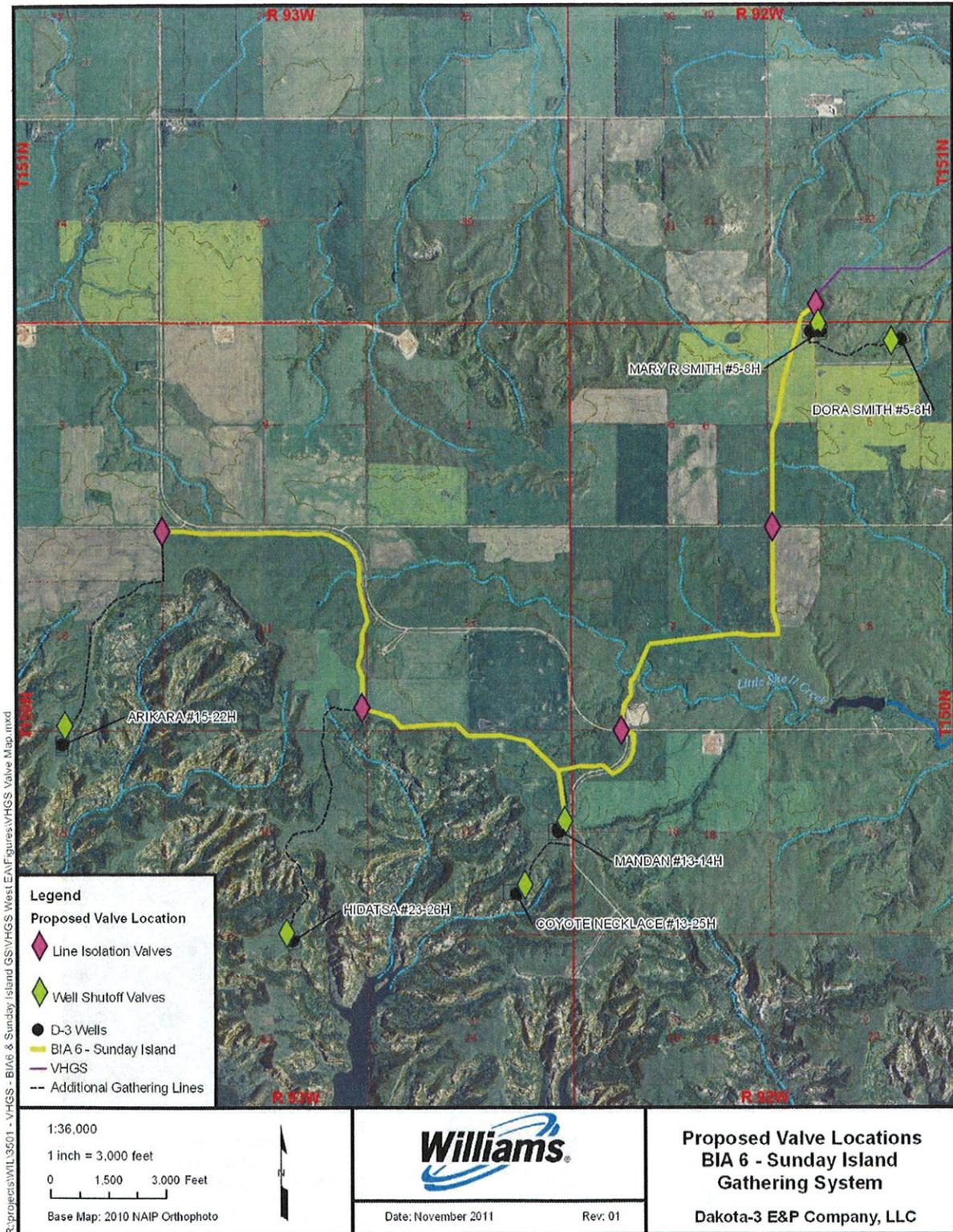


Figure 4. Proposed Valve Locations





November 23, 2011

Ronald Melhouse
Bureau of Reclamation
P.O. Box 1017
Bismarck, ND 58502

**RE: Request for Comments
Dakota D-3 E&P Company, LLC**

Dear Mr. Melhouse,

On behalf of Dakota-3 E&P Company, LLC, Carlson McCain is submitting information concerning installation of pipelines and utilities from existing and proposed well pads to a central delivery point (CDP) where it connects to existing pipeline infrastructure on the Fort Berthold Reservation (Reservation). The proposed project, the BIA 6 – Sunday Island Gathering System, will connect to the established Van Hook Gathering System (VHGS). The Bureau of Indian Affairs (BIA) is preparing an environmental assessment (EA) under the National Environmental Policy Act (NEPA) for the proposed action(s). The proposed route is described below, and illustrated on the Project location map (Figure 1).

- BIA 6 and Sunday Island Gathering System

The project will include installation of a natural gas gathering pipeline, an oil gathering pipeline, a produced water gathering pipeline along with a fresh water delivery pipeline. Utilities, including electrical and fiber optic cables, will also be installed underground within the same 130 foot right-of-way (ROW). The proposed project will dramatically reduce the amount of truck traffic to area roadways over the life of the oil field.

In accordance with NEPA requirements, we are requesting comments regarding the proposed project. Comments are requested to be sent before December 23, 2011, so they may be incorporated into the final decision making. Please send comments to my attention at the address below.

2718 Gateway Avenue, Suite 101
Bismarck, ND 58503

Sincerely,

Ryan J. Krapp
Ecologist
rkrapp@carlsonmccain.com



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501



Mr. Ryan Krapp
Ecologist/GIS Specialist
Carlson McCain, Inc.
2718 Gateway Avenue, Suite 101
Bismarck, North Dakota 58503

Re: BIA 6 – Sunday Island Gathering
System, Fort Berthold Reservation,
Mountrail County, North Dakota
(FWS TAILS # 2012-CPA-0161)

Dear Mr. Krapp:

This is in response to your November 23, 2011, scoping letter and subsequent email correspondence with Heidi Riddle of my staff on the proposed construction of the BIA 6 – Sunday Island Gathering System by Dakota-3 E&P Company, LLC (D-3), which will connect to the established Van Hook Gathering System on the Fort Berthold Reservation, Mountrail County, North Dakota.

Specific locations for the proposed pipeline are:

T. 150 N., R. 93 W., Sections 11, 12, 13
T. 151 N., R. 93 W., Sections 06, 07, 18

The U.S. Fish and Wildlife Service (Service) offers the following comments under the authority of and in accordance with the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 *et seq.*) (NEPA), the Endangered Species Act, as amended (16 U.S.C. 1531 *et seq.*) (ESA), Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*) (MBTA), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) (BGEPA), and Executive Order 13186 “Responsibilities of Federal Agencies to Protect Migratory Birds”, and Executive Order 11990 “Protection of Wetlands”.

Threatened and Endangered Species

In an e-mail dated October 13, 2009, the Bureau of Indian Affairs (BIA) designated Carlson-McCain, Inc. (Carlson-McCain) to represent the BIA for informal Section 7 consultation under the ESA. Therefore, the Service is responding to you as the

designated non-Federal representative for the purposes of ESA, and under our other authorities as the entity preparing the NEPA document for adoption by the BIA.

The proposed project at its closest point is approximately 1 mile from nesting and foraging locations and habitat on Lake Sakakawea and designated critical habitat for the piping plover. The drainages crossed also flow into Little Shell Creek and at points greater than 1 stream-mile away from Lake Sakakawea. Therefore, the Service concurs with your "may affect, is not likely to adversely affect" determination for piping plover, interior least tern and pallid sturgeon, and designated critical habitat for piping plover.

D-3 has committed to stop work on the proposed site if a whooping crane is sighted within 1 mile of the proposed project area and immediately contact the Service. Work may resume in coordination with the Service once the bird(s) has(ve) left the area. Therefore, the Service concurs with your "may affect, is not likely to adversely affect" determination for whooping cranes.

The Service concurs with your "may affect, not likely to adversely affect" determination for gray wolf.

The Service acknowledges your "no effect" determination for black-footed ferret.

The Dakota skipper and Sprague's pipit are candidate species for listing under the ESA; therefore, an effects determination is not necessary for these species. No legal requirement exists to protect candidate species; however, it is within the spirit of the ESA to consider these species as having significant value and worth protecting. Although not required, Federal action agencies such as the BIA have the option of requesting a conference on any proposed action that may affect candidate species such as the Dakota skipper and Sprague's pipit.

Migratory Birds

D-3 has committed to implementing the following measures:

- Construction will be done outside of the migratory bird nesting season (Feb. 1- July 15);
- If construction is to occur during the bird breeding season, vegetation within the construction right-of-ways (ROW) will be mowed/cleared and maintained prior to Feb. 1st and until ground-disturbing activities occur, weather conditions (i.e., snow cover) permitting;
- Or, conduct a bird/nest survey within 5 days prior to construction and report any findings to the Service. Construction will be delayed until Notice to Proceed is obtained from the BIA and the Service.

Bald and Golden Eagles

No eagle nests were observed within 0.5 mile line-of-sight of the project area.

The Service believes that D-3's commitment to implement the aforementioned measures demonstrates that measures have been taken to protect migratory birds and bald and golden eagles to the extent practicable, pursuant to the MBTA and the BGEPA.

High Value Habitat

The above measures may reduce or eliminate impacts to migratory birds during construction. However, even if all measures are taken to avoid take of migratory birds during the construction phase, there is likely to be some migratory bird take associated with construction and ongoing operation and maintenance of the proposed pipeline. The Service recommends that D-3 develop a Conservation Plan in cooperation with BIA and the Service to identify potential impacts to migratory birds during all phases of the proposed project. This Conservation Plan should evaluate impacts both from the immediate footprint of the project as well as from the larger impacts from ongoing disturbance. We recommend that this plan include a Habitat Equivalency Analysis or similar habitat analysis method, which may include funding to allow for conservation actions to be directed towards the greatest needs of migratory birds in the proposed pipeline project area.

Thank you for the opportunity to comment on this project proposal. If you require further information or the project plans change, please contact me or Heidi Riddle of my staff at (701) 250-4481 or at the letterhead address. Please reference the FWS TAILS number above in any future correspondence on this project.

Sincerely,



Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

cc: Bureau of Indian Affairs, Aberdeen, SD
(Attn: Marilyn Bercier)
Bureau of Land Management, Dickinson, ND
ND Game & Fish Department, Bismarck, ND



United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Great Plains Regional Office
115 Fourth Avenue S.E., Suite 400
Aberdeen, South Dakota 57401



IN REPLY REFER TO:
DESCRM
MC-208

DEC 15 2011

Elgin Crows Breast, THPO
Mandan, Hidatsa and Arikara Nation
404 Frontage Road
New Town, North Dakota 58763

Dear Mr. Crows Breast:

We have considered the potential effects on cultural resources of a gathering line system project in Mountrail County, North Dakota. Approximately 355 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 (32MN800) was revisited and one newly recorded site (32MN909) are historic sites which are evaluated as not eligible for the National Register. Four archaeological sites (32MN906, 32MN907, 32MN908, 32MN910) were located which may 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 (42 USC 1996).

As the surface management agency, and as provided for in 36 CFR 800.5, we have reached a determination of **no historic properties affected** for this undertaking, as the archaeological sites will be fenced out and avoided. Catalogued as **BIA Case Number AAO-2024/FB/12**, the proposed undertaking, location, and project dimensions are described in the following report:

Moret-Ferguson, Celia

(2011) A Class I and Class III Cultural Resource Inventory for the West Van Hook Gathering System, Fort Berthold Indian Reservation, Mountrail County, North Dakota. SWCA Environmental Consultants for Dakota-3 E&P Company, LLC, Denver.

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

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

Sincerely,

ACTING Regional Director

Enclosure

cc: Chairman, Three Affiliated Tribes
Superintendent, Fort Berthold Agency



United States Department of the Interior

BUREAU OF RECLAMATION
Dakotas Area Office
P.O. Box 1017
Bismarck, North Dakota 58502



DK-5000
ENV-6.00

DEC 1

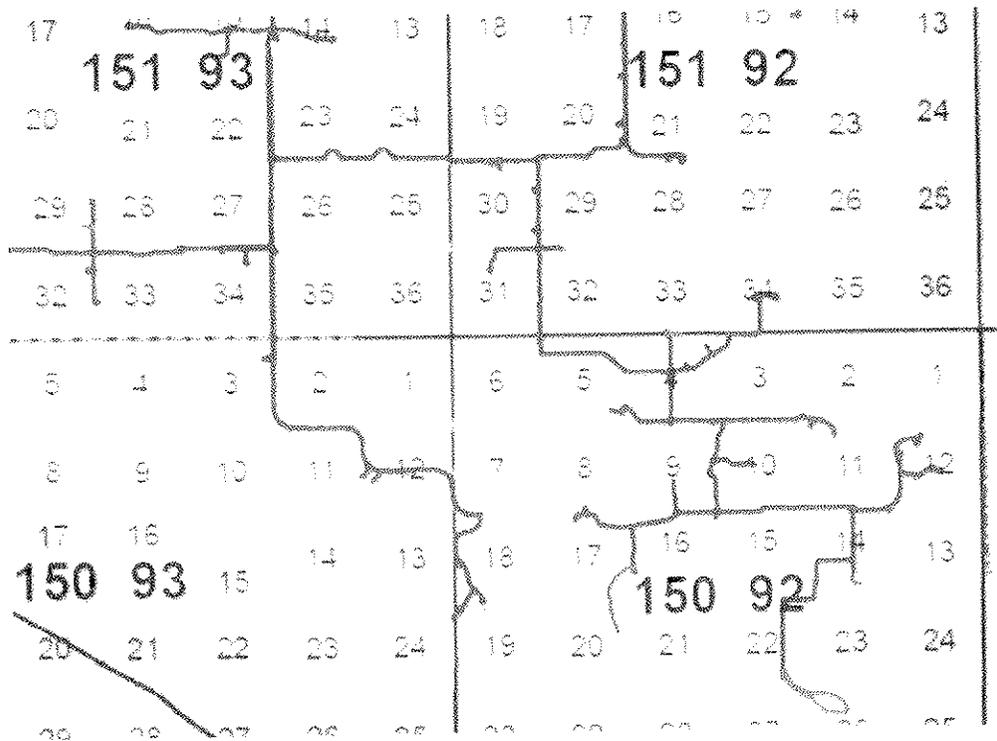
Mr. Ryan J. Krapp
Ecologist
Carlson McCain
2718 Gateway Avenue, Suite 101
Bismarck, ND 58503

Subject: Solicitation for an Environmental Assessment for the Construction of Pipelines and Utilities From Proposed Wells to Central Delivery Point by Dakota-3 on the Fort Berthold Reservation in Mountrail County, North Dakota

Dear Mr. Krapp:

This letter is written to inform you that we received your letter of November 23, 2011, and the information and map have been reviewed by Bureau of Reclamation staff.

It appears there are Federal Reclamation facilities in or adjacent to your proposed pipeline project in Mountrail County. Refer to the dark blue and red lines in the map I have provided of the general vicinity of your proposed pipelines to assist you in determination of potential effects due to your proposed action.



In Part - T151 R93W, T151 R92W, T150 R93W and T150 R92W Mountrail County, N D

Should you need to cross a Fort Berthold Rural Water System pipeline, please refer to the enclosed sheet for pipeline crossing specifications and contact our engineer Colin Nygaard, as below.

Since Reclamation is the lead Federal agency for the Fort Berthold Rural Water System, we request that any work planned on the reservation be coordinated with Mr. Lester Crows Heart, Fort Berthold Rural Water Director, Three Affiliated Tribes, 308, 4 Bears Complex, New Town, North Dakota 58763.

For future reference Mr. Melhouse is no longer with Reclamation. Also, please direct future environmental consultation communications to Bureau of Reclamation, Dakotas Area Office, Chief Environmental and Resource Management Division.

Thank you for providing the information and opportunity to comment. If you have any further environmental questions, please contact me at 701-221-1287 or Colin Nygaard, Civil Engineer, for engineering questions at 701-221-1262.

Sincerely,



Kelly B. McPhillips
Environmental Specialist

Enclosure

cc: Bureau of Indian Affairs
Great Plains Regional Office
Attention: Ms. Marilyn Bereier
Supervisory Environmental Protection Specialist
115 Fourth Avenue S.E.
Aberdeen, SD 57401

Mr. Lester Crows Heart
Fort Berthold Rural Water Director
Three Affiliated Tribes
308 4 Bears Complex
New Town, ND 58763
(w/encl)

U.S. Department of Homeland Security
Region VIII
Denver Federal Center, Building 710
P.O. Box 25267
Denver, CO 80225-0267



FEMA

RS-Mitigation

December 9, 2011

Carlson McCain
Ryan J Krapp, Ecologist
2718 Gateway Ave. Ste 101
Bismarek, ND. 58503

Dear Mr. Krapp:

Thank you for your invitation to comment on BIA 6 and Sunday Island Gathering System. For floodplain management purposes, FEMA's major concern is if the proposed project is located within a mapped Special Flood Hazard Area on a FEMA Flood Insurance Rate Map (FIRM). Under the National Flood Insurance Program (NFIP), development in these areas requires further consideration.

Our records show that the Fort Berthold Reservation is a non-participating community in the NFIP and has a no published maps. We recommend that you contact the local Floodplain Manager to receive further guidelines regarding any special permits required in order to adhere to the regulations and policies of the NFIP.

Please feel free to contact me at 303-235-4721 if you require additional assistance. Thank you for giving us the opportunity to assist you in this project.

Sincerely,


Dave Kyner
Natural Hazards Program Specialist



December 1, 2011

Mr. Ryan J. Krapp, Ecologist
Carlson McCain
2718 Gateway Avenue, Suite 101
Bismarck, ND 58503

Re: BIA 6 and Sunday Island Gathering System
Fort Berthold Reservation, Mountrail County

Dear Mr. Krapp:

This department has reviewed the information concerning the above-referenced project submitted under date of November 23, 2011, with respect to possible environmental impacts.

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

1. All necessary measures must be taken to minimize fugitive dust emissions created during construction activities. Any complaints that may arise are to be dealt with in an efficient and effective manner.
2. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.
3. Projects disturbing one or more acres are required to have a permit to discharge storm water runoff until the site is stabilized by the reestablishment of vegetation or other permanent cover. Projects located within tribal boundaries are required to obtain a permit from the U.S. Environmental Protection Agency. Further information on the storm water permit may be obtained from the U.S. EPA's website or by calling the U.S. EPA - Region 8 at (303-312-6312). 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.
4. Noise from construction activities may have adverse effects on persons who live near the construction area. Noise levels can be minimized by ensuring that construction equipment is equipped with a

Mr. Ryan J. Krapp

2.

December 1, 2011

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,

A handwritten signature in black ink, appearing to read "L. David Glatt". The signature is stylized and somewhat cursive.

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

LDG:cc
Attach.



Construction and Environmental Disturbance Requirements

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

Soils

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

Surface Waters

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

Fill Material

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



"VARIETY IN HUNTING AND FISHING"

NORTH DAKOTA GAME AND FISH DEPARTMENT

100 NORTH BISMARCK EXPRESSWAY BISMARCK, NORTH DAKOTA 58501-5095 PHONE 701-328-6309 FAX 701-328-6352

December 19, 2011

Ryan J. Krapp
Ecologist/GIS Specialist
Carlson McCain, Inc.
2718 Gateway Ave, Suite 101
Bismarck, ND 58503

Dear Mr. Krapp:

RE: BIA 6 - Sunday Island Gathering System

Dakota-3 E&P Company, LLC is proposing the construction of a pipeline corridor from existing and proposed well pads to a central delivery point on the Fort Berthold Reservation in Mountrail County, North Dakota.

Our primary concern with this project is the possible disturbance of native prairie and wooded draws associated with construction of the pipeline and access roads. We ask that work within these areas be avoided to the extent possible, and every effort be made to prevent destruction of woody vegetation.

The National Wetland Inventory indicates various wetlands within the proposed project corridor. 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.

We do not believe this project will have any significant adverse effects on wildlife or wildlife habitat, including state Species of Conservation Priority, provided disturbed areas are reclaimed to pre-project conditions.

Sincerely,

A handwritten signature in black ink, appearing to read "Greg Link". The signature is written in a cursive style.

Greg Link
Chief
Conservation & Communication Division

js



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

December 16, 2011

Mr. Ryan Krapp
Carlson McCain
2718 Gateway Ave.
Suite 101
Bismarck, ND 58503

Re: Dakota D-3 E & P Company, LLC – Proposed BIA 6 – Sunday Island Gathering System

Dear Mr. Krapp,

The North Dakota Parks and Recreation Department (the Department) has reviewed the above referenced proposed installation of pipelines and utilities from existing and proposed D-3 well pads to a central delivery point where it connects top existing pipeline infrastructure in Mountrail 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.

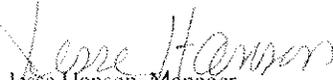
The North Dakota Natural Heritage biological conservation database has been reviewed to determine if any plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, we have several significant ecological communities documented adjacent to project area. Please see the attached spreadsheet and map for more information on these occurrences.

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.

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 Kathy Duttonhefner (701-328-5370 or kaduttonhefner@nd.gov) of our staff. Thank you for the opportunity to comment on this proposed project.

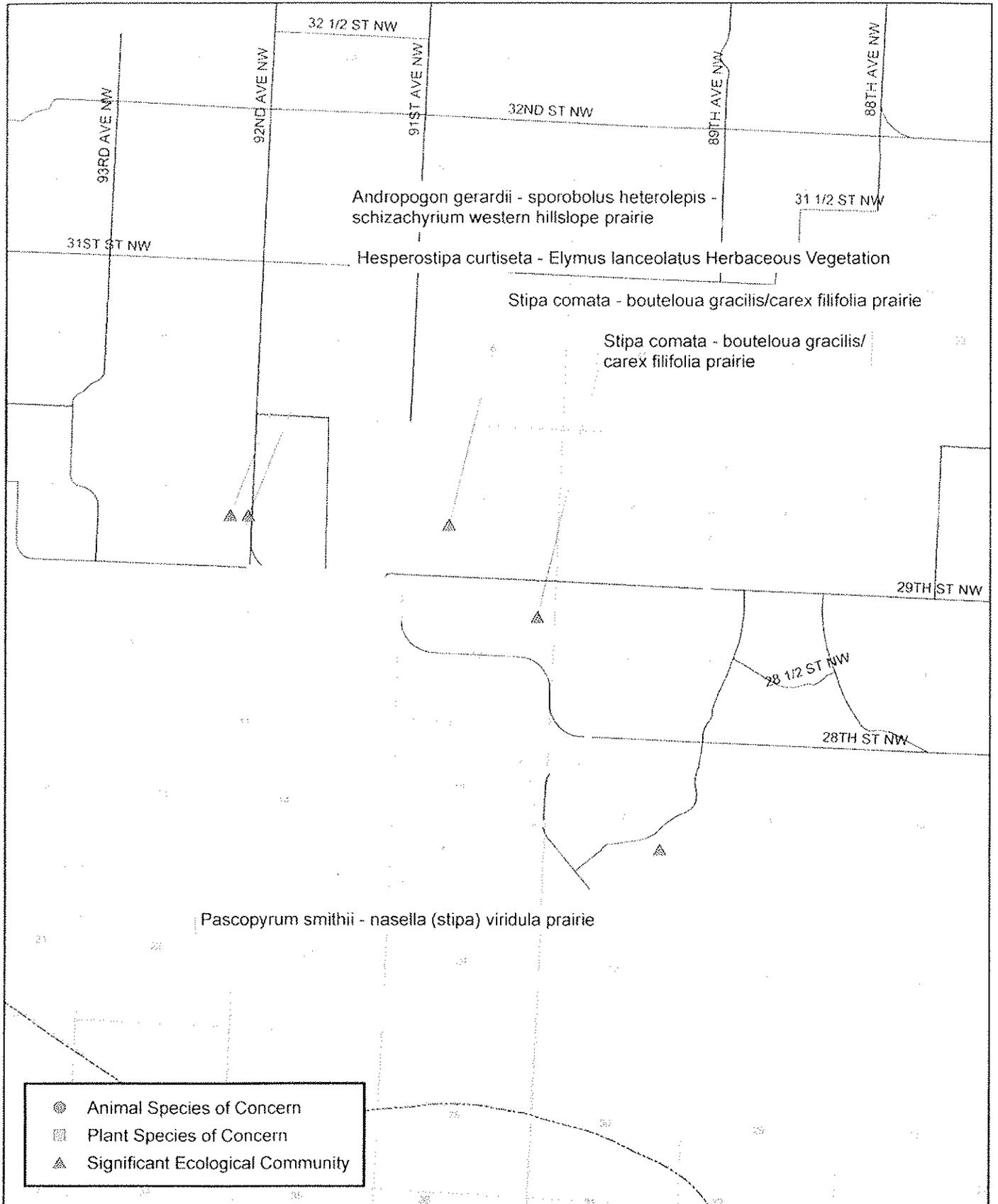
Sincerely,


Jesse Hanson, Manager
Planning and Natural Resources Division

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.....
Play in our backyard!

North Dakota Parks and Recreation Department North Dakota Natural Heritage Inventory



North Dakota Natural Heritage Inventory
Rare Animal and Plant Species and Significant Ecological Communities

State Scientific Name	State Common Name	State Rank	Global Rank	Federal Status	Township Range Section	County	Last Observation	Estimated Representation Accuracy	Precision
<i>Andropogon gerardii</i> - <i>sporobolus heterolepis</i> - <i>schizachyrium western hillislope prairie</i>	Western Big Bluestem Prairie	S1	GNR		150N093W - 03	Mountrail	1967		S
<i>Hesperostipa curtiseta</i> - <i>Elymus lanceolatus</i> Herbaceous Vegetation	Western Porcupine Grass Prairie	S2	GNR		150N093W - 03; 150N093W - 02 150N092W - 18; 150N092W - 07; 150N092W - 16; 150N093W - 13; 150N093W - 12; 150N093W - 24; 150N092W - 20; 150N092W - 19; 150N092W - 17; 150N092W - 08	Mountrail	1967		S
<i>Pascopyrum smithii</i> - <i>nasella (stipa) viridula prairie</i>	Needlegrass-wheatgrass Prairie	S2	GNR			Mountrail	1967		M
<i>Stipa comata</i> - <i>bouteloua gracilis/carex filifolia prairie</i>	Needle-and-thread Mixed Grass Prairie	S2	GNR		150N093W - 01; 150N092W - 06; 150N092W - 07; 151N093W - 35; 151N093W - 36; 150N093W - 12; 150N093W - 02; 151N092W - 31; 150N093W - 11 150N093W - 12; 150N092W - 06; 151N092W - 31; 150N093W - 11; 150N092W - 05; 150N093W - 13; 150N092W - 08; 151N093W - 36; 150N093W - 01; 150N092W - 07; 150N093W - 02; 150N093W - 14; 150N092W - 18	Mountrail	1967		M
<i>Stipa comata</i> - <i>bouteloua gracilis/carex filifolia prairie</i>	Needle-and-thread Mixed Grass Prairie	S2	GNR			Mountrail	1967		M

North Dakota Natural Heritage Inventory Biological and Conservation Data Disclaimer

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

Estimated Representation Accuracy

Value that indicates the approximate percentage of the Element Occurrence Representation (EO Rep) that was observed by the species or community (versus buffer area added for locational uncertainty). Use of estimated representation accuracy provides a common index for the consistent comparison of EO reps, thus helping to ensure that aggregated data are correctly analyzed and interpreted.

Very high (>95%)

High (>80%, <= 95%)

Medium (>20%, <= 80%)

Low (>0%, <= 20%)

Unknown:

(null) - Not assessed

Precision

A single letter code for the precision used to map the Element Occurrence (EO) on a U.S. Geological Survey (USGS) 7.5' (or 15') topographic quadrangle map, based on the previous Heritage methodology in which EOs were located on paper maps using dots.

S - Seconds: accuracy of locality mappable within a three-second radius; 100 meters from the centerpoint

M - Minute: accuracy of locality mappable within a one-minute radius; 2 km from the centerpoint

G - General: accuracy of locality mappable to map or place name precision only; 8 km from centerpoint

U - Unmappable

United States Department of Agriculture



Natural Resources Conservation Service
P O Box 1458
Bismarck, ND 58502-1458

January 10, 2012

Ryan J. Krapp
Carlson, McCain Engineering
2718 Gateway Avenue, Suite 101
Bismarck, ND 58503

RE: BIA 6 and Sunday Island Gathering System
Dakota D-3 E&P Company, LLC

Dear Mr. Krapp:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated November 23, 2011, concerning installation of pipelines and utilities from existing and proposed well pads to a central delivery point (CDP) where it connects to existing pipeline infrastructure on the Fort Berthold Reservation. The proposed project, the BIA 6 -- Sunday Island Gathering System, will connect to the established Van Hook gathering System (VHGS).

Important Farmlands - NRCS has a major responsibility with Farmland Protection Policy Act (FPPA) in documenting conversion of farmland (i.e., prime, statewide, and local importance) to non-agricultural use when the project utilizes federal funds. It appears your proposal is not supported by federal funding; therefore, FPPA does not apply and no further action is needed.

Wetlands - The Wetland Conservation Provisions of the 1985 Food Security Act, as amended, provide that if a USDA participant converts a wetland for the purpose of, or to have the effect of, making agricultural production possible, loss of USDA benefits could occur. If these guidelines are followed, the impacts to the wetland(s) will be considered minimal allowing USDA participants to continue to receive USDA benefits. Following are the requirements: 1) Disturbance to the wetland(s) must be temporary, 2) no drainage of the wetland(s) is allowed (temporary or permanent), 3) mechanized landscaping necessary for installation is kept to a minimum and preconstruction contours are maintained, 4) temporary side cast material must be placed in such a manner not to be dispersed in the wetland, and 5) all trenches must be backfilled to the original wetland bottom elevation.

Helping People Help the Land

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Mr. Krapp
Page 2

NRCS would recommend that impacts to wetlands be avoided. If the alignment of the project requires passage through a wetland, NRCS can complete a certified wetland determination, if requested by the landowner/operator.

If you have additional questions pertaining to FPPA, please contact Steve Sieler, State Soil Liaison, NRCS, Bismarck, North Dakota (701-530-2019).

Sincerely,

A handwritten signature in black ink, appearing to read "Michael G. Ulmer". The signature is cursive and somewhat stylized.

MICHAEL G. ULMER
State Soil Scientist/MO 7 Leader (Acting)



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November 25, 2011

Mr. Ryan Krapp
Ecologist Carlson McCain
2718 Gateway Avenue Suite 101
Bismarck ND 58503

NDSHPO REF. 12-0218 BIA/Dakota-3 E&P Company BIA 6 and Sunday Island Gas Gathering Pipeline System located in portions of [T150N R92W Sections 5-8, 18; T150N R93W Sections 2, 10-15, 23; T151N R92W Section 32] Mountrail County, North Dakota

Dear Mr. Krapp,

We received your correspondence regarding NDSHPO REF. 12-0218 BIA/Dakota-3 E&P Company BIA 6 and Sunday Island Gas Gathering Pipeline System, Mountrail County, North Dakota. We request that a copy of cultural resource site forms and reports be sent to this office so that the cultural resources archives can be kept current for researchers.

Thank you for your consideration. Consultation is with MHAN THPO. If you have any questions please contact Susan Quinnell, Review & Compliance Coordinator at (701)328-3576 or squinnell@nd.gov

Sincerely,


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

c: Elgin Crows Breast, THPO MHAN
c: Brenda Shierts, BLM, Belle Fourche, SD



REPLY TO
ATTENTION OF

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

November 30, 2011

North Dakota Regulatory Office

Carlson McCain
Attn: Ryan J. Krapp, Ecologist
2718 Gateway Avenue, Suite 101
Bismarck, North Dakota 58503

Dear Mr. Krapp:

This is in response to your solicitation letter on behalf of **Dakota-3 E&P Company**, LLC, received on November 25, 2011 requesting Department of the Army (DA), United States Army Corps of Engineers (Corps) comments concerning the BIA 6 and Sunday Island Gathering System within the Fort Berthold Indian Reservation.

Corps Regulatory Offices administer Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Section 10 of the Rivers and Harbors Act regulates work in or affecting navigable waters. This would include work over, through, or under Section 10 water. Section 10 waters in North Dakota are the Missouri River (including Lake Sakakawea and Lake Oahe), Yellowstone River, James River south of Jamestown, North Dakota, Bois de Sioux River, Red River of the North, and the Upper Des Lacs Lake. Section 404 of the Clean Water Act regulates the discharge of dredge or fill material (temporarily or permanently) in waters of the United States. Waters of the United States may include, but are not limited to, rivers, streams, ditches, coulees, lakes, ponds, and their adjacent wetlands. Fill material includes, but is not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mines or other excavation activities and materials used to create any structure or infrastructure in waters of the United States.

For any proposed well where the well line and/or bottom hole is under or crosses under Lake Sakakawea, regardless of depth, we require that project proponent provide a DA permit application (ENG Form 4345) to the Corps.

Enclosed for your information is the fact sheet for Nationwide Permit 12, Utility Line Activities. Pipeline projects are already authorized by Nationwide Permit 12 **provided the utility line can be placed without any change to pre-construction contours and all other proposed construction activities and facilities are in compliance with the Nationwide's permit conditions and 401 Water Quality Certification is obtained**. Please note the pre-construction notification requirements on page 2 of the fact sheet. **If a project involves any one of the seven notification requirements, the project proponent must submit a DA application**. Furthermore, a project must also be in compliance with the "Regional Conditions for Nationwide Permits within the State of North Dakota", found on pages 12 and 13 of the fact sheet. [The following info is for activities on a reservation] Please be advised that the United States Environmental Protection Agency (EPA), Region 8 has denied 401 Water Quality Certification for activities in perennial drainages and wetlands. Furthermore, EPA has placed conditions on activities in ephemeral and intermittent drainages. It is recommended you contact the U.S. Environmental Protection Agency, Region 8, Attn: Brent Truskowski, 1595 Wynkoop Street, Denver, Colorado 80202-1129 to review the conditions pursuant to Section 401 of the Clean Water Act prior to any construction.

Also enclosed for your information is the fact sheet for Nationwide Permit 14, Linear Transportation Projects. Road crossings are already authorized by Nationwide Permit 14 **provided the discharge does not cause the loss of greater than 1/2 acre of waters of the United States per crossing and all other proposed construction activities are in compliance with the Nationwide's permit conditions**. Please note the pre-construction notification requirements on the front page of the fact sheet. **If a project**

involves (1) the loss of waters of the United States exceeding 1/10 acre per crossing; or (2) there is a discharge in a special aquatic site, including wetlands, the project proponent must submit a DA application prior to the start of construction. Please reference General Condition 27. Pre Construction Notification on page 8 of the fact sheet. Furthermore, a project must also be in compliance with the "Regional Conditions for Nationwide Permits within the State of North Dakota", found on pages 11 and 12 of the fact sheet. [The following is included for activities on a reservation] Enclosed is a copy of the United States Environmental Protection Agency, Region 8's; General Conditions for all Nationwide Permits and specific conditions for Nationwide Permit 14.

In the event your project requires approval from the U.S. Army Corps of Engineers and cannot be authorized by Nationwide Permit(s), a Standard or Individual Permit will be required. A project that requires a Standard or Individual Permit is intensely reviewed and will require the issuance of a public notice. A Standard or Individual Permit generally requires a minimum of 120 days for processing but based on the project impacts and comments received through the public notice may extend beyond 120 days.

This correspondence letter is neither authorization for the proposed construction nor confirmation that the proposed project complies with the Nationwide Permit(s).

If any of these projects require a Section 10 and/or Section 404 permit, please complete and submit the enclosed Department of the Army permit application (ENG Form 4345) to the U.S. Army Corps of Engineers, North Dakota Regulatory Office, 1513 South 12th Street, Bismarck, North Dakota 58504. If you are unsure if a permit is required, you may submit an application; include a project location map, description of work, and construction methodology.

If we can be of further assistance or should you have any questions regarding our program, please do not hesitate to contact this office by letter or phone at (701) 255-0015.

Sincerely,



Daniel E. Cimarosti
Regulatory Program Manager
North Dakota

Enclosure
ENG Form 4345
Fact Sheet NWP 12 and 14
EPA 401 Conditions for Nationwide Permits
CF w/o encl
EPA Denver (Brent Truskowski)

Notice of Availability and Appeal Rights

Dakota-3 E&P: West Van Hook Gathering System

The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals related to an Environmental Assessment to Authorize Land Use for the West Van Hook Gathering System on the Fort Berthold Reservation as shown on the attached map. Construction by Dakota-3 E&P Resources is expected to begin in 2012.

An environmental assessment (EA) determined that proposed activities will not cause significant impacts to the human environment. An environmental impact statement is not required. Contact Earl Silk, Superintendent at 701-627-4707 for more information and/or copies of the EA and the Finding of No Significant Impact (FONSI).

The FONSI is only a finding on environmental impacts – it is not a decision to proceed with an action and *cannot* be appealed. BIA’s decision to proceed with administrative actions *can* be appealed until March 16, 2012, by contacting:

**United States Department of the Interior
Office of Hearings and Appeals
Interior Board of Indian Appeals
801 N. Quincy Street, Suite 300, Arlington, Va 22203.**

Procedural details are available from the BIA Fort Berthold Agency at 701-627-4707.

Project locations.

