



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

NOV 03 2011

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 (EA) has been completed and a Finding of No Significant Impact (FONSI) has been issued. The EA authorizes land use for the Hale Marina Road Improvement Project 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 Addendum, FONSI and Notice of Availability. The Council on Environmental Quality (CEQ) regulations require that there be a public notice of availability of the FONSI (40 C.F.R. Part 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)
Rich McEldowney, Atkins (with attachment)
Jonathon Shelman, Corps of Engineers
Jeff Hunt, Fort Berthold Agency

Finding of No Significant Impact

Hale Marina Road Improvements

Fort Berthold Indian Reservation, Dunn County, North Dakota

The U.S. Bureau of Indian Affairs (BIA) received a proposal to improve the existing Hale Marina Road in order to facilitate access and conduct oil exploration activities at several well sites in Dunn County, east of Mandaree, North Dakota on the Fort Berthold Indian Reservation (FBIR). The proposed action would improve approximately 2.9 miles of the existing Hale Marina Road by widening, resurfacing with gravel, adding turn-outs, and adjusting the turning radii of curves to accommodate trucks travelling to and from proposed well sites. The proposed road improvement project begins at the intersection with BIA 13 and extends east and south through Sections 29, 30, 32, and 33 of Township 149N, Range 91W, Section 1 of Township 148N and Range 92W, and Section 6 of Township 148N and Range 91W. Associated federal actions by BIA include determinations of effect regarding cultural resources, approvals of leases, rights-of-way and easements, and a positive recommendation to the Bureau of Land Management regarding the Application for Permit to Drill.

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

This determination is based on the following factors:

1. Agency and public involvement was solicited and environmental issues related to the proposal were identified.
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 Action 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.) (MBTA), the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.) (NEPA), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) (BGEPA), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds", and the Endangered Species Act (16 U.S.C. 1531 et seq.) (ESA).
4. The proposed actions are designed to avoid adverse effects to historic, archeological, cultural and traditional properties, sites and practices. The Tribal Historic Preservation Officer has concurred with BIA's determination that no historic properties will be affected.
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



Date

11/3/11

ENVIRONMENTAL ASSESSMENT

United States Bureau of Indian Affairs

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



XTO Energy, Inc.

Hale Marina Road Improvement Project

Fort Berthold Indian Reservation

October 2011

For information contact:
Bureau of Indian Affairs, Great Plains Regional Office
Division of Environment, Safety and Cultural Resources Management
115 4th Avenue SE
Aberdeen, South Dakota 57401
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ACRONYMS AND ABBREVIATIONS

AAQM	Ambient Air Quality Monitoring
ac	acre
AIRFA	American Indian Religious Freedom Act
APD	Application for Permit to Drill
APE	Area of Potential Effect
BIA	U.S. Bureau of Indian Affairs
BLM	U.S. Bureau of Land Management
BMP	Best Management Practices
°C	Celsius degrees
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWCTP	Cooperative Whooping Crane Tracking Project
E	East; Easting
EA	Environmental Assessment
e.g.	For example
EIS	Environmental Impact Statement
EJ	Environmental Justice
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
°F	Fahrenheit degrees
FBIR	Fort Berthold Indian Reservation
FEL	From East [section] Line
FNL	From North [section] Line
FONSI	Finding of No Significant Impact
FSL	From South [section] Line
FWL	From West [section] Line
GAL/MIN	Gallons per minute
GPS	Global Positioning System
H₂S	Hydrogen Sulfide
HCPC	Historic Climax Plant Community
HPRCC	High Plains Regional Climate Center
HUC	Hydrologic Unit Code
in	inch(es)
lbs	pounds
i.e.	that is; such as
MHA Nation	Three Affiliated Tribes of the Mandan, Hidatsa, and Arikara Nation
MTNHP	Montana Natural Heritage Program
N	North; Northing
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
National Register	National Register of Historic Places
ND	North Dakota
NDDA	North Dakota Department of Agriculture
NDDH	North Dakota Department of Health
NDIC	North Dakota Industrial Commission
NDPR	North Dakota Parks and Recreation
NE	Northeast

ACRONYMS AND ABBREVIATIONS

NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO₂	Nitrogen Dioxide
NO_x	Nitrogen Oxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRO	Natural Resource Options, Inc.
NTL	Notice to Lessees
NWI	National Wetland Inventory
NWR	National Wildlife Refuge
NWW	Non-wetland waterway
O₃	Ozone
Pb	Lead
PBS&J	Post, Buckley, Schuh, and Jernigan
PM	Particulate Matter
PPB	Parts Per Billion
PPM	Parts Per Million
R	Range
Reservation	Fort Berthold Indian Reservation
ROW	Right-of-way
S	South
SAAQS	State Ambient Air Quality Standards
SARA	Superfund Amendments and Reauthorization Act
SHPO	State Historic Preservation Office
SMU	Soil Map Unit
SO₂	Sulfur Dioxide
SYN	Synonym
T	Township
TCP	Traditional and Cultural Property
TE	Threatened and Endangered Species
THPO	Tribal Historic Preservation Officer
µg/m³	Micrograms per cubic meter
µmhos/cm	Micromhos per centimeter
US	United States
USA	United States of America
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator coordinate system
VOC	Volatile Organic Compound
W	West
XTO	XTO Energy, Inc.

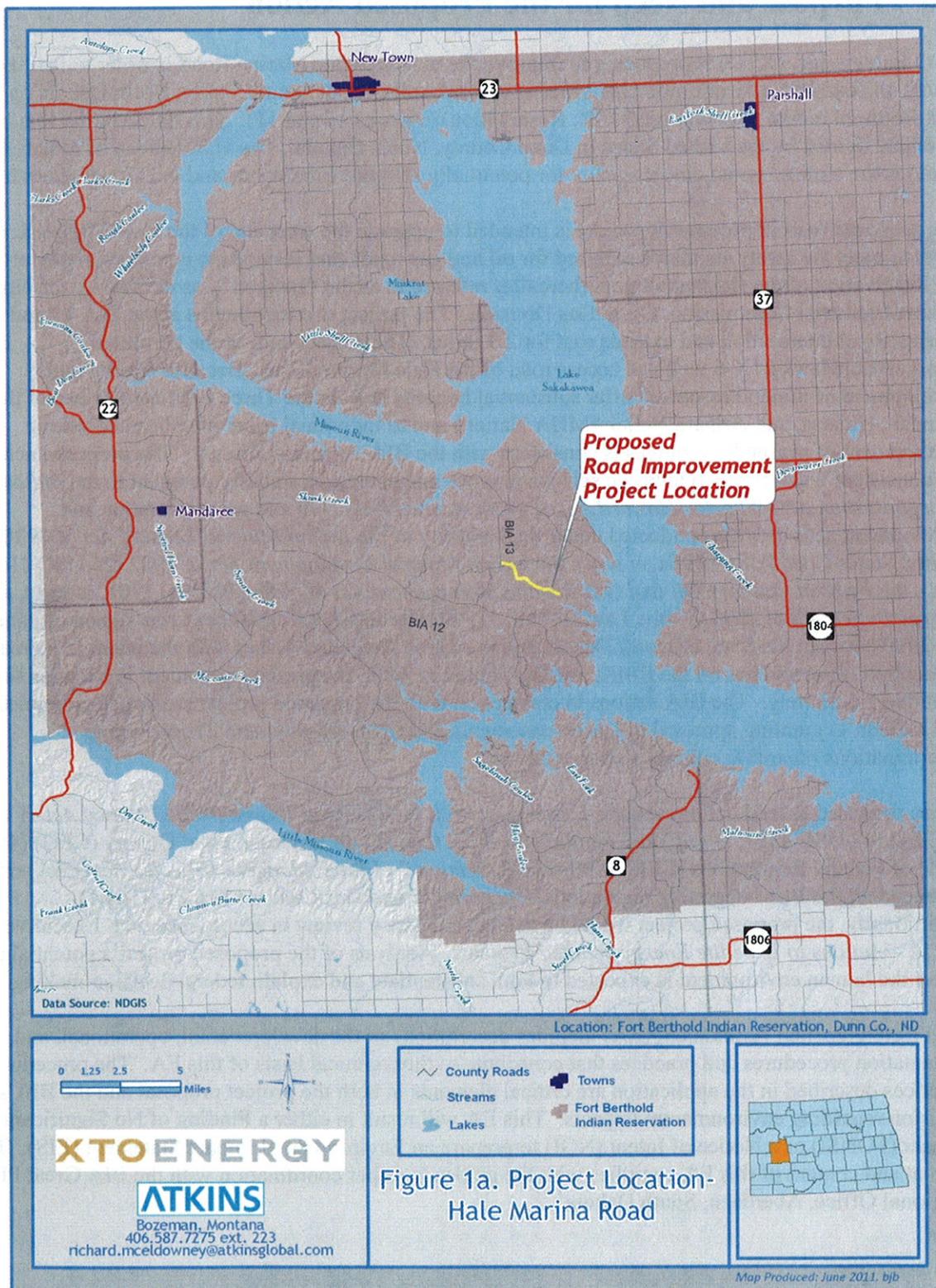
1.0 Purpose and Need for the Proposed Action

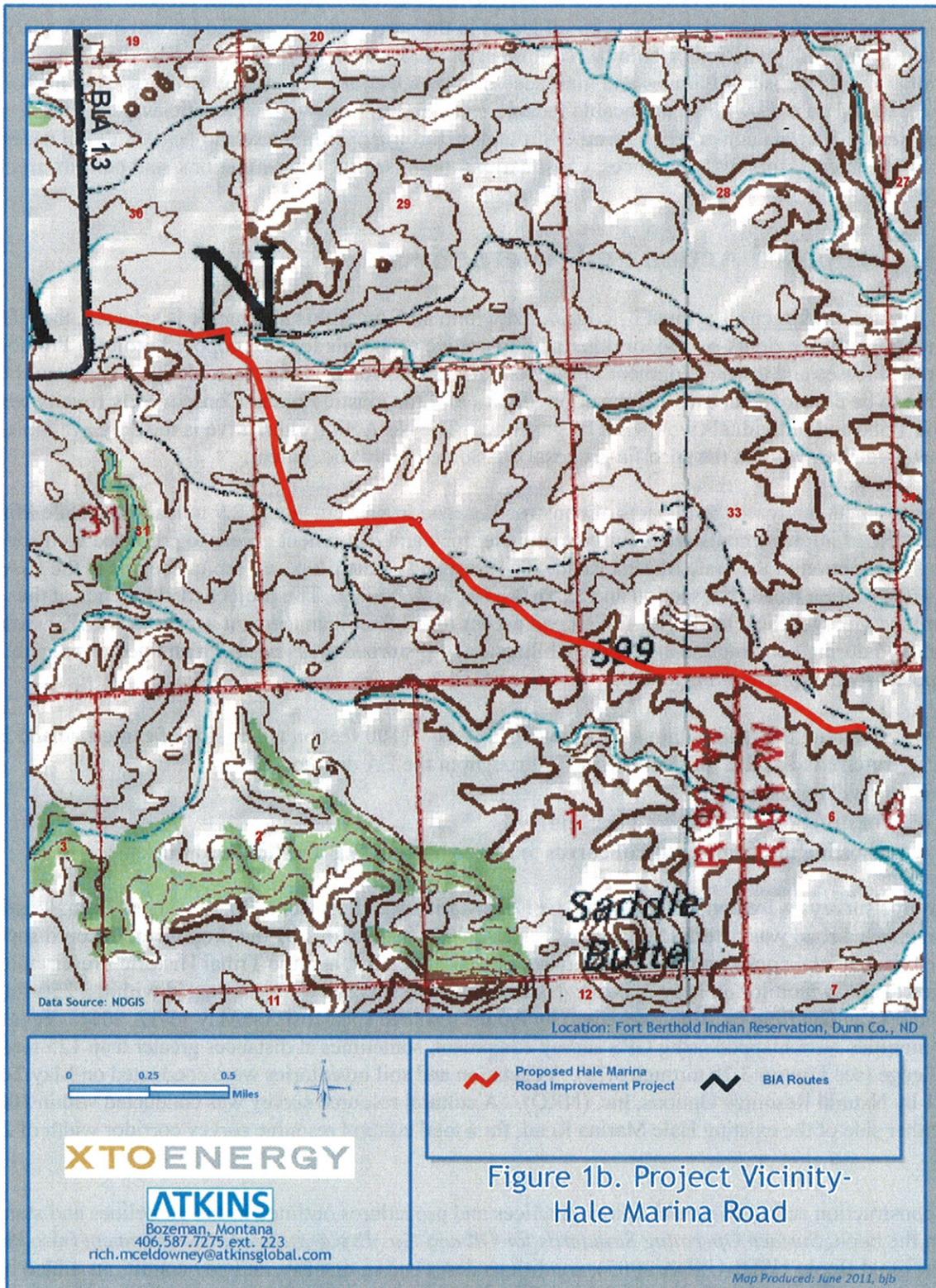
XTO Energy, Inc. (XTO) is proposing to improve the existing Hale Marina Road in order to facilitate access and conduct oil exploration activities at several well sites in Dunn County, North Dakota on the Fort Berthold Indian Reservation (FBIR; Reservation) (Figures 1a and 1b). The Hale Marina Road is on land held in trust by the United States in Dunn County, North Dakota. The U.S. Bureau of Indian Affairs (BIA) is the surface management agency for potentially affected tribal lands and individual allotments.

The proposed road improvement project is intended to upgrade the west end of the Hale Marina Road in order to meet the safety standards required for oil and gas roads that service the commercial potential on the Reservation of the Bakken oil pool (hereafter referred to as the "Bakken"), as defined by the North Dakota Industrial Commission, Oil & Gas Division. The project corridor begins at the BIA 13 and Hale Marina Road intersection and extends east for 2.9 miles. The project ends at the permitted GeorgeBlackHawk 21X-6 well pad access road of the Hale Marina Road. Because leasing and development of mineral resources offer substantial benefits to both the Three Affiliated Tribes of the Mandan, Hidatsa, and Arikara Nation (MHA Nation) and to individual tribal members, economic development of available resources is consistent with the BIA's general mission. The proposed activities are consistent with efforts to improve self-governance and economic stability pursuant to the *Indian Reorganization Act (Wheeler-Howard Act)* of 1934, as amended. Oil and gas exploration and development activities are conducted under the authority of the *Indian Mineral Leasing Act* of 1938 (25 United States Code [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 (Public Law 109-58, 119 Statute 594). An agreement was signed on January 13, 2010 between the State of North Dakota and the Three Affiliated Tribes with the intent to increase the production of oil and gas on the FBIR; initially signed in 2008, the present agreement is intended to continue indefinitely. The BIA actions in connection with the proposed project are largely administrative and include 1) granting approval of leases, easements and rights-of-way; and 2) conducting determinations regarding cultural resource effects.

These proposed federal actions require compliance with the *National Environmental Policy Act* of 1969 (NEPA) (42 USC 4321, *et seq.*) and regulations of the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] 1500–1508); *Section 7* of the *Endangered Species Act* (ESA) of 1973, as amended; the BLM operating regulations, *Onshore Oil and Gas Orders* (43 CFR 3164.1). Additionally, the proposed project would be subject to agency review in accordance with Executive Order 13212 – *Actions to Expedite Energy-Related Projects*. Analysis of the proposed project's potential to affect the human environment is expected to both substantiate and explain federal decision-making.

This Environmental Assessment (EA) includes descriptions of the developmental, operational, and reclamation procedures and practices that contribute to the technical basis of this EA. 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 Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS). The format and content of this EA complies with the guidance as per coordination with the BIA Great Plains Regional Office, Aberdeen, South Dakota.





This EA only addresses the proposed 2.9-mile Hale Marina Road improvement project. Results could also support developmental decisions on oil leases in the surrounding area. Additional NEPA analysis, decisions, and federal actions would be required prior to any other development. The development and installation of proposed well pads and their access roads are addressed in separate EAs. Any authorized project would comply with all applicable federal, state, and tribal laws, rules, policies, regulations, and agreements. No road construction or other ground-disturbing operations would begin until all necessary leases, easements, surveys, clearances, consultations, permissions, determinations, and permits are in place.

2.0 Proposed Action and Alternatives

The **No Action Alternative** must be considered within an EA. If this alternative is selected, the BIA would not approve rights-of-way or other administrative proposals for the proposed project. Previously approved leases and the development of oil wells and access roads along Hale Marina Road would be unable to be developed because of the poor condition of the existing road. Consequently royalty revenue to the Tribe and individuals would not be generated. The No Action alternative is the only available or reasonable alternative to the specific proposal considered in this document.

This document analyzes the impacts of constructing road improvements to 2.9 miles of the Hale Marina Road. Road improvements are required to enable truck and equipment access to proposed well sites along this section of the Hale Marina Road. The west end of the proposed project begins at the BIA 13 and Hale Marina Road intersection and extends east for 2.9 miles. The project corridor ends at the permitted GeorgeBlackHawk 21X-6 well pad access road. Best management practices (BMPs) would be employed during construction and until stabilization of disturbed areas has been attained (Appendix A). Proposed road improvements include:

- widening the road within a 200-foot right-of-way (100 feet on either side of centerline and is referred to as the “project corridor” throughout the EA document);
- gravel resurfacing;
- construction of truck turn-outs; and
- adjusting the turning radii of curves to accommodate long- or wide-load trucks.

Resource surveys were conducted within the Hale Marina Road project corridor. The specific location for the improved road was determined during the pre-on-site inspections by the proponent, the civil surveyor, the environmental consultant, the BIA Environmental Specialist, and the Tribal Historic Preservation Office (THPO) monitor on May 2, 2010. Natural resource surveys were conducted within a 250-foot corridor (125 feet from existing road edge) by Atkins resource specialists on May 11-12, 2011. Vegetation communities were mapped using GPS survey equipment, sometimes at distances greater than 125 feet from road edge (see Figures 3.7b through 3.7e). Vegetation and soil inventories were conducted on May 2-3, 2011 by Natural Resource Options, Inc. (NRO). A cultural resource survey was conducted within 100 feet on either side of the existing Hale Marina Road, for a total cultural resource survey corridor width of 200 feet.

All construction activities would follow practices and procedures outlined in the guidelines and standards from the book, *Surface Operating Standards for Oil and Gas Exploration and Development* (also known as the Gold Book; USDI-USDA 2007), conditions described in this EA, and any conditions added by either the BIA or BLM. If any additional infrastructure is required at the sites served by the road, such as pipelines or utilities (i.e., underground electricity, water, and phone), the infrastructure would be installed in previously disturbed right-of-way (ROW) identified and accounted for in this EA. If the infrastructure would require disturbance outside of the approved ROW, additional NEPA documentation and

environmental analysis would be required. The remainder of this chapter describes the proposed action in detail.

2.1 Field Camps

Road construction personnel would commute to the project site from the nearest town. Human waste would be collected in standard portable chemical toilets or service trailers located on-site, then transported off-site to a state-approved wastewater treatment facility. Other solid waste would be collected in enclosed containers and disposed of at a state-approved facility.

2.2 Road

Beginning at the intersection with BIA 13, approximately 2.9 miles of the Hale Marina Road would be improved (Figures 2.2a and 2.2b). The proposed road improvement would terminate at the permitted GeorgeBlackHawk 21X-6 well pad access road (Figure 2.2c). A maximum disturbed ROW width of 200 feet (100 feet from centerline) would result in approximately 69.4 acres of surface disturbance.

Construction would follow road design standards outlined in the Gold Book (USDI-USDA 2007), such as design information on road width, maximum grade, crown design, location of turn-outs; plans for soils-, hydrology-, and topography-dependent drainage; on- and off-site erosion control; plans for revegetation of disturbed areas; fence cuts and cattle guards; major cuts and fills; source and storage sites for topsoil; types of re-surfacing materials; and plans for maintaining and improving existing roads. In addition, an erosion control plan was specifically developed for the Hale Marina Road improvement project (Appendix A).

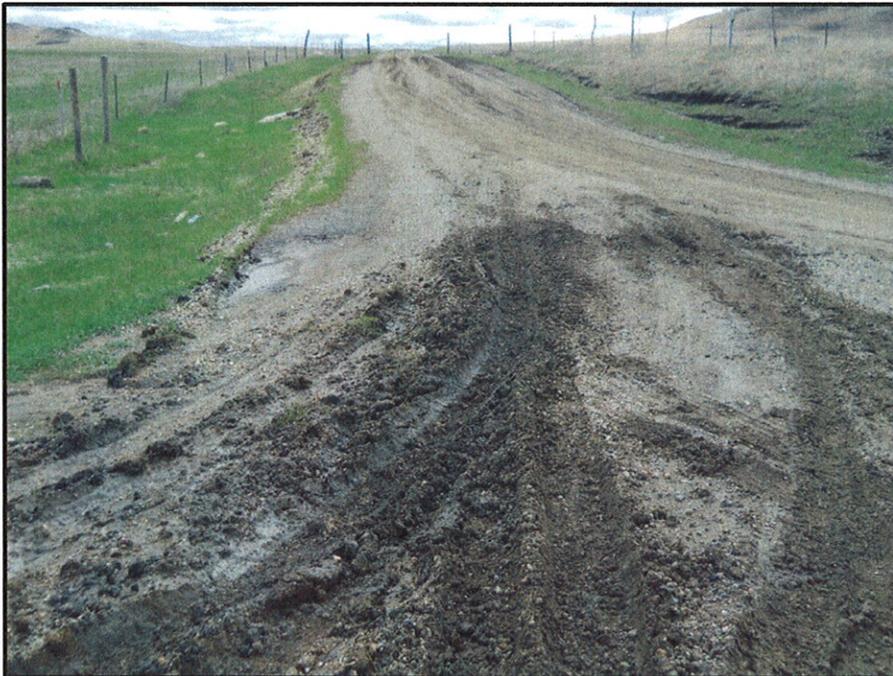


Figure 2.2a: The east end of the proposed Hale Marina Road improvement project at the intersection of BIA 13 and Hale Marina Road. BIA 13 is behind the photographer and the view is east along the Hale Marina Road. Source: Atkins, May 12, 2011.



Figure 2.2b: The east end of the proposed Hale Marina Road improvement project at the intersection of BIA 13 and Hale Marina Road. View is west from the Hale Marina Road and shows a north-south segment of BIA 13 in upper right to left of photo. Source: Atkins, May 12, 2011.

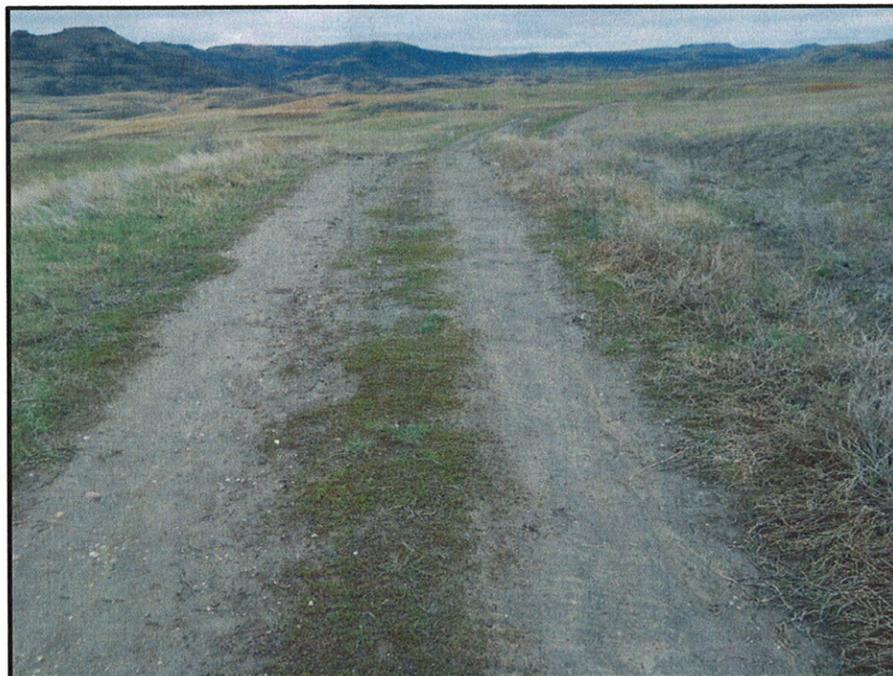


Figure 2.2c The terminus of the proposed Hale Marina Road improvement project in the vicinity of the permitted GeorgeBlackHawk 21X-6 well pad access road; view is west. Source: Atkins, May 11, 2011.

2.3 Hale Marina Road Improvement Plan

The existing Hale Marina Road is used by local residents and visitors to the Hale Marina on Lake Sakakawea. The road currently does not meet the safety standards required for commercial oil/gas trucks. Commercial production of the Bakken oil pool would use trucks to haul collected oil and water, as well as equipment and personnel. Oil would be collected in tanks and periodically trucked to an existing oil terminal for sales. Any produced water would be captured in tanks and periodically trucked to an approved disposal site. The frequency of trucking activities for both product and water would depend upon volumes and rates of production. Trucking operations would continue for the life of the wells, or until the wells are serviced by a pipeline. There are currently five permitted well pads, along the length of the proposed road improvement project area. One additional site within the proposed project corridor is currently in the permitting stage of development.

2.4 Preferred Alternative

The preferred alternative is to complete all of the administrative actions and approvals necessary to authorize and facilitate the proposed improvements to 2.9 miles of the Hale Marina Road. According to the Gold Book, existing roads should be considered for use and may be used when it meets agency standards, transportation and development needs, and environmental objectives (USDI-USDA 2007). The Hale Marina Road is an existing public road on the FBIR and would access at least six oil well pad project sites. The current Hale Marina Road does not meet the safety standards required for oil and gas roads as determined by the Gold Book (USDI-USDA 2007).

The preferred alternative is to reconstruct 2.9 miles of the Hale Marina Road beginning at its intersection with BIA 13 and terminating at the permitted GeorgeBlackHawk 21X-6 well pad access road. The proposed improvements would be to:

- widen the existing road within a 200 foot right-of-way (100 feet from centerline);
- resurface with gravels;
- construct truck turn-outs; and,
- adjust the turning radii of curves to accommodate long or wide truck loads.

The improvements to the Hale Marina Road would be permanent. If oil exploration occurs then road maintenance would be performed by a designated operator and a maintenance plan would be developed. The maintenance plan would contain provisions for maintaining the traveled way, protection of the roadway features, requirements for road management, and the method to be used in carrying out maintenance activities (USDI-USDA 2007).

An agreement was reached in March, 2011, between the existing holder of the BIA Hale Marina Road easement right-of-way (Mr. James J. Hale, Sr.), XTO Energy, and one other energy development company (Second Party). The agreement set forth the terms and conditions regarding the improvement of the Hale Marina Road for oil and gas exploration; including efforts required to acquire allottee consents (BIA, BLM, Three Affiliated Tribes, and fee surface owners). Modification of the current ROW from 25 feet to 100 feet from each side of centerline would be sought from the BIA by XTO Energy and the Second Party. During oil well development and possible production, XTO would share normal maintenance activities that would include monitoring, blading, surface replacement, dust abatement, spot repairs, slide removal, ditch cleaning, culvert cleaning, litter cleanup, noxious weed control, and snow removal (USDI-USDA 2007) with the Second Party. Upon termination and abandonment of all oil and gas operations that used the new ROW, the right, title and interest in the ROW would convey back to the former easement grant holder (James J. Hale, Sr.) or his successors. Residents and visitors to Hale Marina would benefit from these proposed improvements as the existing road, in its present condition, becomes impassable and unsafe when wet.

3.0 The Affected Environment and Potential Impacts

The Fort Berthold Indian Reservation is the home of the Three Affiliated Tribes of the Mandan, Hidatsa and Arikara Nation (MHA Nation). Located in west-central North Dakota, the reservation encompasses more than a 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 not held in trust is owned in fee simple title, sometimes by the MHA Nation or individual tribal members, but usually by non-tribal individuals. The reservation occupies portions of six counties, including Dunn, McKenzie, McLean, Mercer, Mountrail and Ward. The proposed project would take place in Dunn County. In the 1950's much of the land on the Reservation was inundated and the rest divided into three sections by Lake Sakakawea (an impoundment of the Missouri River upstream of the Garrison Dam near Riverdale, North Dakota).

The Hale Marina Road is geologically situated within the Williston Basin, where the shallow structure consists of sandstones, silts, and shales dating to the Tertiary Period (65 million to 2 million years ago), including the Sentinel Butte Formation. The underlying Bakken is a well-known source of hydrocarbons; its middle member is targeted by the oil wells that occur along the Hale Marina Road. Earlier oil/gas exploration activity within the reservation, and near the project site in particular, were technologically limited and commercially unproductive.

Much of the Reservation land surface is included in the Northern Great Plains Level III Ecoregion (Bryce et al. 1996). This unglaciated area extends south and west of the Missouri River and varies from undulating plains to highly dissected, erosional landscape of the Little Missouri Badlands. Within this ecoregion mean annual precipitation ranges between 13 and 17 inches. Mean temperatures fluctuate between -3° and 21° F in January and between 60° and 91° F in July, with 80 to 140 frost-free days each year (Bryce et al. 1996). The Hale Marina Road intersects with BIA 13 at an elevation of approximately 2,200 feet. The road extends east and south from BIA 13, bisecting rolling grassland-dominated hills. The road gradually declines in elevation and ultimately terminates at Lake Sakakawea, at approximately 1,885 feet.

The broad definition of the human 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, wildlife and fisheries, soils, vegetation and invasive species, cultural resources, socio-economic conditions, and environmental justice. Potential impacts to these elements were analyzed for both the No Action and Proposed Action Alternatives. Impacts may be beneficial or harmful, 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 Environmental Impact Statement.

3.1 The No Action Alternative

Under the No Action Alternative, the proposed road improvement project would not be constructed. The Hale Marina Road would continue to provide access to local residents and visitors of the Hale Marina. There would be no trucking of materials, equipment, and products from BIA 13 to or from the permitted well sites. The Hale Marina Road would continue to be unsafe to all vehicles when wet and oversized vehicles at any time. There would be no project-related ground disturbances and the existing road width would not change. Existing conditions would remain as present for the following critical elements: air quality, public health and safety, water resources, wetland and riparian habitat, threatened and endangered species, wildlife and fisheries, soils, vegetation and invasive species, and cultural resources. Economic benefits to both tribe and many tribal members would remain at the currently depressed levels if exploration and commercial

development of available resources were abandoned. Loss of employment and royalty income could affect tribal and individual economies and planning on a large scale.

3.2 Air Quality

This section describes the existing conditions, potential impacts from the Proposed Action, and mitigation measures for air quality resources in the proposed project corridor.

The North Dakota Department of Health (NDDH) operates a network of ambient air quality monitoring stations. The closest stations that bracket the project site and monitor a full suite of air quality constituents are Dunn Center to the south, TRNP-NU to the west, Lostwood NWR to the north, and Beulah North to the southeast (NDDH 2010). Wind directions are predominantly from the northwest or southeast at Dunn Center and TRNH-NU, from the south-southwest or northwest at Lostwood, and from northwest, southwest, or southeast at Beulah North (NDDH 2010). The Dunn Center monitoring station is closest to the Hale Marina Road project site and is located roughly 30 air-miles to the south-southwest.

Criteria pollutants tracked under the National Ambient Air Quality Standards (NAAQS) of the *Clean Air Act* and the State Ambient Air Quality Standards of North Dakota (SAAQS) include sulfur dioxide (SO₂), nitrogen dioxide (NO₂), ozone (O₃), inhalable particulate matter (PM₁₀), and continuous fine inhalable particulate matter (PM_{fine}). Lead (Pb) and carbon monoxide (CO) are not monitored by any nearby monitoring stations. The SAAQS are generally equivalent to, or more stringent than, the NAAQS for most pollutants. The existing air quality at the four monitoring stations did not exceed SAAQS air quality standards in 2009 (Table 3.2). In fact, in 2009 North Dakota was one of thirteen states that met standards for all criteria pollutants (NDDH 2010). The state also met standards for fine particulates and the eight-hour ozone standards established by the U.S. Environmental Protection Agency (EPA) (NDDH 2010).

Table 3.2: Comparison of the North Dakota state ambient air quality standards at four monitoring stations.¹

Pollutant (unit ²)	Averaging Period	SAAQS Standard	Monitoring Station			
			Dunn Center	TRNP-NU	Lostwood NWR	Beulah North
SO ₂ (ppb)	1-Hour	273	20.1	20.3	57.1	41
	24-Hour	99	6.0	4.0	15.0	7
	Annual Arithmetic Mean	23	0.5	0.6	1.7	1.6
NO ₂ (ppb)	Annual Arithmetic Mean	53	1.5	1.0	1.7	2.8
O ₃ (ppb)	One exceedance per year (1-Hour)	120	57	58	60	60
PM _{2.5} (µg/m ³)	24-Hour	35 (NAAQS)	15.0	14.9	18.1	15.0
	Annual Mean	15 (NAAQS)	3.4	3.0	3.8	3.4
PM ₁₀ (µg/m ³)	24-Hour	150	54.0	44	31	34.0
	Annual Mean	50	11.3	9.2	8.5	11.0
CO (ppm)	1-Hour	9	--	--	--	--
	8-Hour	35	--	--	--	--
Pb (µg/m ³)	3-Month	1.5	--	--	--	--

¹ Source: NDDH (2010).

² ppb = Parts per billion; ppm = parts per million; µg/m³ = micrograms per cubic meter

The *Clean Air Act* mandates prevention of significant deterioration in designated attainment areas. Class I areas are of special national significance and include national parks greater than 6,000 acres in size, national monuments, national seashores, and federally designated wilderness areas larger than 5,000 acres

and designated prior to 1977. Both visibility impairment and increases in pollutant concentrations are capped. There is a Class I airshed at Theodore Roosevelt National Park, which covers approximately 110 square miles of land in three units within the Little Missouri National Grassland between Medora and Watford City. This Class I airshed is located roughly 40 air-miles west of the project site. The project site can be considered a Class II attainment airshed, which affords it a lower level of protection from significant deterioration.

The EPA has Title V permitting responsibilities on the Reservation. Construction would generate temporary and nearly undetectable gaseous emissions of PM₁₀ and SO₂. Reconstruction of the road would include an increase in road width, construction of turn-outs, and improving turn radii. During construction vehicles would generate temporary and very localized outputs of NO_x, CO, and volatile organic compounds (VOCs) of varying concentrations. Impacts to air quality in the “near field” during construction would not be anticipated due to the implementation of dust control measures, and use of low sulfur diesel in construction equipment as necessary. No detectable or long-term impacts on air quality or visibility would be expected within the airsheds of the reservation, park, or state. The Title V permitting process is on-going. XTO would use generally accepted methods of emission reduction techniques such as, dust control, low emission engines (as available) or engines that meet Federal emission standards, low sulfur or other fuels meeting federal specifications, and would obtain all necessary permits required by State or Federal Agencies.

3.3 Public Health and Safety

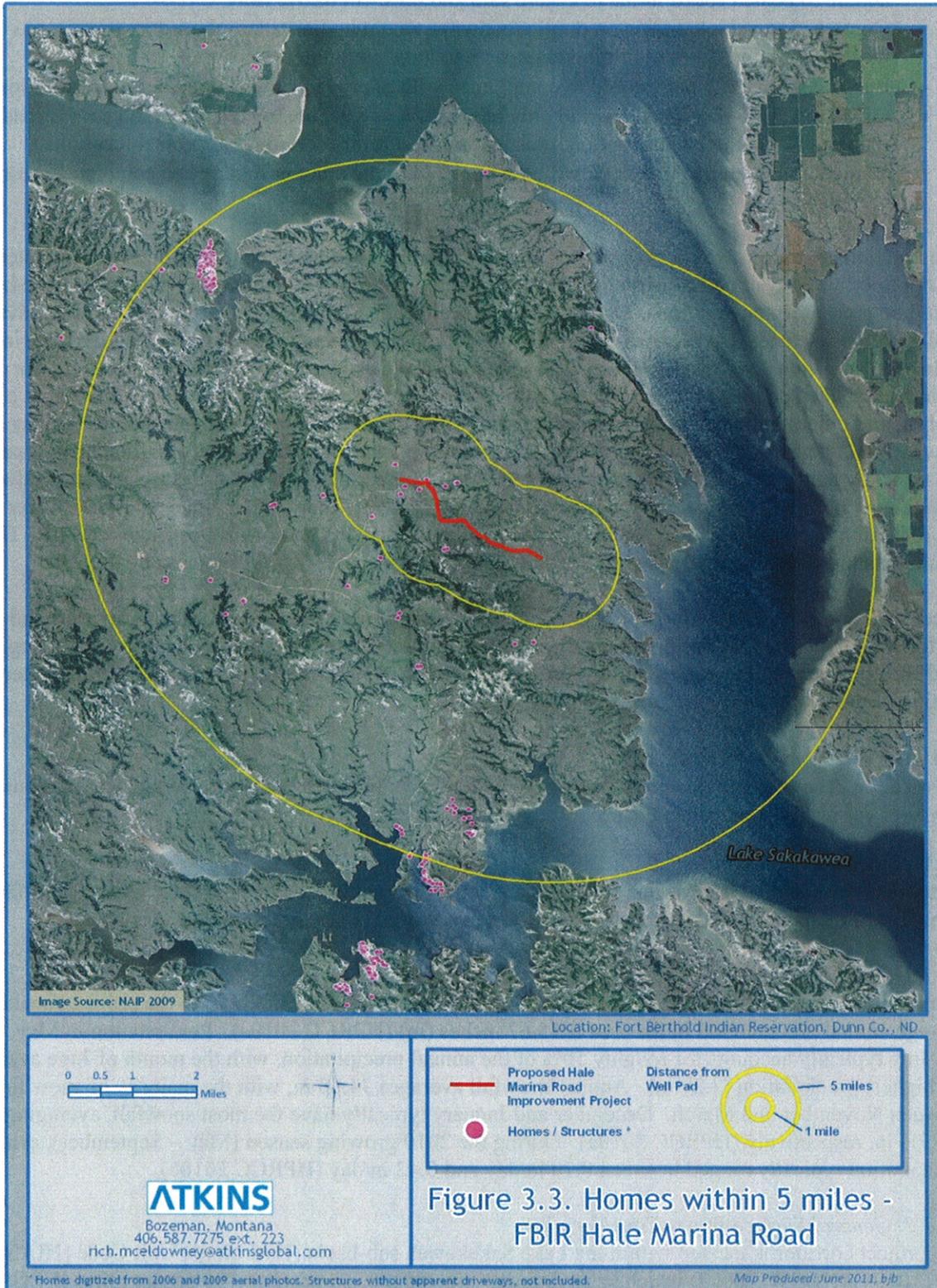
This section describes existing conditions, potential impacts from the Proposed Action, and mitigation measures for public health and safety resources in the proposed project corridor.

Health and safety concerns include the generation or transport of toxic gases, hazardous materials, and noise. Interpretation of the 2006 and 2009 aerial photographs revealed 11 residences within a one-mile radius and 149 residences within a five-mile radius of the proposed Hale Marina Road improvement project (Figure 3.3). Ten of the residences are within 0.02 to 0.4 mile of the proposed project corridor and all residential access driveways are within 0.4 mile of the BIA 13 and Hale Marina Road intersection (Figure 3.3).

A majority of the Hale Marina Road traffic is limited to the 0.5-mile west end where there are homes; traffic to Lake Sakakawea is limited, particularly when the road is wet or snow-covered. Construction conditions would affect the nine residences that use Hale Marina Road on a daily basis. Work conducted during the Hale Marina Road improvement project would temporarily increase noise, fugitive dust, and potential traffic hazards.

During the road improvement project, safe access to all residences along the Hale Marina Road and along BIA 13 in the vicinity of the Hale Marina Road intersection would be maintained at all times and controlled by the following measures:

- Appropriate signage would be placed at intersections and points leading to and along Hale Marina Road informing motorists of road work and the presence of heavy equipment; and
- Flagmen would be positioned where needed to control the flow of traffic and help direct motorists and residents during periods of construction and at peak commute times.
- A road construction plan would be prepared by the road contractor, according to standards established by the BIA, BLM and NDIC, that would provide a road design guide, construction, and maintenance standards and to allow for successful interim and final reclamation.
- Existing roads would be used to the extent possible.
- Traffic would be limited to roads and portions of rights-of-way indicated specifically for the project.
- Unimproved roads would be limited to emergency use only.



- Speed limits would be posted and all personnel and contractors will be instructed and required to adhere to posted speed limits to ensure safe and efficient traffic flow.
- Construction vehicle traffic on public roadways would be limited, to the extent practicable, to off-peak commuting times to minimize impacts to local commuters.
- Public roads would be restored in compliance with approved right-of-way permit conditions.
- Off-highway vehicle traffic would only be used on newly constructed roads and access roads as required to facilitate construction, reclamation, and future servicing of project locations.
- Vehicular and human traffic would be minimized to the amount required to complete construction activities.

Construction conditions would persist after the Hale Marina Road improvement project is completed as a result of permitted well pad construction along the road. Noise, fugitive dust, and potential traffic hazards would be present for an additional 60 days for each well drilled, but would sharply decline when the exploration phase ends and the area enters into the commercial operations phase. Initially, approximately 50 trips to and from a well pad site over a period of several days could be expected to transport the drill rig and associated equipment to the site. A similar number of trips would also be needed to remove the drill rig and other temporary facilities once the drill rig is removed from a well pad site. Relatively more activity could be expected at the site during each successive drilling operation at a particular well pad can typically haul 140 barrels of oil per load and a water tanker 110 barrels of water per load, production service may initially require three to seven oil tankers and two to three water tankers per day. Over time, as production decreases this may decline to two to three oil tankers and one water tanker per day. Dust would be suppressed during construction and production as necessary or as required by the BIA.

Reconstruction of the Hale Marina Road would improve road safety features for local residents and visitors to the marina. Widening the road would allow on-coming traffic to safely pass. Graveling the road would create better traction during wet conditions and permit access to the marina for a greater portion of the year than is currently possible.

3.4 Water Resources

This section describes existing conditions, potential impacts from the Proposed Action, and mitigation measures for water resources in the proposed project corridor.

3.4.1 Existing Conditions

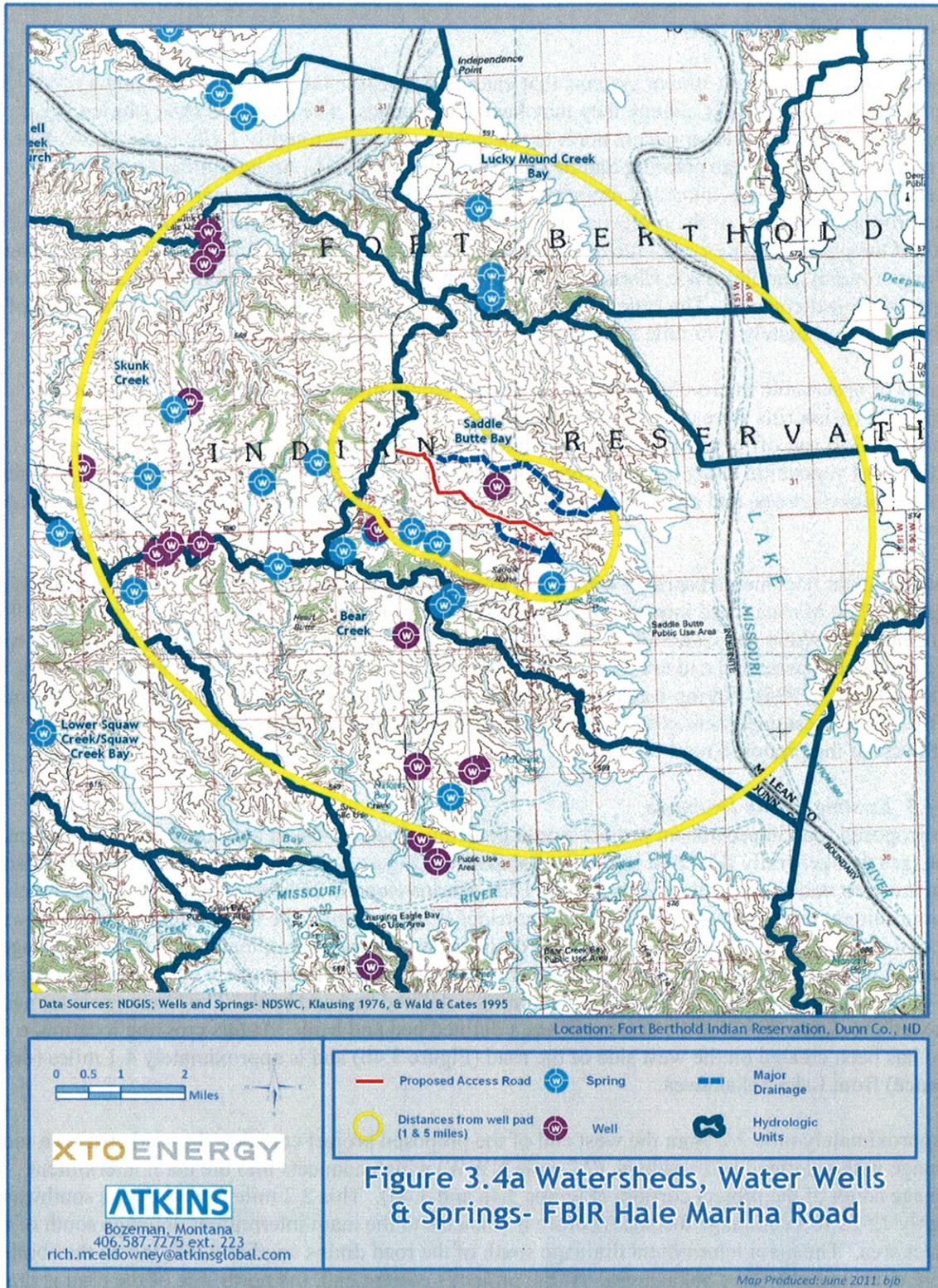
Water resources in the Hale Marina Road project corridor is comprised of surface water and groundwater resources. Precipitation and surface water is the source for all water in the project corridor.

3.4.1.1 Precipitation

Based on 58 years of data at the closest active weather station (Keene 3 S, ND) to the project corridor, the average annual precipitation in the area is 15.67 inches (in) (HPRCC 2010a). Precipitation in May, June, and July typically accounts for roughly 50% of the annual precipitation, with the month of June averaging the highest precipitation (3.29 in). Annual snowfall averages 34.80 in, with the majority of snow falling between November and March. December and January typically have the most snowfall, averaging 6.4 and 7.3 in, respectively (HPRCC 2010a). During the 2010 growing season (May – September), evapotranspiration typically ranged between 0.10 in/day and 0.42 in/day (HPRCC 2010b).

3.4.1.2 General Surface Water Considerations

The project corridor is located within the Lake Sakakawea sub-basin (Hydrologic Unit Code [HUC] #10110101) (NDSWC 2009) which has a drainage area of approximately 6,790 square miles (USGS 2010) (see Figure 3.4a). Lake Sakakawea was created by the damming of the Missouri River with the Garrison Dam in 1956. Measuring over 368,000 acres and 178 miles long, it is the third largest man-made reservoir in the United States after Lake Mead and Lake Powell (NDLSSP 2008). The proposed



Hale Marina Road improvement project is within the Saddle Butte Bay sub-watershed (Figure 3.4a). All streams on the west side of Lake Sakakawea in the Saddle Butte Bay sub-watershed drain into Saddle Butte Bay of Lake Sakakawea.

There are two intermittent stream systems that enter Saddle Butte Bay, both are unnamed by the U.S. Geological Survey (USGS), though they may have local names. The proposed Hale Marina Road improvement project corridor occurs north to northeast and ranges roughly 1,100 feet to 2,500 feet from the northern most drainage entering Saddle Butte Bay (Figure 3.4a). An intermittent non-wetland waterway (NWW) of this unnamed drainage crosses the Hale Marina Road approximately 2.2 miles from the west end of the project corridor. Another unnamed intermittent drainage system occurs north of the project corridor and enters an unnamed bay north of Saddle Butte Bay. This intermittent drainage roughly parallels Hale Marina Road approximately 220 feet to 4,500 feet east and north of the proposed project corridor. The Hale Marina Road crosses an intermittent non-wetland waterway of this drainage approximately 0.75 mile from the west end of the project corridor.

No rills or observable micro-channels were observed within most natural swales along the project corridor. Erosion rills were observed in road borrow ditches in various locations along the project corridor. Most run-off beyond the road edge likely occurs as sheet-flow or infiltrates into the soil. Undisturbed vegetation along the road corridor, including snowberry (*Symphoricarpos* spp.) patches, shrubby thickets, trees, and mesic grasses likely mitigates the potential erosional effect of stormwater runoff.

There are eight documented springs within two miles and 19 documented springs within five miles of the proposed Hale Marina Road improvement project corridor (Table 3.4a, Figure 3.4a) (Armstrong 1969, Klausing 1976, Wald and Cates 1995, NDSWC 2010). At the time of their sampling, all of these springs were considered perennial and are derived from the Paleocene Sentinel Butte Formation (Klausing 1976, Wald and Cates 1995). Spring water temperatures ranged from 46.4°F to 57.2°F (Table 3.4a) (Klausing 1976). The closest documented spring (148-092-02BBA) to the project corridor occurs 0.73 mile southwest of the proposed road centerline.

3.4.1.3 Existing Onsite Drainage

The proposed road improvement project would generally drain northeast and south into intermittent drainages that generally flow east into Lake Sakakawea (Figure 3.4b through 3.4e). At mile 0.45 and 1.1 from the west end of the project corridor, the Hale Marina Road is 230 feet west of two upper reaches of the intermittent drainage north of the project corridor (Figure 3.4b). The intermittent drainage flows north and east into Lake Sakakawea. Both of these drainage swales are approximately 4.0 miles (drainage distance) west of Lake Sakakawea. The road crosses a drainage approximately 0.75 mile from the west end of the project corridor (Figure 3.4b) containing a defined bed and bank. This drainage is termed a non-wetland waterway (NWW) because it has a defined bed and bank. At this crossing location, a stock pond has been created on the west side of the road (Figure 3.4b) and is approximately 4.1 miles (drainage distance) from Lake Sakakawea.

At approximately mile 2.2 from the west end of the proposed project corridor, the road crosses a second drainage with a defined bed and bank (2.2-mile NWW) which connects into the main intermittent drainage south of the project corridor (Figures 3.4a and 3.4d). This 2.2 mile NWW drains southward roughly 1,525 feet (drainage distance) before it connects to the main intermittent drainage south of the project area. The main intermittent drainage south of the road drains another 4,000 feet to the southeast before connecting to Lake Sakakawea. At the project's eastern end, the north side of the road is drained by two drainage swales that are roughly 1,200 feet and 1,700 feet long (drainage distance) before connecting in to the intermittent drainage north of the road. In this area the north side of Hale Marina Road is roughly 6,300 feet (drainage-distance) from Lake Sakakawea. On the south side of the road, the

eastern end of the project corridor is approximately 2,400 feet (drainage distance) northwest of Lake Sakakawea (Figure 3.4e).

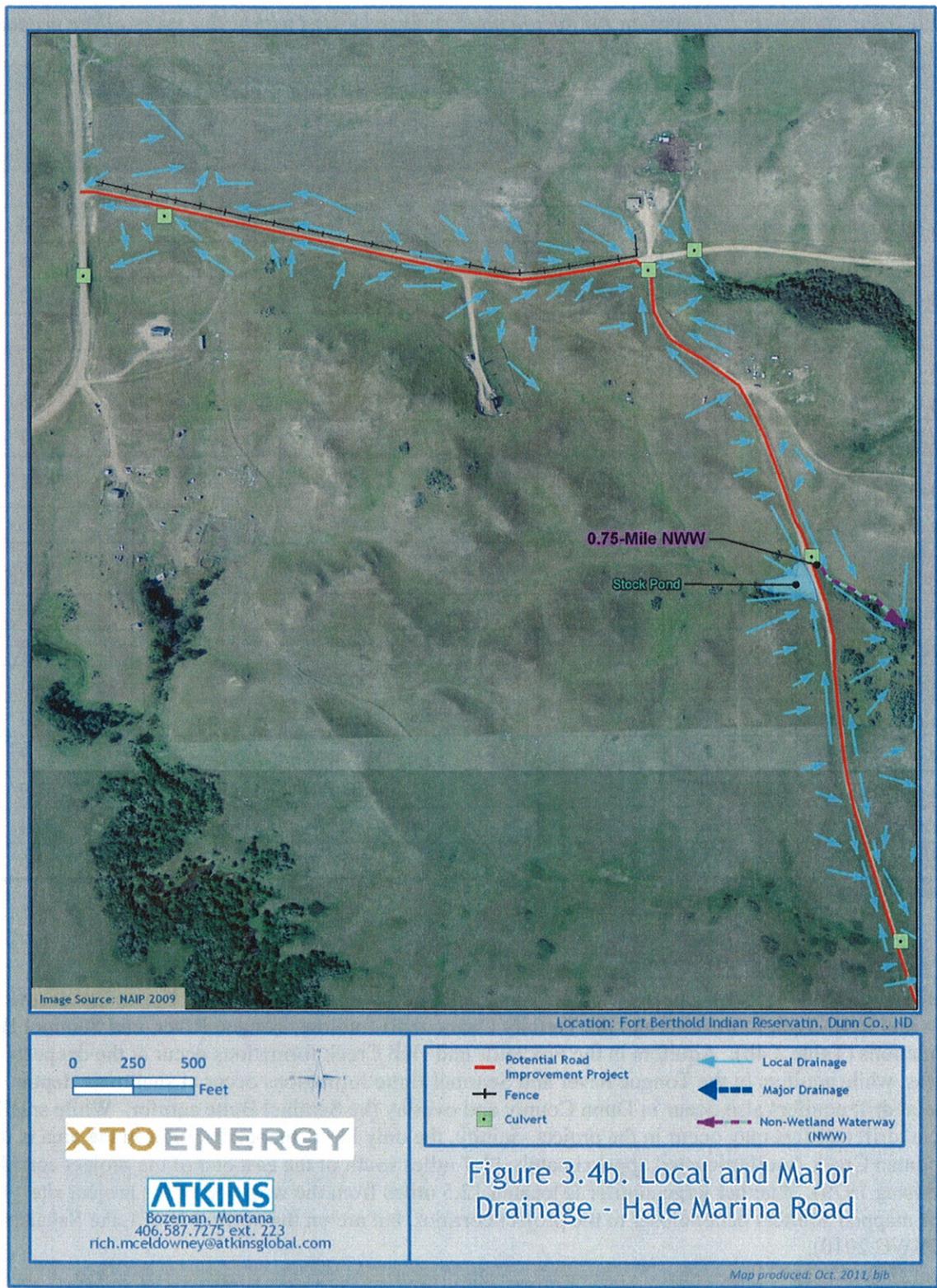
Table 3.4a: Summary information for documented springs located within five miles of the proposed Hale Marina Road improvement project corridor.

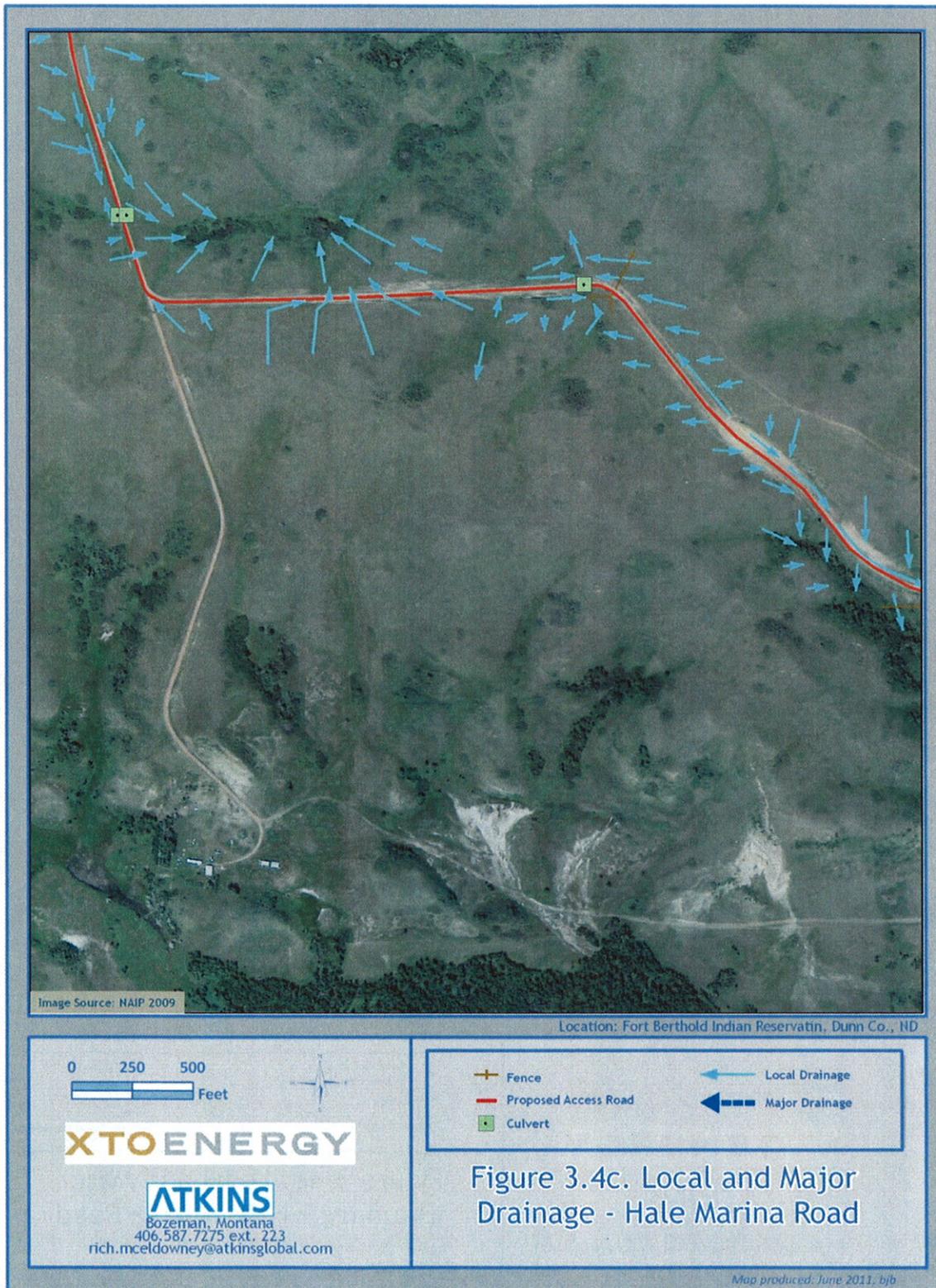
Spring Identification	Sample Date	Lithology	Flow Rate (gal/min)	Specific Conductance (µmhos/cm)	Temperature (°F)	Distance from Hale Marina Road Improvement Area (mile)
148-092-02BBA	--	--	--	--	--	0.7
148-091-07BAA	8/3/1972	--	3	1,800	46.4	0.8
148-092-02AC	--	--	--	--	--	0.8
148-092-03ABA	8/3/1972	--	6	1,350	49.1	1.2
149-092-25CDC	8/2/1972	--	8	700	--	1.2
148-092-11AAC	8/3/1972	Coal	8	461	46.4	1.4
148-092-11ACA	8/8/1950	Coal	2.9	550	49.1	1.6
148-092-03BCB	--	--	--	--	--	1.7
149-092-35BDA	11/8/1950, 8/2/1972	Coal	80	825, 725	50	2.1
148-092-04CBD	8/8/1950	Coal	36	447	46.4	2.6
149-091-16BCCC	8/16/1972	Coal	4	1,400	49.1	2.6
149-091-16BCB	8/16/1972	Coal	6	1,250	52.7	2.7
149-091-16BBB	8/16/1972	Coal	5	1,800	51.8	3.0
149-092-22CDC	8/2/1972	--	--	772	48.2	3.3
149-092-27BBB	8/2/1972	Coal	50	553	50	3.5
149-092-33ABB	--	--	--	--	--	3.9
149-091-08AAA	8/16/1972	--	6	1,880	49.1	3.9
148-092-26ACA	8/1/1972	Coal	2	655	50.9	4.4
148-093-01DDC	8/2/1972	Sandstone	24	497	46.4	4.6

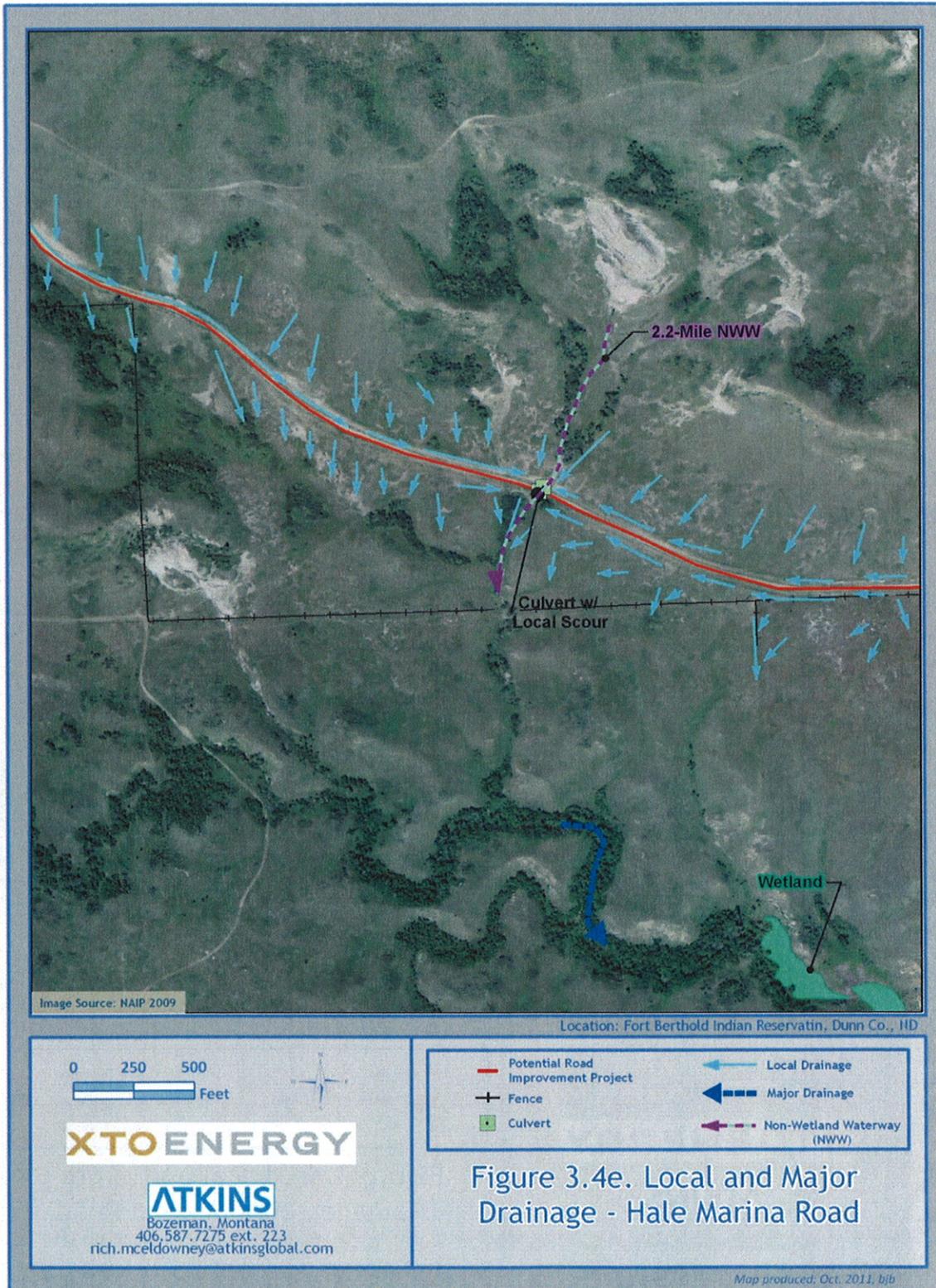
Sources: Klausing 1976; Wald and Cates 1995.

3.4.1.4 General Groundwater Considerations

Aquifers in Dunn County occur in five main pre-glacial formations, including the Upper Cretaceous Fox Hills and Hell Creek formations and the Tertiary Cannonball-Ludlow, Tongue River, and Sentinel Butte Formations (Table 3.4b). Aquifers in the Fox Hills and Hell Creek formations occur at the deepest depths, while aquifers in the Tongue River and Sentinel Butte formations occur at shallower depths. Glacial drift aquifers also occur in Dunn County and overlay the Sentinel Butte aquifer. While smaller glacial drift aquifers may occur in the project vicinity, the only large, mapped aquifer in the area is the Goodman Creek Aquifer located approximately 11.7 miles south of the east end of the project corridor (Klausing 1979). Another large aquifer is located 12.5 miles from the west end of the project site. Two other mapped aquifers occur closer to the project corridor, but are on the north side of Lake Sakakawea (NDSWC 2010).







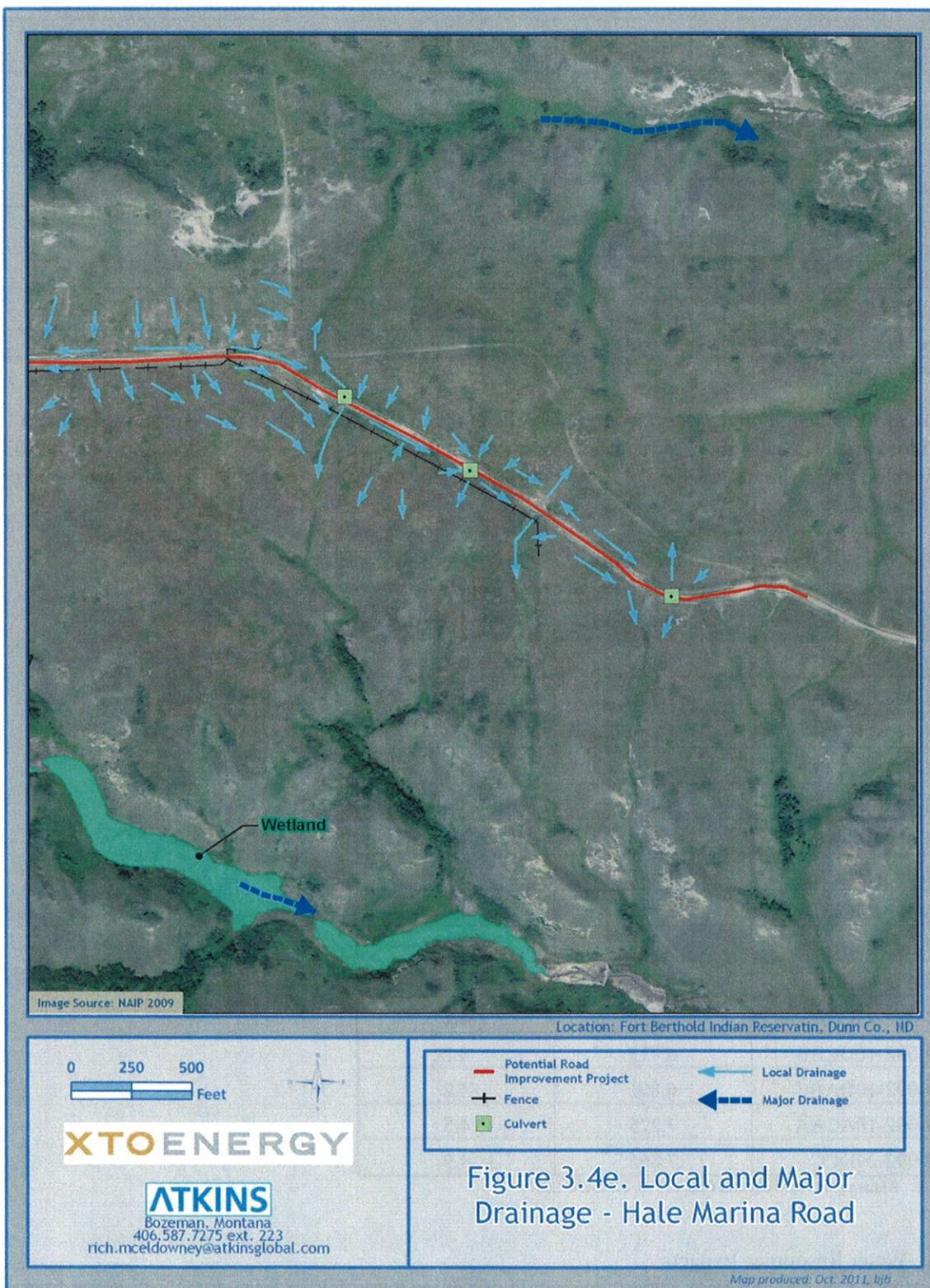


Table 3.4b. Characteristics of pre-glacial aquifers occurring in Dunn County, North Dakota.

Formation Name	Lithology	Max. Thickness (ft)	Depth to Top of Formation (ft)	Water Yield (gpm)
Sentinel Butte	Clay, claystone, shale, sandstone, siltstone, and lignite.	670	0 - 700	5 - 100 (sandstone) 1 - 200 (lignite)
Tongue River	Clay, claystone, shale, sandstone, siltstone, and lignite.	490	230 - 750	<100
Undifferentiated Cannonball-Ludlow	Cannonball - marine sandstone, clay, shale, and siltstone. Ludlow - continental siltstone, sandstone, shale, clay, and lignite.	660	570 - 1,130	<50
Hell Creek	Siltstone, sandstone, shale, claystone, and lignite	300	1,150 - 1,730	5 - 100
Fox Hills	Sandstone, shale, and siltstone	300	1,330 - 1,960	<200 - 400

Source: Klausung 1979.

There are 15 documented, water-producing wells within a five-mile radius of the proposed project corridor (Figure 3.4a, Table 3.4c). The closest documented wells (149-091-33BCC and 148-092-03ABA) are located approximately 0.4 and 1.1 mile northeast and southwest, respectively, of the proposed project corridor (Table 3.4c).

Table 3.4c: Information on locations of documented water wells that occur within five miles of the proposed Hale Marina Road improvement project corridor.

Well Identification	Distance (feet)	Distance (miles)
149-091-33BCC	690	0.4
148-092-03ABA	1,774	1.1
148-092-11CCB	3,679	2.3
148-092-23ABB	5,196	3.2
148-092-06AAD	5,424	3.4
148-092-06BAD	6,124	3.8
148-092-24CCCA	6,149	3.8
148-092-24CCCB	6,247	3.9
148-092-06BDB	6,367	4.0
148-092-06BCA	6,545	4.1
148-092-23CCA	6,558	4.1
149-092-10DCBB	6,713	4.2
149-092-10DABC	6,801	4.2
149-092-10ACAA	7,225	4.5
149-092-29DCC	7,865	4.9

Sources: Klausung 1976; Wald and Cates 1995, NDSWC 2010.

3.4.2 Water Resources Impacts

Construction and reclamation techniques would minimize potential for impacts to both groundwater and surface water. Two nearly 90 degree corners would be rounded to improve turning radii at those locations, and the road would be shifted slightly east of the stock pond located at mile 0.75 (as measured from the west end of project) to minimize potential disturbance. Five culverts would be replaced with

appropriately sized culverts, and one new culvert would be installed (see Attachment A). These culverts will be appropriately sized for the drainage area they service and installed correctly to minimize impacts. Indirect impacts caused by offsite sedimentation will be minimized by roadway engineering and erosion control measures outlined in Appendix A. No substantial increases in runoff or impacts to surface waters would be expected. Impacts to the two non-wetland waterways are discussed in Section 3.5.

3.4.3 Water Resources Mitigation

In order to minimize impacts, the proposed road improvement project corridor has been located almost entirely along the existing historical roadway alignment. An erosion and sedimentation control plan has been developed for the Hale Marina Road improvement project (Appendix A). Stormwater control measures would be implemented prior to the initiation of the work and left in place until the disturbance is stabilized. Erosion control blankets, wattles (fiber roll), check dams, and revegetation best management practices (BMPs) are all indicated on the erosion control plan sheets (Appendix A). The use and placement of the BMPs would be adjusted and added to by the contractor in the field, as deemed appropriate.

The BIA and BLM would monitor all operations and record keeping at their discretion. Evidence of ground or surface water contamination related to the Hale Marina Road improvement project would result in a stop work order until all appropriate measures were identified and implemented. No applicable laws or regulations would be waived; no compensatory mitigation measures are required to protect surface water or groundwater.

3.5 Wetland, Non-Wetland Waterway and Riparian Habitats

This section describes existing conditions, potential impacts from the Proposed Action, and mitigation measures for wetland, non-wetland waterways, and riparian resources in the project corridor.

3.5.1 Existing Conditions

No wetlands were observed within 125 feet of the existing road centerline during the May 11-12, 2011 natural resource survey. National Wetland Inventory (NWI) maps, maintained by the U.S. Fish and Wildlife Service (USFWS), identified several potential wetlands within a drainage north of the project corridor (USFWS 2011). The Hale Marina Road crosses this drainage 0.75 mile from the west end of the proposed project corridor (see 0.75-mile NWW on Figure 3.4b). According to the NWI maps, the closest of these potential wetlands is 250 feet east and downslope of the road. Observations during the May 2011 field inventory confirmed the occurrence of wetlands in this drainage outside of the project corridor. At this same location and west of the road, a stock pond was observed during the May 2011 field inventory (see Figure 3.4b). The stock pond is located between eight and 240 feet from the current road edge. Water levels in the pond appeared higher than normal as a result of recent persistent precipitation. A culvert beneath the road is upslope of the pond, likely to enable the collection of water for livestock. Water levels in the pond were not high enough to drain through the culvert in May 2011. The area surrounding the pond was examined, but no wetlands were observed. Note that in the 2009 aerial photograph, the stock pond is dry.

The Hale Marina Road crosses two non-wetland waterways (NWW) located at mile 0.75 and 2.2 from the BIA 13 intersection. Both NWWs are intermittent and potentially jurisdictional waters of the U.S. The U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency are the lead agencies for implementing the Clean Water Act and make the final determination of their jurisdiction over potential waters of the U.S. For the purposes of this EA, both of these NWW are considered jurisdictional waters of the U.S. The waterway at mile 0.75 is characterized by a narrow (~12 to 16 inch wide) channel downslope of the road edge. The NWW at mile 2.2 has a defined bed and bank that is averages 3 feet wide, and was carrying runoff from persistent rains during the May 2011 field work.

There are two riparian communities within the proposed project corridor (Figures 3.4d and 3.7d). The west side of the Hale Marina Road parallels one riparian area for approximately 500 feet, one mile east of the west end of the project corridor. The riparian area is 50 feet to 125 feet (and extends beyond) from the current road edge. The road crosses the second riparian area at the 2.2-mile NWW (see Figure 3.7d).

3.5.2 Wetland, Non-Wetland Waterway and Riparian Impacts

The proposed improvements to the Hale Marina Road would not directly impact wetland habitat because no wetlands occur within the project corridor (see Table 3.7b). Indirect impacts to wetlands down gradient of the project corridor would be avoided and minimized to maximum extent practicable through the use of best management practices to control offsite sedimentation. No indirect impacts to wetland hydrology are anticipated.

An estimated 0.002 acre of direct impact would occur to the channel at the 0.75-mile NWW. This impact would be caused by shifting the roadway alignment slightly to the east in order to avoid impacts to the stock pond. The culvert at that location would need to be extended or replaced. No direct impacts to the 2.2-mile NWW are anticipated; that culvert would remain in place and does not need to be upgraded. Indirect impacts to these drainages from stormwater runoff and sedimentation would be avoided and minimized to the maximum extent practicable through the implementation of BMPs identified in the erosion control plan (Appendix A).

Impacts to riparian areas along the Hale Marina Road improvement project would total 0.33 acre (see Table 3.7b). Indirect impacts to riparian vegetation would be minimized by employing BMP measures around the perimeter of these communities, as deemed appropriate by the contractor, and along any drainage channels that may occur at these locations.

3.5.3 Wetland, Non-wetland Waterway, and Riparian Mitigation

To reduce negative direct and indirect impacts to wetlands, non-wetland waterways and riparian habitats, within and adjacent to the project corridor, the following mitigation measures are proposed:

- Impacts to 0.75 mile NWW would be permitted under a nationwide permit from the U.S. Army Corps of Engineers.
- Where practicable, work in riparian and the two NWWs would be conducted during low steamflow/low water conditions, which typically occur from mid-summer through winter.
- Disturbed upland areas would be revegetated with native plants as soon as is practicable after construction to prevent soil erosion and sedimentation into wetland, NWWs and riparian areas adjacent to the project corridor.
- Appropriately-sized culverts would be maintained in place or replaced in all drainages, as deemed appropriate by the contractor and as indicated in the erosion control plan (Appendix A).
- Accepted erosion/sedimentation control devices (e.g. erosion control blanket, wattles) would be installed according to the erosion control plan (Appendix A) and adjusted by the contractor in the field as appropriate.
- If construction is conducted in late fall, disturbed areas would be mulched and crimped (placing long-stemmed straw on bare soil that is then disked into the soil, which effectively stands the straw upright to replicate a stubble-like environment).
- Refueling and storage of hazardous materials, including fuels and lubricating oils, would be conducted at distances greater than 50 feet from wetlands, drainages and swales.

3.6 Threatened, Endangered, and Candidate Species

This section describes existing conditions, the potential impacts from the Proposed Action, and mitigation measures for threatened and endangered species in Hale Marina Road project corridor.

3.6.1 Existing Conditions

Threatened and endangered (TE) plant and animal species are designated by the USFWS under the guidance of the *Endangered Species Act*. Based on the USFWS (2010b) list of *County Occurrence of Endangered, Threatened, and Candidate Species and Designated Critical Habitat in North Dakota*, range/habitat descriptions found in technical literature, North Dakota Natural Heritage Program database searches for the FBIR (NDPR 2010), and an interview with the Fort Berthold Fish & Game Director (Poitra 2008 and 2010), the following eight species were considered with respect to this project (Table 3.6).

The North Dakota Natural Heritage Program biological conservation database had no known historical or current occurrences of plant or animal species of concern within the project corridor (NDPR 2010). Based on this information, available reports, conversations with a local biologist, and the absence of critical, essential, or designated habitat, the likelihood of listed species to occur in the project corridor range from unknown to unlikely to none.

Table 3.6: List of threatened, endangered, and candidate species for Dunn County, North Dakota.

Common Name	Scientific Name	Designation	Critical Habitat
Black-footed Ferret	<i>Mustela nigripes</i>	Endangered	No
Gray Wolf	<i>Canis lupus</i>	Threatened	No
Interior Least Tern	<i>Sterna antillarum</i>	Endangered	No
Piping Plover	<i>Charadrius melodus</i>	Threatened	Yes
Whooping Crane	<i>Grus americana</i>	Endangered	No
Pallid Sturgeon	<i>Scaphirhynchus albus</i>	Endangered	No
Dakota Skipper	<i>Hesperia dacotae</i>	Candidate	No
Sprague's Pipit	<i>Anthus spragueii</i>	Candidate	No

Black-footed ferret (*Mustela nigripes*): Endangered

Black-footed ferrets have not been documented on the FBIR (Poitra 2008; NDPR 2010). Black-footed ferrets primarily feed on prairie dogs (*Cynomys* spp.) and use prairie dog burrows for shelter (MTNHP 2010). Black-footed ferrets have not been documented on the FBIR (Poitra 2008; NDPR 2010). No active or inactive prairie dog colonies were found within the May 11-12, 2011 field inventories. Impacts to black-footed ferrets would not be expected as a result of the proposed project, given the lack of occurrence, food source, and habitat.

Gray wolf (*Canis lupus*): Threatened

The project corridor does not include preferred gray wolf habitat or a suitable prey base to sustain a permanent pack. Reported occurrences of gray wolves on the FBIR are infrequent; about 1-2 sightings occur each year near the Little Missouri River, which is west of the FBIR (Poitra 2010). No established packs have been documented or are suspected to occur on the FBIR (Poitra 2010; NDPR 2010). It is highly unlikely that wolves would colonize the project corridor, given its poor wolf habitat, unreliable food supplies, and the long distance from known populations in Minnesota, Canada, Montana, and Wyoming. No impacts to gray wolves would be expected as a result of the proposed project.

Interior Least Tern (Sterna antillarum): Endangered

In the northern United States, the Interior Least Tern is known to nest along midstream sandbars of the Missouri and Yellowstone Rivers (USFWS 2008). The breeding season extends from May through August, with a nesting season from mid-June to mid-July in North Dakota (USFWS 2008). Lake Sakakawea is not a major nesting area for Least Terns; however, tern nesting does occur in Douglas Creek Bay, Elbowwoods Bay, Deepwater Bay, Van Hook Arm, Hofflund Bay, and Tobacco Garden Bay (USACE 2007).

The closest and most recent known Least Tern nest site to the proposed project corridor was in 1995 on the east side of Independence Point (USACE 2010). The Hale Marina Road improvement project is a range of 4.3 to 4.8 air-miles northeast of the 1995 Least Tern nest. No sightings or potential nesting or foraging habitats within a 0.5 mile radius of the proposed project were found during the May 11-12, 2011 field inventories. No impacts to the Interior Least Tern would be expected as a result of the proposed project.

Piping Plover (Charadrius melodus): Threatened

Piping Plover critical habitat for the Northern Great Plains population was designated by the USFWS (67 FR 57638) in September 2002 (USACE 2007). Designated areas of critical habitat include prairie alkali wetlands and adjacent shorelines, river channels, sandbars, islands, reservoirs, and inland lakes, and sparsely vegetated shorelines, peninsulas, and islands associated with reservoirs and inland lakes. Piping Plover critical habitat supports all life history requirements including courtship, nesting, foraging, sheltering, brood-rearing, and dispersal habitats. Piping Plover nest on barren sand and gravel shores of islands, lakes, and rivers along the Missouri River in North Dakota (USFWS 2009a). No plover habitat occurs within the proposed project site.

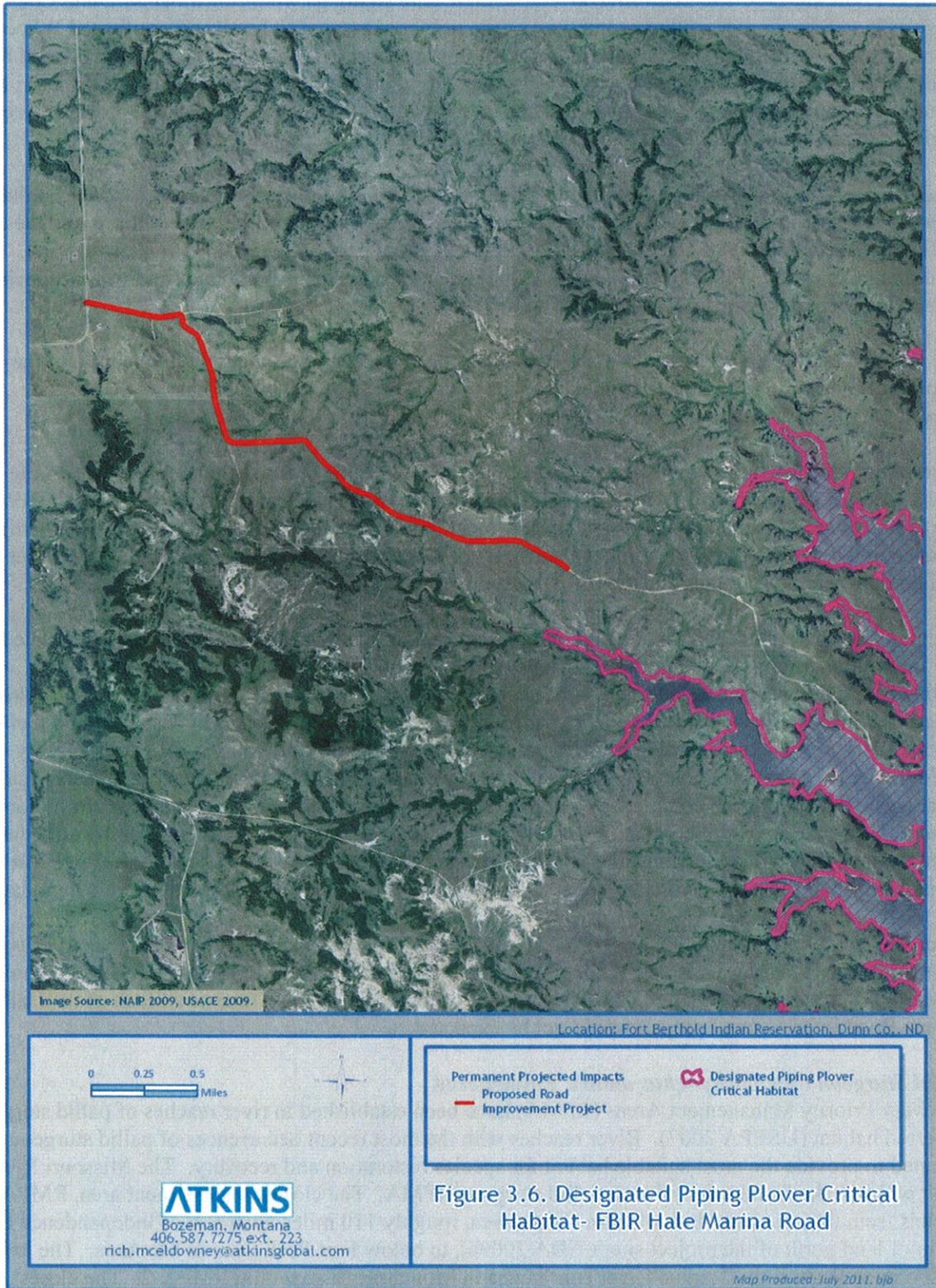
The closest reach of Piping Plover critical habitat to the Hale Marina Road project corridor is Lake Sakakawea, approximately 0.3 air-mile south of the proposed project corridor (Figure 3.6). There is no line of sight between the project corridor and the critical habitat shoreline.

The Piping Plover breeding season in North Dakota extends from mid-April through August. Major nesting areas within Lake Sakakawea include Douglas Creek Bay, Arikara Bay, Deepwater Bay, Van Hook Arm, Van Hook islands, Hofflund Bay, Little Egypt, Red Mike Bay, Renner Bay, and the northeast part of Mallard Island through DeTrobriand Bay (USACE 2007). Minor plover nesting areas include Elbowwoods Bay, Beacon Island, White Earth Bay, Tobacco Garden Bay, Beacon Point, Antelope Creek, Independence Point, and Beaver Creek Bay.

The closest and most recent known Piping Plover nest site was in 2001 on Ruona Bay, 2.7 and 4.8 air-miles from the east and west ends of the proposed project corridor, respectively (USACE 2010). No sightings or potential nesting or foraging habitats occur within a 0.5-mile radius of the proposed road project during the May 11-12, 2011 field inventories. No impacts to the Piping Plover would be expected as a result of the proposed project.

Whooping Crane (Grus Americana): Endangered

Whooping Cranes breed in Alberta and Northwest Territories, Canada, and overwinter on the Texas coast (USFWS 2010c). They annually migrate through North Dakota during the spring and fall, making numerous stops to feed and roost before resuming migration. In North Dakota, peak migration occurs around April 19 (within an approximate 13-day time span) and October 18 (within an approximate 22-day span) for the spring and fall migrations, respectively (Tetra Tech 2010; Austin and Richert 2001). The proposed project corridor occurs within the 75% confirmed sightings band of the North Dakota Whooping Crane migration corridor (Tacha 2010; USFWS 2010c). However, based on the crane population and their average flight distances, it is estimated that as little as 4% of crane stopovers are reported. This is



because the migration corridor is sparsely populated by people, observations may not be identified to the species, identified observations may not be reported, and those reported may not be confirmed (USFWS 2010c). From the 1960's to 2010 several Whooping Crane sightings were confirmed in Dunn County roughly 25 to 33 air-miles south to southwest of the proposed project. The closest confirmed Whooping Crane sighting occurred in 1981 on the east side of the Missouri River in McLean County, 6.8 and 8.0 air-miles northeast of the east and west ends, respectively, of the proposed project corridor. However, no occurrences of Whooping Cranes have been confirmed within four square miles of the proposed project corridor (Poitra 2008 and 2010; NDPR 2010; and USFWS 2010c).

In addition to confirmed sightings, potential Whooping Crane migratory feeding and roosting habitat was assessed within one-mile radius of the proposed project corridor through field observations and the use of NWI data (2010a), USDA Land Use data (2009b), and aerial photo (USDA 2009a) interpretation. Whooping Cranes often feed in cropland, but would also feed in shallow wetlands and wet meadows for aquatic invertebrates and vertebrates (Austin 2010).

The USDA Land Use map indicates there is one, less than one acre cropland within one mile of the proposed Hale Marina Road improvement project corridor (USDA 2009b). However, there is no cropland at this location based on field observations in May 2011.

According to the 2010 field investigations and NWI data, wetlands occur within a range of 0.3 mile to one mile southwest of the proposed Hale Marina Road improvement project corridor (NWI 2010a). NWI data also indicates several small wetlands (<0.05 acre) within 0.5 mile and two larger wetlands (0.7 acre) at a distance of 0.4 to 0.5 mile in the drainage northeast of the proposed road project. There is no direct line of sight between the wetlands and the the proposed project corridor.

The majority of wetlands within one mile of the proposed project corridor are located in the Saddle Butte Bay intermittent drainage south of the project corridor and on hill slopes adjacent to that drainage. Wetlands in the upper drainage may include shallow water (6 inches) in the spring and wetlands closer to Lake Sakakawea may have surface water year round. The wetlands are generally less than 200 feet wide, less than 10 acres, and are positioned on slopes or in drainages with limited long-distance visibility which could hinder predator detection. Given these general wetland characteristics, size, and connection to Lake Sakakawea, these wetlands complexes could infrequently be used for temporary stopovers by Whooping Cranes. However, it is unlikely that these wetlands would be used as primary feeding or roosting habitat given the lack of cropland feeding sites within one mile of the proposed project corridor. Wetlands in the drainage north of the project corridor are size-limited and would not afford protection against predation.

Given the lack of cropland and the occurrence of wetlands with less than optimum characteristics within one mile of the Hale Marina Road, Whooping Cranes would not be expected to use any areas within the one-mile proposed project buffer. Thus, negative impacts to Whooping Crane as a result of the Hale Marina Road improvement project would not be expected.

Pallid Sturgeon (Scaphirhynchus albus): Endangered

Recovery Priority Management Areas (RPMA) have been established in river reaches of pallid sturgeon preferred habitat (USEPA 2007). River reaches with the most recent occurrences of pallid sturgeon are assumed to provide the most suitable habitat for species restoration and recovery. The Missouri River reach within Lake Sakakawea is not a pallid sturgeon RPMA. The closest management area, RMPA-2, extends from the upstream limit of Lake Sakakawea, roughly 110 miles upstream of Independence Point (point of land north of the project site, USDA 2009a), to below Fort Peck Dam in Montana. The lower Yellowstone River to its Tongue River confluence in Montana is also within RMPA-2. The closest downstream pallid sturgeon river management area is RPMA-3, the upper limit of which is located along the border of South Dakota and Nebraska. Pallid sturgeon occupy turbid river systems, in water depths

ranging from approximately 3 to 25 feet, and near the shore or in deeper chutes at the end of sandbars and islands (USFWS 1993). This species is believed to spawn between June and August and prefer velocities of 0.33 to 2.9 feet/second (USEPA 2007).

The proposed road improvement project corridor crosses two intermittent non-wetland waterways. Lake Sakakawea is approximately 1.1 mile (drainage distance) southeast of a NWW that crosses the Hale Marina Road 2.2 miles from the west end of the proposed project corridor. The lake is approximately 4.1 miles (drainage distance) from the NWW that crosses the road at mile 0.75 from the west end of the proposed project. Pallid sturgeon would not occur in these NWWs because of their intermittent nature. Direct and indirect project-related activities are not expected to negatively impact water quality or quantity within the intermittent drainages north or south of the proposed project corridor. Therefore, it is considered extremely unlikely that Lake Sakakawea (or the Missouri River) would receive runoff from work-related activities within the project corridor. No impacts to the pallid sturgeon would be expected as a result of the proposed project.

Dakota Skipper (Hesperia dacotae): Candidate

The Dakota skipper is a small butterfly that once occurred throughout the north-central USA and south-central Canada (USFWS 2009b). Dakota skippers are known to reside in western Minnesota, northeastern South Dakota, north-central North Dakota, and southeastern North Dakota (USFWS 2009b). The Dakota skipper lives in high quality native prairies that contain a high diversity of wildflowers and grasses. Exotic grasses and shrubs do not provide habitat for this insect. Adult Dakota skippers live for three weeks in June and obtain nectar, which is critical to their reproduction, from woody lilies (*Lilium* spp.), harebells (*Campanula* spp.), smooth camas (*Camassia* spp.), coneflowers (*Echinacea* spp.), and blanketflowers (*Gaillardia* spp.). Larval Dakota skippers feed on grasses in the fall and over-winter in shelters or just below ground level at the bases of native bunchgrasses. It is possible that the project corridor may provide potential habitat. The Dakota skipper was not observed within the project corridor during the May 11-12, 2011 field investigation. However, the Dakota skipper was observed in 2010 at the proposed HeadlessTurtle project site, located on the south side of the Hale Marina Road proposed project site. Potential impacts to the Dakota skipper as a result of the proposed project are unknown.

Sprague's Pipit (Anthus spragueii): Candidate

Sprague's Pipits arrive on the breeding grounds in April, leave in September and October, and have up to two breeding periods: late April to early June and mid-July to early September (Stewart 1975). The Sprague's Pipit is known to use and breed in alkaline meadows and around the edges of alkaline lakes (MTNHP 2010). They construct a domed ground nest and primarily feed on insects and seeds (Ehrlich et al. 1988). Sprague's Pipits are most commonly associated with native prairie comprised of sparse native bunch grasses of intermediate height with low visual obstruction. They appear to prefer grasslands with low (<20%) shrub cover within 330 feet of native prairie (Madden et al. 2000, Grant et al. 2004; Sutter 1997; Dechant et al. 2003, and Jones 2010b). Sprague's Pipits generally avoid areas with exotic grasses, such as smooth brome (*Bromus inermis*) (Madden 2010). Sprague's Pipits respond positively to short-interval fire cycles (every 2 to 4 years), depending upon moisture levels and type of grassland (dry versus mesic) because fire reduces litter buildup, shrub cover, vegetation density, and plant height (Madden et al. 1999). Studies have indicated that Sprague's Pipits are area-sensitive and require large grassland areas, though the specific patch size has not been determined (Davis 2004; see Dechant et al. 2003).

Grasslands adjacent to the proposed Hale Marina Road project corridor is comprised primarily of native forbs and grasses and short (<2 feet tall) snowberry shrubs. In addition, the project corridor has several small patches of the exotic grass, Japanese brome (*Bromus japonicus*) (Figure 3.7b). Patches of exotic forbs, including Russian (*Salsola kali*) and Canada thistle (*Cirsium arvense*), occur along the project site (Figure 3.7b). Based on the Sprague's Pipit's preferences for a mosaic of primarily native prairie, less than 20% cover of shrubs greater than three feet tall, and the abundance of native prairie, there is potential

pipit habitat in the vicinity of the project corridor. However, the Sprague's Pipit was not observed or heard singing within a 0.5-mile radius of the Hale Marina Road project corridor on May 11-12, 2011, where early spring conditions were still persistent and territorial singing may not have been initiated at that time. Potential impacts to the Sprague's Pipit as a result of the proposed project are unknown.

3.6.2 Threatened and Endangered Species Impacts

Physical inventories were conducted on May 11-12, 2011. No occurrence of candidate and listed TE plants or animals and denning, roosting, or nesting sites are known to be present or were observed during the site visits. Based on this information and the other information presented in this section, no direct or indirect impacts to the four endangered and two threatened species would be expected. The potential to impact the two candidate species is unknown, as the vegetation communities within the proposed Hale Marina Road project could provide suitable habitat for these species, but their occurrence was not noted.

Based on the above information and the proposed mitigation measures below, a **no effect** determination is rendered for the black-footed ferret, gray wolf, Interior Least Tern, Piping Plover, Whooping Crane, and Pallid Sturgeon. The potential to impact candidate species, the Dakota skipper and Sprague's Pipit, is unknown. Candidate species receive no legal protection under the Endangered Species Act - that is, there are no legal prohibitions under the ESA against the "take" of a candidate species. Nonetheless, the USFWS promotes conservation actions for candidate species as they may eliminate the need to list the species as threatened or endangered.

3.6.3 Threatened and Endangered Species Mitigation

Impacts to potential habitat for the candidate species Dakota skipper and Sprague's Pipit could be minimized by reducing the area of ground disturbance, spot-treating (as opposed to broadcast spraying) noxious weeds with herbicides, and controlling exotic grasses and woody plants (USFWS 2009b; Madden et al. 1999, 2000).

To reduce the potential for negative impacts to threatened or endangered species and their habitat the following mitigation measures would be implemented:

- Any sighting of a protected species within one mile of the project corridor would be immediately reported to the USFWS, NDGFD, the Tribe, and the BIA.
- If initial site construction occurs within the February 1st-July 15th migratory bird nesting period then the project corridor may be mowed/grubbed the season before this time period to deter nesting. If grubbing was not conducted prior to the nesting period, the project corridor would be surveyed within 5 days of construction start by a qualified biologist to determine if active nests are present. If nests are present then construction would be delayed until active nests are abandoned or USFWS shall be contacted regarding how to proceed.
- Temporarily disturbed ground would be reclaimed using native plants from approved plant lists as identified by the Tribe and BIA.
- To minimize disturbance to potential Dakota skipper habitat, the proposed project would follow the current road alignment to the maximum extent practicable, thereby reducing habitat loss and fragmentation.
- Noxious weeds would be treated as needed to help prevent this indirect impact on potential skipper habitat.

3.7 General Wildlife and Fisheries

This section describes existing conditions, potential impacts from the Proposed Action, and mitigation measures for wildlife and fishery resources along the Hale Marina Road project corridor.

3.7.1 Wildlife Habitat

Wildlife habitat within the Hale Marina Road project corridor consist of grasslands, snowberry patches/swales, riparian areas, shrubby thickets and open water of a small stock water pond (Figures 3.7a1 and 3.7a2). Figures 3.7b through 3.7e depict wildlife habitat. Wildlife utilizes all five habitat types, though to varying degrees based on their life histories and species specific requirements. Within the project corridor (125 feet from centerline) grasslands comprise 71.1 acres (81.6%), snowberry patches/ swales 12.8 acres (14.7%), shrubby thickets 2.4 acres (2.8%), riparian areas 0.6 acre (0.6%), and open water 0.3 acre (0.4%) (Table 3.7a).



Figure 3.7a1: Hale Marina Road project corridor with representative riparian habitat and shrubby thicket (upper center of photo), and grassland (adjacent to road and in surrounding lands).

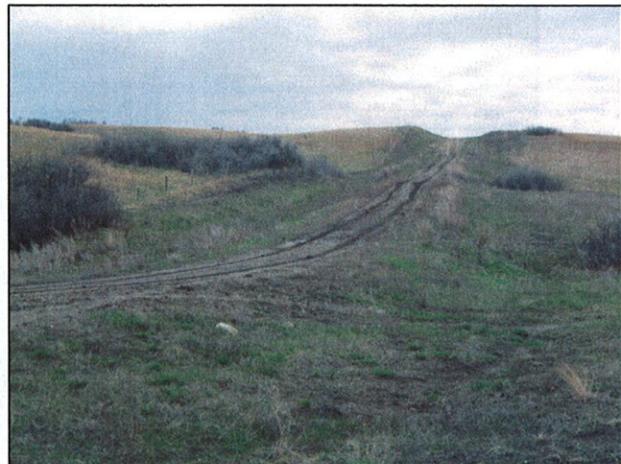


Figure 3.7a2. Hale Marina Road project corridor with representative grassland, shrubby thicket, and snowberry at outer edges of thickets.

Table 3.7a: Summary of the wildlife habitat types and projected impacts within the proposed Hale Marina Road improvement project corridor.

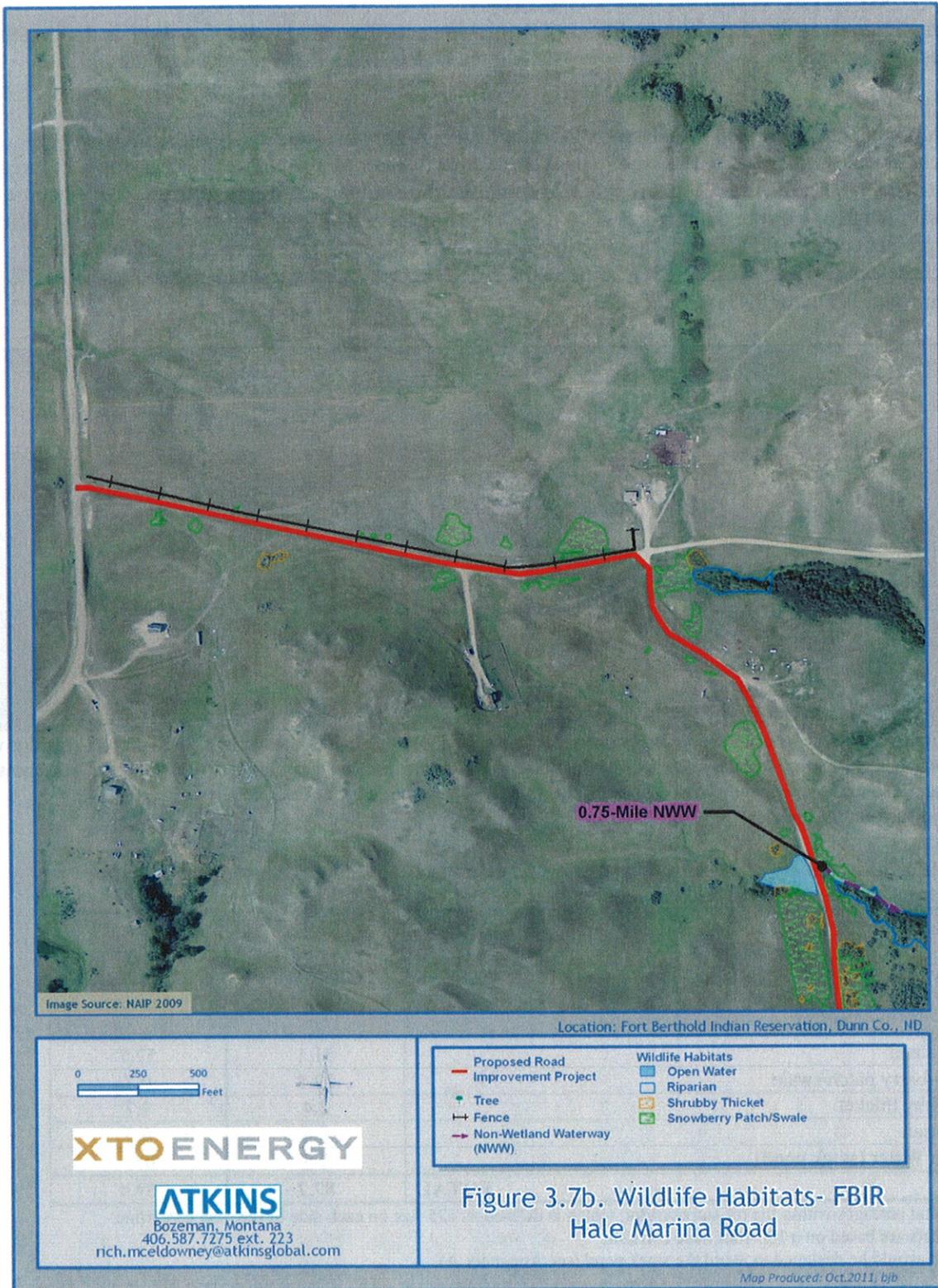
Habitat Type	Project Corridor ¹ (acre)	Project Corridor Permanent Impact (acre)
Grassland	71.1	57.7
Snowberry patch/swale	12.8	9.7
Shrubby thicket	2.4	1.7
Riparian	0.6	0.3
Open Water (stock pond)	0.3	0.0 ²
TOTAL	87.2	69.4

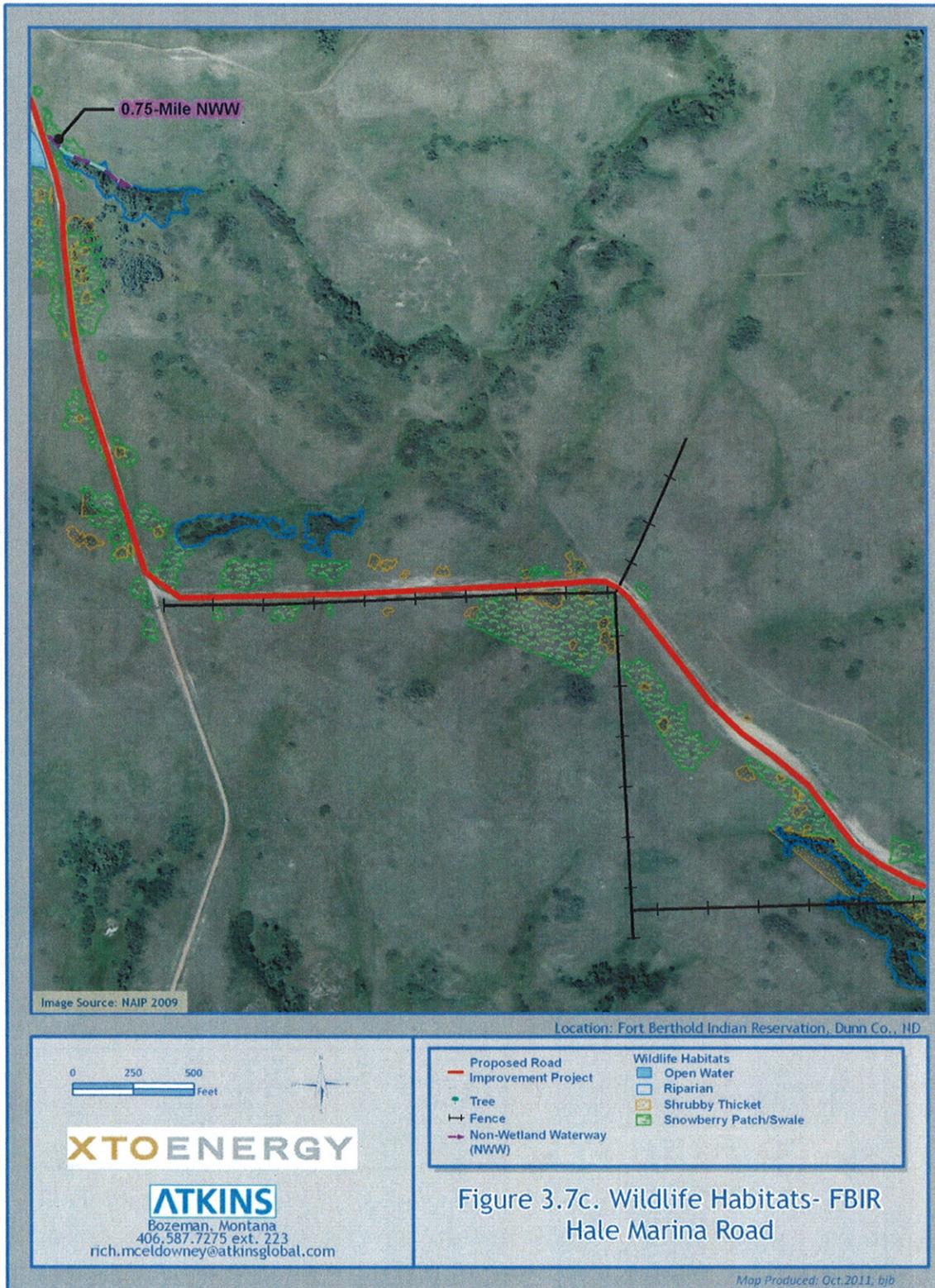
¹Habitat acreages within the project corridor, which is defined as 125 feet on each side of the road centerline.

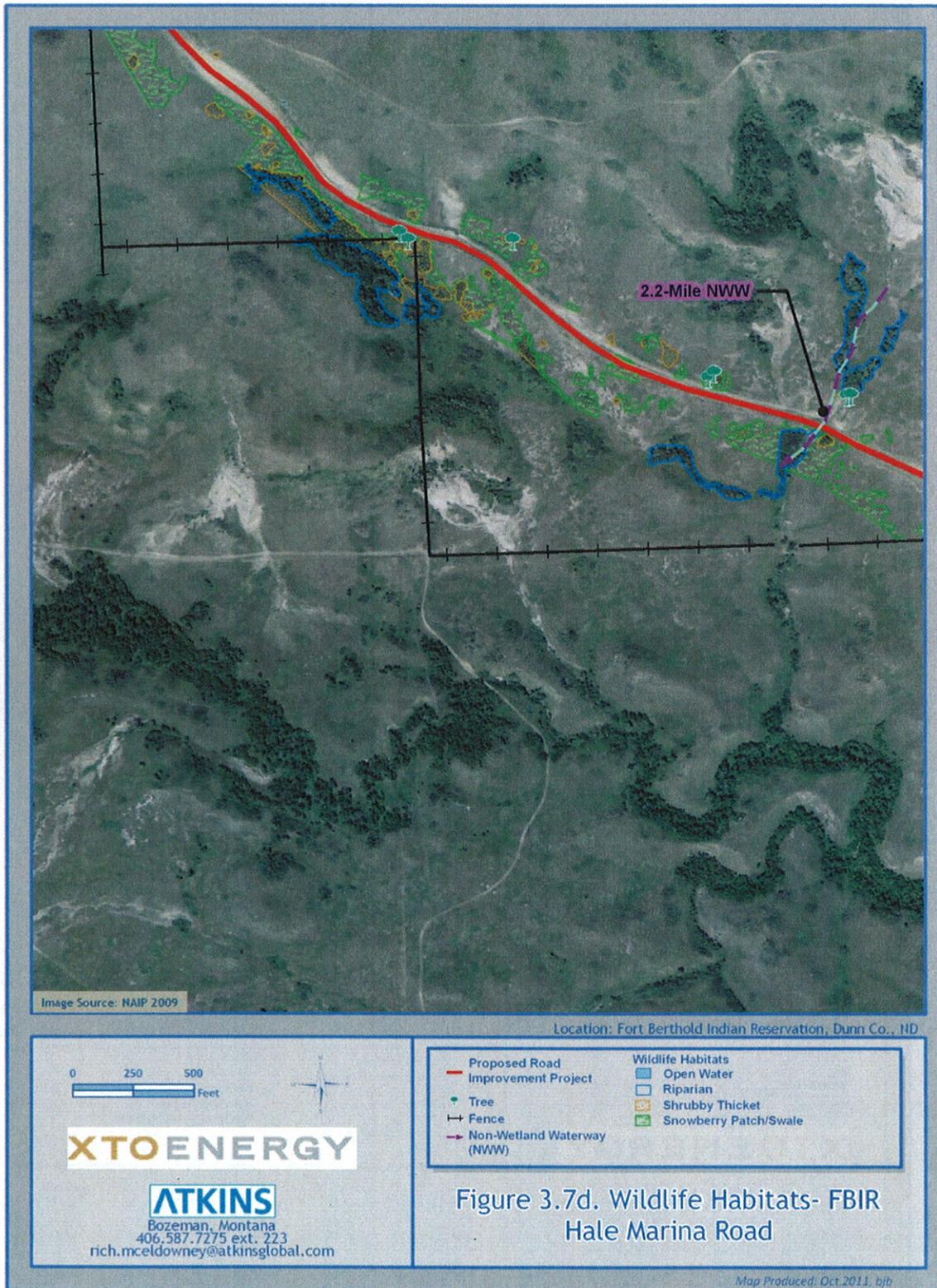
²Impacts are based on a 100-foot wide corridor.

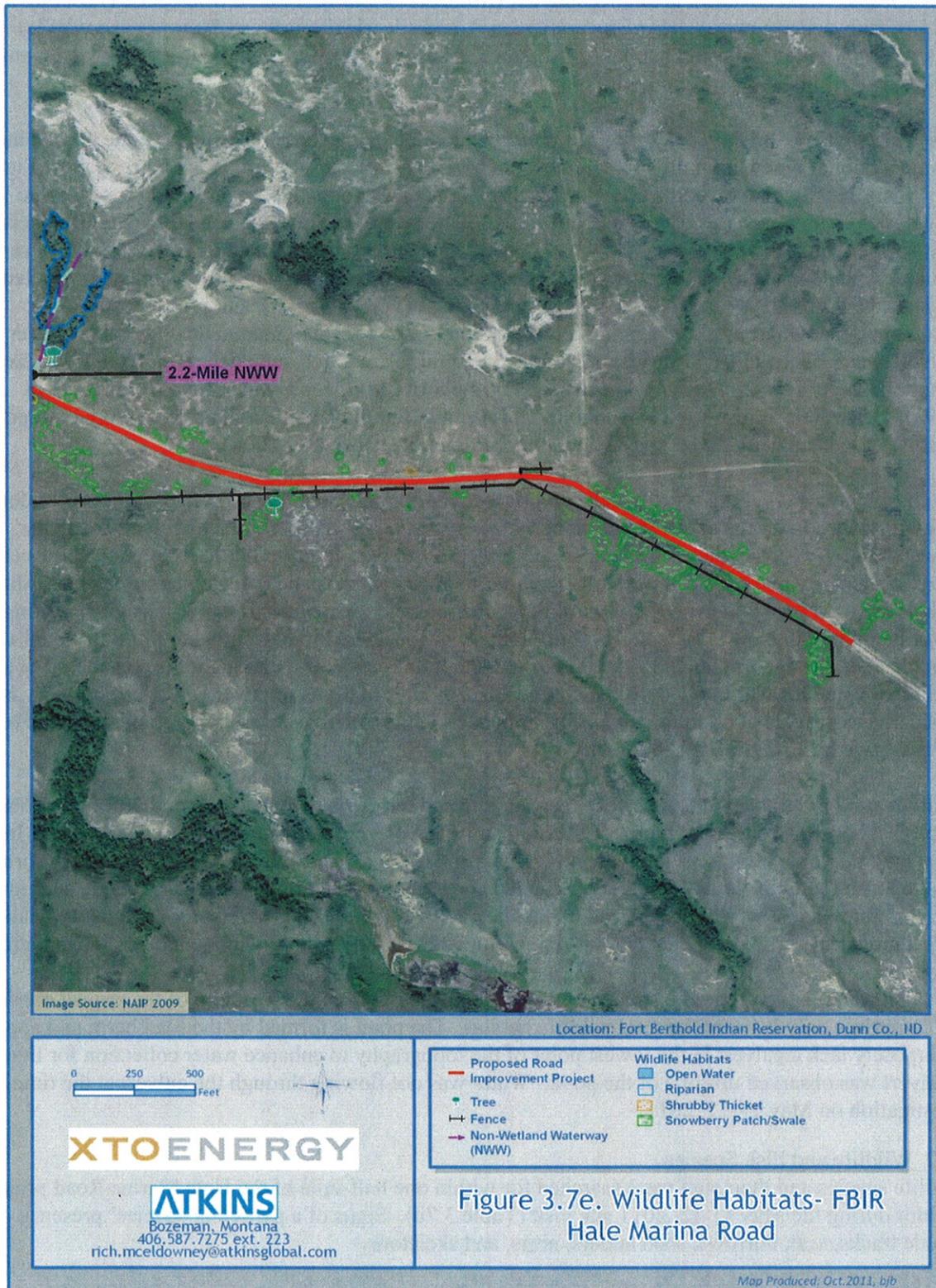
*Road would be designed to avoid the stock pond (see Appendix A).

Grasslands are the dominant habitat type (81.6%) within the project corridor and are comprised of a variety of graminoids and to a lesser degree, forbs (see Section 3.9 - Vegetation and Invasive Species). Grassland species found in project corridor include blue grama (*Bouteloua gracilis*), needleandthread









grass (*Hesperostipa comata*), green needlegrass (*Nassella viridula*), western wheatgrass (*Pascopyrum smithii*), cudweed sagewort (*Artemisia ludoviciana*), and silverleaf scurfpea (*Psoralea argophylla*). Grasslands provide forage and habitat for livestock, deer, pronghorn, medium- and small-sized mammals, reptiles, and resident and migratory birds.

Western snowberry- (*Symphoricarpos occidentalis*) dominated patches and swales are the second most prevalent habitat type within the project corridor (14.7%) and occur intermixed with grasslands (Figure 3.7b). The density of snowberry occurring as discrete patches on the landscape and in topographic low points, such as swales, can vary from about 10 to 100% cover. The presence and diversity of understory plant species can also vary considerably and depend upon environmental factors (e.g., soil moisture availability and exposure). However, a few plant species that commonly mix with snowberry include fringed sagewort (*Artemisia frigida*), Kentucky bluegrass (*Poa pratensis*), and prairie rose (*Rosa arkansana*). Snowberry provides important cover and forage for small mammals (e.g., rabbits, deer mice, and voles) and Sharp-tailed Grouse, and is considered fair browse for mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), and pronghorn (*Antilocapra americana*) (USDA-FEIS 2009a). Snowberry is also used by songbirds for nesting, foraging, and perching (e.g., Clay-colored Sparrow) (Dechant et al. 2002) and by hummingbirds for nectar (NPIN 2009).

The shrubby thicket habitat type, which comprises a minor component (2.8%) of the project corridor, was predominantly comprised of silver buffaloberry (*Shepherdia argentea*) or mixed with chokecherry (*Prunus virginiana*), hawthorn (*Crataegus* species), prairie rose, and/or other less common shrubs (Figure 3.7b). Understory plant species were often similar to adjacent grasslands or snowberry patches. Shrubby thickets are used by a wide variety of wildlife for thermal and escape/hiding cover, foraging, nesting, and/or perching. In North Dakota silver buffaloberry is considered to have good to fair nutritional value for mule deer, pronghorn, upland game birds, and small non-game birds; though it is considered of poor nutritional value for white-tailed deer (USDA-FEIS 2009b). In terms of cover, silver buffaloberry is considered to provide good to fair cover for mule deer, white-tailed deer, pronghorn, upland game birds, and passerine birds (USDA-FEIS 2009b).

Riparian areas are transitional zones between aquatic and terrestrial habitats and represent only 0.6% of the project corridor vegetation types. They are comprised of tree, shrub, and herbaceous species. In the project vicinity overstory trees are typically green ash (*Fraxinus pennsylvanica*) and understory shrubs include those found in shrubby thickets. Wooded corridors provide important cover, forage, and travel corridors for resident wildlife. Forested habitat is comprised of the same overstory trees but typically lacks a prevalent shrub component and is often removed spatially from the immediate drainage bottoms.

The open water habitat type is a small stock pond at mile 0.75 from the west end of the project corridor and comprises only 0.4% of the total wildlife habitat. The pond is formed by the road berm and appears to purposely lack a culvert in the lowest point of the topography to enhance water collection for livestock. A culvert was observed upslope of the pond. Water was not flowing through the culvert at the time of the investigation on May 11-12, 2011.

3.7.2 Wildlife and Fish Species

Wildlife species and their sign were searched for within one half-mile of the Hale Marina Road project corridor during the May 11-12, 2011 site visit (Table 3.7b). Signs of a particular species' presence include tracks, scat, burrows, shed antlers, nests, and skeletons.

Several bird species were noted within 125 feet of the current road edge and within one-half mile of the project corridor (Table 3.7b). One waterfowl species, Blue-winged Teal, was observed in the stock pond at mile 0.75. Nine sparrow species were observed within the project corridor along with several other

migratory bird species. Early May is prime time for migrants to be either entering a site to establish breeding territories or migrating through in route to other territories.

Table 3.7b: Wildlife species observed on May 11-12, 2011 within one half-mile of Hale Marina Road improvement project corridor.

BIRDS			
American Crow (<i>Corvus brachyrhynchos</i>) [nesting]	Mountain Bluebird (<i>Sialia currucoides</i>)		
American Goldfinch (<i>Carduelis tristis</i>)	Northern Harrier (<i>Circus cyaneus</i>)		
American Kestrel (<i>Falco sparverius</i>) [foraging]	Red-winged Blackbird (<i>Agelaius phoeniceus</i>)		
American Robin (<i>Turdus migratorius</i>)	Ring-necked Pheasant (<i>Phasianus colchicus</i>)		
Barn Swallow (<i>Hirundo rustica</i>)	Rock Wren (<i>Salpinctes obsoletus</i>)		
Black-capped Chickadee (<i>Poecile atricapilla</i>)	Savannah Sparrow (<i>Passerculus sandwichensis</i>)		
Blue-winged Teal (<i>Anas discors</i>)	Sharp-tailed Grouse (<i>Tympanuchus phasianellus</i>)		
Brown-headed Cowbird (<i>Molothrus ater</i>)	Song Sparrow (<i>Melospiza melodia</i>)		
Canada Goose (<i>Branta canadensis</i>)	Spotted Towhee (<i>Pipilo maculatus</i>)		
Chipping Sparrow (<i>Spizella passerine</i>)	Swainson’s Thrush (<i>Catharus ustulatus</i>)		
Clay-colored Sparrow (<i>Spizella pallida</i>)	Turkey Vulture (<i>Cathartes aura</i>) [flyover]		
Flycatcher (<i>Empidonax</i> sp.) [unidentified]	Upland Sandpiper (<i>Bartramia longicauda</i>)		
Falcon (<i>Falco</i> sp.) [Unidentified; aerial foraging]	Vesper Sparrow (<i>Poocetes gramineus</i>)		
Field Sparrow (<i>Spizella arborea</i>)	Western Meadowlark (<i>Sturnella neglecta</i>)		
Gray Catbird (<i>Dumetella carolinensis</i>)	White-crowned Sparrow (<i>Zonotrichia leucophrys</i>)		
Harris’s Sparrow (<i>Zonotrichia querula</i>)	White Pelican (<i>Pelecanus erthrorhynchos</i>) [flyover]		
Killdeer (<i>Charadrius vociferus</i>)	Yellow-rumped Warbler (<i>Dendroica coronata</i>)		
Lincoln Sparrow (<i>Melospiza lincolni</i>)			
MAMMALS			
Coyote (scat) (<i>Canis latrans</i>)	FISH		
Deer tracks (<i>Odocoileus</i> sp.)	none		
Vole sp. (<i>Microtus</i> sp.)			
AMPHIBIANS		REPTILES	
Western Chorus Frog (<i>Pseudacris triseriata</i>)	none		

The project corridor is also expected to provide breeding and foraging habitat for migrant and resident raptors such as Golden Eagle (*Aquila chrysaetos*), Rough-legged Hawk (*Buteo lagopus*), Red-tailed Hawk (*Buteo jamaicensis*) and Swainson’s Hawk (*Buteo swainsoni*). Bald Eagles (*Haliaeetus leucocephalus*) and Golden Eagles use a variety of habitat types and there have been numerous records of Golden Eagle nests on the Fort Berthold Reservation (USFWS 2009e; Poitra 2010). No active Bald Eagle nests have been reported in the vicinity of the proposed project corridor by the North Dakota Game and Fish (NDGF) Department (Johnson 2010). The NDGF Golden Eagle and Prairie Falcon databases were queried for known nest locations. One Golden Eagle nest was observed in 1986, 3.8 to 5.7 air-miles southeast of the proposed project corridor. The eagle nest was unoccupied at the time of the sighting and the current condition of the nest is unknown (NDGF 2010). An occupied Prairie Falcon (*Falco mexicanus*) nest site was observed in 1985, 0.8 to 2.5 air-miles southwest to southeast of the proposed project corridor on Saddle Butte. The aerie was on the south side of a rock outcrop (NDGF 2010), and if active would not be visible from the proposed project corridor.

During the May 11-12, 2011 field investigation, a one-half mile buffer (from road centerline) was placed around the proposed Hale Marina Road project corridor and surveyed by a wildlife biologist for the presence of raptors and raptor nest sites. Potential nesting areas in cliffs, trees, trees near water, and the ground surface were surveyed. No eagle or other raptor nest sites were observed during the field surveys.

An American Kestrel, a male Northern Harrier, and an unidentified falcon were observed aerial foraging within the project corridor (Table 3.7d).

In addition to the mammal species observed during the field investigation, the project corridor is also expected to be used, at least occasionally, by bobcat (*Lynx rufus*), deer mouse (*Peromyscus maniculatus*), long-tailed weasel (*Mustela frenata*), meadow vole (*Microtus pennsylvanicus*), mountain lion (*Puma concolor*), prairie vole (*Microtus ochrogaster*), pronghorn (*Antilocapra americana*), and striped skunk (*Mephitis mephitis*). Western chorus frogs (*Pseudacris triseriata*) were heard calling throughout the project corridor where water was continuing to puddle as a result of recent prolonged and heavy precipitation runoff.

Based on known distributions and preferred habitat types, there are 24 wildlife species identified by the North Dakota Game and Fish Department as species of conservation priority (SoCP) that could potentially occur in the project corridor (Table 3.7c) (Hagan et. al 2005). Four of these species, the Upland Sandpiper (*Bartramia longicauda*), Northern Harrier (*Circus cyaneus*), Prairie Falcon (potential sighting as the bird was not identified to species) and Sharp-tailed Grouse (*Tympanuchus phasianellus*) were observed during the field investigation.

No fishery habitat occurs within the proposed Hale Marina Road project corridor. The proposed road improvement project corridor crosses two intermittent drainage tributaries. Lake Sakakawea is approximately 1.1 mile (drainage distance) southeast of an intermittent NWW that crosses the Hale Marina Road at mile 2.2 from the west end of the proposed project corridor. The lake is approximately 4.1 miles (drainage distance) from the intermittent NWW that crosses the road at mile 0.75 from the west end of the project. Game fish species common to Lake Sakakawea include northern pike (*Esox lucius*), rainbow trout (*Oncorhynchus mykiss*), sauger (*Stizostedion canadense*), walleye (*Stizostedion vitreum*), and yellow perch (*Perca flavescens*).

3.7.3 Wildlife and Fish Projected Impacts

Within the proposed Hale Marina Road project corridor an estimated 57.7 acres of grassland, 9.7 acres of snowberry patch/swale, 0.3 acre riparian, and 1.7 acres of shrubby thicket would be permanently impacted due to construction of the proposed Hale Marina Road improvement project (Table 3.7a). Total vegetation impact would be approximately 69.4 acres.

Table 3.7c: Species of Conservation Priority that could potentially occur in the proposed Hale Marina Road project corridor.

Common Name ¹	Scientific Name	Conservation Priority ²
AVIAN		
Baird's Sparrow	<i>Ammodramus bairdii</i>	I
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	I
Sprague's Pipit	<i>Anthus spragueii</i>	I
Upland Sandpiper	<i>Bartramia longicauda</i>	I
Ferruginous Hawk	<i>Buteo regalis</i>	I
Swainson's Hawk	<i>Buteo swainsoni</i>	I
Lark Bunting	<i>Calamospiza melanocorys</i>	I
Chestnut-collared longspur	<i>Calcarius ornatus</i>	I
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	I
Marbled Godwit	<i>Limosa fedoa</i>	I
Long-billed Curlew	<i>Numenius americanus</i>	I
Dickcissel	<i>Spiza americana</i>	I
Golden Eagle	<i>Aquila chrysaetos</i>	II
Short-eared Owl	<i>Asio flammeus</i>	II

Common Name ¹	Scientific Name	Conservation Priority ²
Burrowing Owl	<i>Athene cunicularia</i>	II
Northern Harrier	<i>Circus cyaneus</i>	II
Bobolink	<i>Dolichonyx oryzivorus</i>	II
Prairie Falcon*	<i>Falco mexicanus</i>	II
Loggerhead Shrike	<i>Lanius ludovicianus</i>	II
Sharp-tailed Grouse	<i>Tympanuchus phasianellus</i>	II
HERPTILES		
Western hognose snake	<i>Heterodon nasicus</i>	I
Smooth green snake	<i>Liochlorophis vernalis</i>	I
Plains spadefoot	<i>Spea bombifrons</i>	I
MAMMAL		
Swift fox	<i>Vulpes velox</i>	II

Source: North Dakota Wildlife Conservation Strategy (Hagen et al. 2005).

¹ Conservation species observed within the project corridor May 11-12, 2011 are shaded in gray.

² Level I = species that are in decline and presently receive little or no monetary support or conservation efforts.

Level II = have a moderate level of conservation priority *or* have a high level of conservation priority but a substantial level funding is available to them from other wildlife programs; and

Level III = species having a moderate level of conservation priority but are believed to be peripheral or non-breeding in North Dakota.

*An unidentified falcon was observed, which may have been a Prairie Falcon.

Construction of the project may result in direct wildlife mortality to those species (e.g., mice, snakes, voles, young birds/eggs, and pocket gophers) with limited mobility and/or to those who occupy burrows or nests at the time of construction. More mobile species (e.g., adult deer, coyotes, and most adult birds) would be able to avoid direct mortality by moving into adjacent habitat. Generally, these direct impacts to wildlife habitat and wildlife populations in the project corridor are considered minor due to the abundance of similar habitats in the vicinity.

During the early nesting season, eagles can be sensitive to human disturbance, which could potentially result in nest abandonment. Other migratory birds are susceptible to nest abandonment during nesting as well, and are afforded protection under the *Migratory Bird Treaty Act* (MBTA).

Habitat fragmentation can be either a direct or an indirect impact and is commonly associated with oil and gas projects. It can be defined as the separation of previously contiguous blocks of habitat into one or more disconnected pieces. Habitat fragmentation can occur in the physical sense of dividing the landscape by a road or a development, or through an increase in the level of activity which may prevent or hinder wildlife movement. Either form of habitat fragmentation can result in impediments to wildlife dispersal and corresponding genetic exchange among populations. The existing county road system, agricultural activities, and oil/gas exploration contribute to habitat fragmentation in the project vicinity. However, no substantial impediment to wildlife movement is yet apparent. Though traffic volumes would increase on the Hale Marina Road, particularly during drilling operations, traffic levels are not expected to be a serious impediment to wildlife movement back and forth across the road.

Other forms (i.e., increased noise or odor) of indirect impacts might affect local distributions of wildlife in the vicinity of construction projects. These types of impacts may affect the local distribution of particular animal species by displacing them into adjacent habitats; however, they are not expected to negatively affect local populations. No impacts to fish are expected because no fishery resources occur within the proposed project corridor.

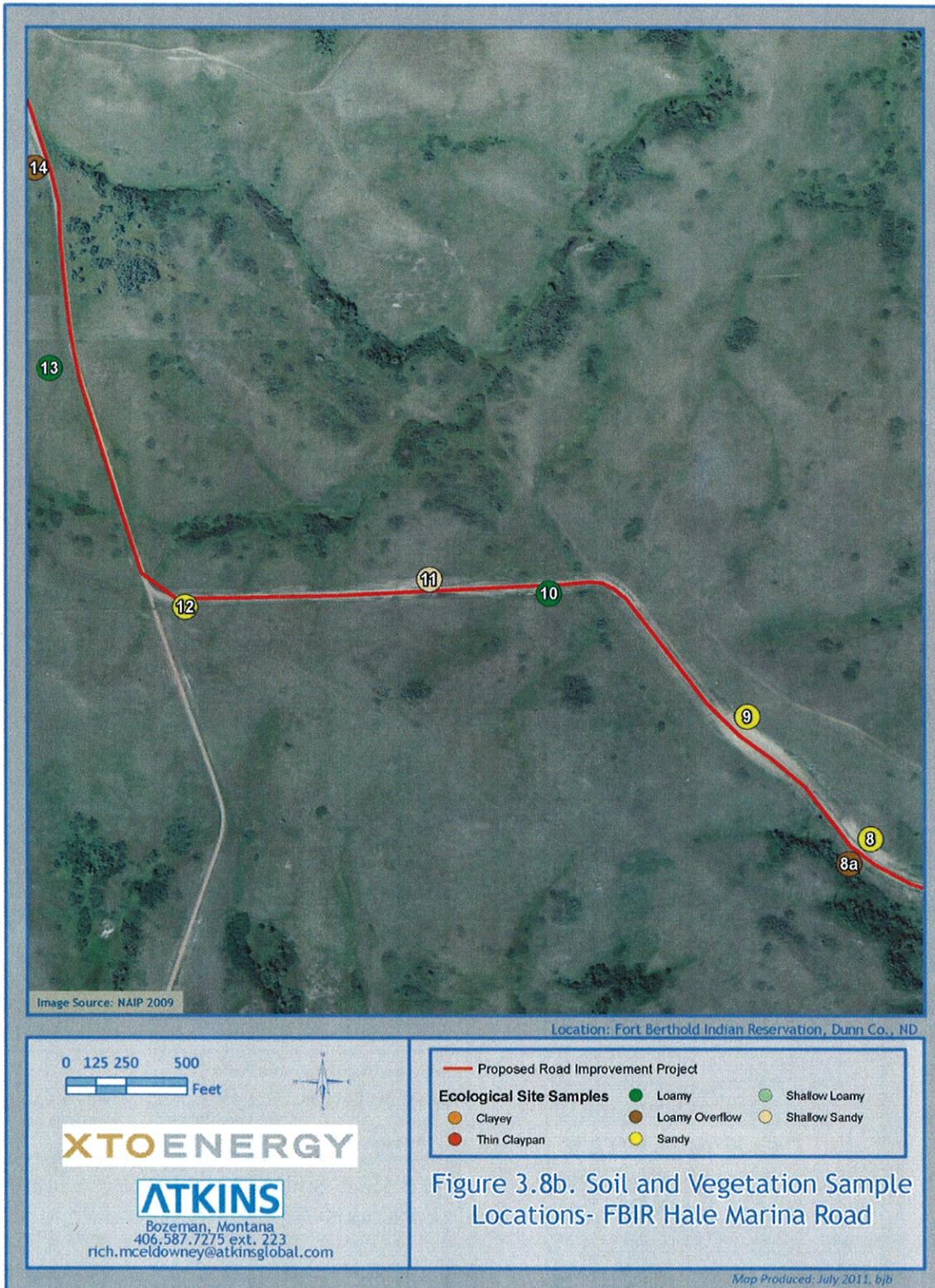
3.7.4 Wildlife Mitigation

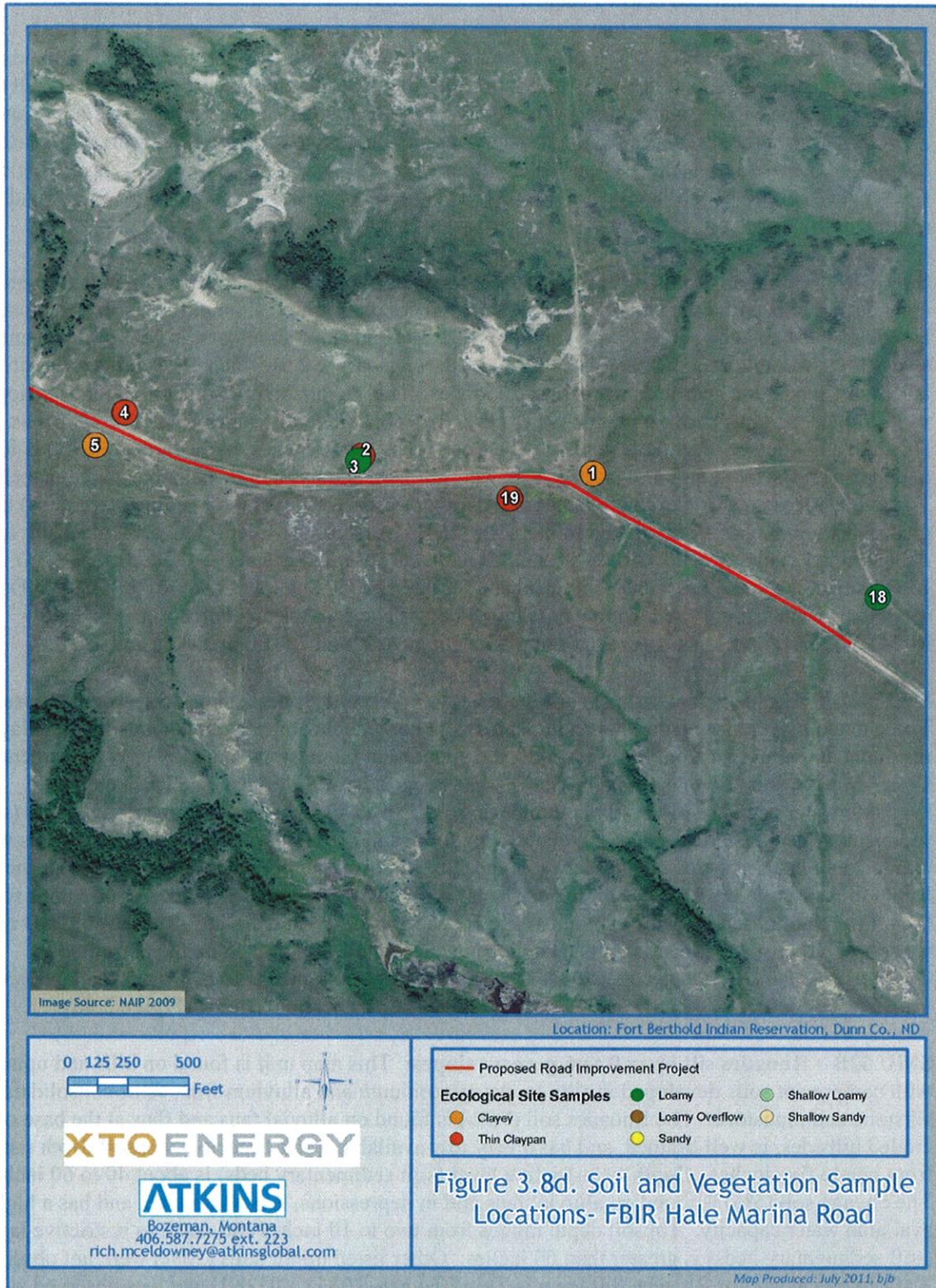
Potential impacts to wildlife species and their habitats have been avoided and minimized through consultation with the BIA to locate the proposed road improvement project outside of any riparian area and using the

specific landform types. Reference soil maps and soil data tables for the project corridor were obtained prior to conducting field work (NRCS 2011). Detailed soil pedon descriptions and site notes consistent with changes in landscape position and/or ecological sites were taken on May 2-3, 2011 along the proposed road easement (Figures 3.8a through 3.8d and Appendix D). Representative soil series and NRCS soil survey map units (SMUs) listed in Table 3.8a are those that best fit the on-site investigation and do not necessarily match those found on the broader 1:20,000 scale NRCS soil survey maps.

Table 3.8a: Soils observed along the proposed Hale Marina Road project corridor.

Soil Series Component	Textural Family and Taxonomic Classification	Representative NRCS Soil Map Unit(s) assigned	Percent Slope (observed)	Presence in 200 ft Easement
Arnegard loam	Fine-loamy, mixed, superactive, frigid Pachic Haplustolls	4B Arnegard loam, 2 to 6% slopes; 30E Cohagen-Vebar fine sandy loams, 9 to 25% slopes. Arnegard is an inclusion.	3-9	Yes
Cabba silt loam	Loamy, mixed, superactive, calcareous, frigid, shallow Typic Ustorthents	209E Cherry-Cabba complex, 9 to 25% slopes.	9	Yes
Cherry silty clay loam	Fine-silty, mixed, superactive, frigid Typic Haplustepts	209E Cherry-Cabba complex, 9 to 25% slopes.	-	No
Cohagen fine sandy loam	Loamy, mixed, superactive, calcareous, frigid, shallow Typic Ustorthents	30E Cohagen- Vebar fine sandy loams, 9 to 25% slopes.	9	Yes
Dogtooth silty clay loam	Fine-smectitic, frigid Leptic Natrustolls	52B/C Morton-Dogtooth silt loams, 0 to 6% and 6 to 9% slopes.	6-7	Yes
Morton silt loam	Fine-silty mixed, frigid superactive Typic Argiustolls	52B/C Morton-Dogtooth silt loams, 0 to 6% and 6 to 9% slopes.	2-6	Yes
Rhoades silt loam	Fine-smectitic, frigid, Leptic Vertic Natrustolls	62B Rhoades silt loam, 0 to 6% slopes.	2-4	Yes
Savage silty clay loam	Fine-smectitic, frigid, Vertic Argiustolls	62B Rhoades silt loam, 0 to 6% slopes. Savage is an inclusion.	4	Yes
Williams loam	Fine-loamy, mixed, superactive, frigid Typic Argiustolls	88B Williams loam, 3 to 6% slopes.	3-4	Yes
Vebar fine sandy loam	Coarse-loamy, mixed, superactive, frigid Typic Haplustolls	81D Vebar fine sandy loams, 9 to 15% slopes; 30E Cohagen- Vebar fine sandy loams, 9 to 25% slopes.	9-23	Yes





The ecological site for Savage clay loam is Clayey-R054XY020ND and was observed at sample location 1 and 5 (Figure 3.8d).

Table 3.8b: Estimates of soil map units found at the proposed Hale Marina Road improvement project corridor.

Soil Map Unit	200-foot ROW Corridor		Estimated Percent of Total Acreage
	Approx. Length (feet)	Approx. Area (acres)	
4B Arnegard loam, 2 to 6 % slopes	1,010	4.6	6.6
30E Cohagen-Vebar fine sandy loams, 9 to 25% slopes	4,700	21.6	31.1
52B Morton-Dogtooth silt loams, 0 to 6% slopes	1,125	5.2	7.5
52C Morton-Dogtooth silt loams, 6 to 9% slopes	1,415	6.5	9.4
62B Rhoades silt loam, 0 to 6% slopes	3,215	14.8	21.3
81D Vebar fine sandy loams, 9 to 15% slopes	1,695	7.8	11.2
88B Williams loams, 3 to 6% slopes	1,265	5.8	8.4
209E Cherry-Cabba complex, 9 to 25% slopes	690	3.1	4.5
Total	15,115	69.4	100.0

- SMU 81D - Vebar fine sandy loams, 9 to 15 percent slopes:** This map unit is found on uplands and hills with component soils developed in coarse-loamy residuum and alluvium from soft sandstone bedrock. The Vebar soil (80%) is found on backslopes, is well-drained, and has a low available water capacity. Topsoil depth ranges from four to 10 inches. Depth to restrictive layer (soft sandstone bedrock) is about 40 inches. Other listed minor soils (20%) were not observed. The ecological site for Vebar fine sandy loam is Sandy-R054XY026ND and was observed at sample location 12 (Figure 3.8b).
- SMU 88B - Williams loam 3 to 6 percent slopes:** This map unit is found on glaciated plains and uplands with component soils developed in residuum and alluvium from glacial till. Williams soil (85%) is found on backslopes, toeslopes and rises, is well-drained, and has a high available water capacity. Topsoil depth ranges from four to nine inches. Depth to restrictive layer (bedrock) is greater than 60 inches. Other listed minor soils (15%) were not observed. The ecological site for Williams loam is Loamy-R054XY031ND and was observed at sample site locations 16 and 17 (Figure 3.8a).
- SMU 209E – Cherry-Cabba complex, 9 to 25 percent slopes:** This map unit is found on hills and uplands with component soils developed in fine-silty alluvium and residuum weathered from semi-consolidated siltstone and mudstone bedrock. The Cherry soil (55%) is found on toeslopes and alluvial fans, is well-drained, and has a high available water capacity. Topsoil depth ranges from two to five inches. Depth to restrictive layer (soft sedimentary beds) is greater than 60 inches. The Cabba soil (25%) is found on slope shoulders, backslopes and ridges, is well-drained, and has a very low available water capacity. Topsoil depth is three to four inches in depth to restrictive layer (soft sedimentary beds) is 15 to 20 inches. The Cherry soil component was not found during the

3.8.2 Soil Impacts

Approximately 69.4 acres would be permanently impacted by road widening, and cut and fill slopes (Table 3.8b). The preponderance of soils between the beginning the project corridor at the BIA 13 intersection to mile 1.65 of the Hale Marina Road are deep (greater than 60 inches) fine-loamy soils derived from glacial till and moderately deep to deep (30 to 60 inches) coarse-loamy (sandy) soils derived from soft sandstone bedrock. These soils are well suited to construction and restoration. Slopes observed range from three to 23% with areas of glacial till occupying gently sloping backslopes and rises and areas of sandy soils occurring on gently sloping to steep backslopes. An occasional sandstone outcrop could be encountered having very shallow to shallow depths to soft sandstone bedrock (Cohagen soils). Slopes exceeding 15% create the potential for wide cuts and fills and would be subject to erosion if left unprotected. Depth of topsoil ranges from about four to 10 inches on slope shoulders, backslopes, summits and rises (Vebar and Williams soils) to about five to 20 inches on toeslopes and in swales (Arnegard soils). Topsoil is very friable with good organic matter and nutrient content with moderate to high available water capacity. Subsoils have moderate to high calcium carbonate equivalent (up to 15% calcium carbonate by volume) with soil reaction (pH) ranging from 7.8 to 8.6. Careful removal of topsoil is needed to prevent mixing with calcareous subsoil materials which could adversely affect successful re-vegetation of disturbed areas.

A small stock water impoundment occurs at approximately mile 0.75 mile east of the Hale Marina Road and BIA 13 intersection. The stock pond was created by road fill. During the soil investigation, the impoundment was near the "full pool" level and it was not possible to sample adjacent soils. It is likely that the adjacent soils are saturated most of the growing season and could exhibit hydric soil characteristics. Hydric soils are defined as soils that are poorly or very poorly drained that have a water table at a depth of 12 inches or less during the growing season and/or are frequently flooded for long or very long duration during the growing season (NRCS 2011). The road alignment has been shifted slightly to the east to avoid disturbance of the soils within and in the vicinity of this stockpond.

Soils from mile 1.65 to approximately mile 2.9 at the terminus of the project consist of moderately deep to deep, fine-loamy, fine-silty and fine-smectitic (clayey) soils derived from residuum and alluvium from soft siltstone and mudstone beds. Topsoil ranges in depth from about two to 12 inches on pediments and alluvial fans (Morton and Savage soils) and from about five to 15 inches in swales and drainages (Arnegard soils) with average organic matter and nutrient content. Slopes observed range from two to nine percent. As percent slope increases, the depth to siltstone and mudstone beds decreases. Steeper nine to 25% slopes are found along the easement north of the proposed HeadlessTurtle 24X-32 access road and consist of fine silty soils (Cabba soils) having minimal available topsoil and shallow depths to siltstone beds. The Dogtooth and Rhoades soils are characterized by very thin topsoil layers (one to five inches thick) having both high subsoil salinity (5.0 to 15.0 mmhos/cm) and high sodium absorption ratios (10 to 25) and could be toxic to non-salt tolerant vegetation (pH range 7.9 to 9.0). These soils could require additional off-site topsoil quantities to satisfy seeding and reclamation efforts. Savage and Rhoades soils have a high coefficient of linear extensibility (6.0 to 8.9%) due to swelling clays and may pose a general hazard to road construction when wet. Soils are classified to about 60 inches or to their limiting layer. Reference Unified Classification System (engineering) properties for subsoils are provided in Table 3.8d.

is also true. Ecological sites evolve into characteristic plant communities. The plant community on an ecological site is typified by an association of plant species that differs from that of other ecological sites in the kind and/or proportion of species or in primary production (NRCS 2004).

Along the proposed Hale Marina Road improvement project corridor, 18 vegetative site inventories were conducted on May 2-3, 2011 (Figures 3.8a through 3.8d). Seven distinct ecological soil types were identified in the project corridor: Loamy (five locations), Sandy (four locations), Loamy Overflow (three locations), Clayey (two locations), Thin Claypan (two locations), Shallow Loamy (one location) and Shallow Sandy (one location) (Table 3.9a).

Table 3.9a: Summary of vegetation sample sites along the proposed Hale Marina Road improvement project corridor.

Vegetation Sample Site	Ecological Soil Type (reference ID)	Aspect	Percent Slope	Dominant Plant Species ¹ Photo Numbers in App. B ²
Site #1	Clayey	South	4	Blue grama, western wheatgrass, cudweed sagewort, silverleaf scurfpea, western snowberry Photo 1, Appendix B
Site #2	Thin Claypan	South	6	Blue grama, needleandthread, cudweed sagewort, silver scurfpea, western snowberry Photo 2, Appendix B
Site #3	Loamy	South	6	Blue grama, needleandthread, western wheatgrass, cudweed sagewort, silverleaf scurfpea, prairie rose, western snowberry Photo 5, Appendix B
Site #4	Thin Claypan	SW	7	Blue grama, needleandthread, western wheatgrass, silverleaf scurfpea, fringed sagewort, prairie rose Photo 7, Appendix B
Site #5	Clayey	SW	4	Blue grama, western wheatgrass, cudweed sagewort, silverleaf scurfpea, fringed sagewort, prairie rose, western snowberry Photo 9, Appendix B
Site #6	Loamy Overflow	South	3	Blue grama, big bluestem, switchgrass, cudweed sagewort, hairy goldenaster, prairie rose, western snowberry Photo 11, Appendix B
Site #7	Shallow Loamy	SE	9	Blue grama, needleandthread, little bluestem, cudweed sagewort, prairie rose, western snowberry Photo 12, Appendix B
Site #8	Sandy	SW	23	Little bluestem, blue grama, cudweed sagewort, silverleaf scurfpea, western snowberry, silver buffaloberry Photo 14, Appendix B
Site #8a	Loamy Overflow	East	8	Big bluestem, switchgrass, green needlegrass, cudweed sagewort, purple prairie clover, mint, prairie rose, western snowberry Photo 16, Appendix B
Site #9	Sandy	South	9	Blue grama, little bluestem, cudweed sagewort, hairy goldenaster, prairie rose, silver buffaloberry Photo 18, Appendix B

Loamy Ecological Site

Loamy ecological sites occur on gently undulating to rolling sedimentary uplands such as alluvial fans, alluvial flats, hillsides, and rangeland throughout the project corridor. These sites are well drained and water is the limiting factor to vegetative production. Typically the HCPC for loamy ecological site types is the western wheatgrass/green needlegrass community type. The potential vegetative composition for this community type is estimated at roughly 85% grasses/grass-likes, 10% forbs, and 5% shrubs. The majority (80%) of plant growth occurs in May, June, and July.

Loamy Overflow Ecological Site

Loamy overflow sites were found on rangeland, primarily in draws and swales. The HCPC for this site usually has a plant community dominated by western snowberry, Kentucky bluegrass, needlegrass, and blue grama. This is a more productive site primarily because draws and swales collect more water. Poison ivy, cudweed sagewort, goldenrod, purple prairie clover, western yarrow, silverleaf scurfpea and black samson are commonly found in this site. Extended periods without grazing or fire would result in a plant community developing higher litter levels, which then favors the increase in Kentucky bluegrass. In the absence of grazing or fire, shrubs, such as western snowberry and chokecherry, would also likely increase and eventually dominate the site. The HCPC composition is 85% graminoids, 10% forbs and 5% shrub. Roughly 80% of the growth occurs from May to July.

Clayey Ecological Site

Clayey sites are found on flat and gently sloping (0-10%) landscapes and along drainages. Clayey, along with sandy and loamy sites, are the most productive and common ecological sites in the project corridor. The HCPC consists of green needlegrass, western wheatgrass, numerous perennial forbs, silver sagebrush, prairie rose, and western snowberry. Extended periods without grazing or fire would result in a plant community developing higher litter levels, which then favors the opportunity for less desirable species to invade the site. The expected plant community consists of 85% graminoids, 10% perennial forbs, and 5% shrubs. Roughly 80% of the annual plant growth occurs from May through July.

Thin Claypan Ecological Site

The Thin Claypan ecological site occurs on gently undulating to rolling sedimentary uplands such as alluvial fans, alluvial flats, hills, and knolls. These sites are moderately well to well drained and formed in soft sandstone, siltstone, shales, and alluvium. Water is the limiting factor to vegetative production. Typically the HCPC for the thin claypan ecological site type is the western wheatgrass, thickspike wheatgrass, blue grama community type. The potential vegetative composition for this community type is estimated at roughly 85% graminoids, 10% perennial forbs, and 5% shrubs. The majority (79%) of plant growth occurs from May through July.

Shallow Sandy Ecological Site

Extended periods without grazing or fire would result in a plant community developing higher litter levels, which then favors an increase of Kentucky bluegrass, smooth brome, and clubmoss/selaginella species. The HCPC for this site consists of prairie sandreed, little bluestem, needleandthread, sedge, blanketflower, dotted gayfeather, hood phlox, purple coneflower, western yarrow, ground plum milkvetch, fringed sagewort, prairie rose, and winterfat. The HCPC for this site is 85% graminoids, 10% perennial forbs, and 5% shrubs. Roughly 85% of the annual growth occurs from May through July.

Shallow Loamy Ecological Site

This site occurs on gently undulating to rolling sedimentary uplands such as alluvial fans, hillsides, and on ridge tops. Under extended periods without grazing or fire, litter levels would increase. This situation tends to favor the establishment of Kentucky bluegrass, smooth brome, fringed sagewort, and cactus. The HCPC is composed of western wheatgrass, green needlegrass, little bluestem, purple coneflower, dotted

Table 3.9b: Plant species observed in Ecological Sites 1-8a along the proposed Hale Marina Road improvement project corridor.

SCIENTIFIC NAME	COMMON NAME	Site #1	Site #2	Site #3	Site #4	Site #5	Site #6	Site #7	Site #8	Site #8A
GRASSES/GRASS-LIKES										
<i>Andropogon gerardii</i>	big bluestem						X		X	X
<i>Aristida longiseta</i>	red threeawn	X		X		X			X	
<i>Bouteloua gracilis</i>	blue grama	X	X	X		X	X	X	X	X
<i>Carex filifolia</i>	threadleaf sedge						X	X	X	X
<i>Hesperostipa comata</i>	needleandthread	X	X	X		X	X	X	X	X
<i>Koeleria macrantha</i>	prairie junegrass						X	X	X	X
<i>Nassella viridula</i>	green needlegrass								X	X
<i>Panicum virgatum</i>	switchgrass						X			X
<i>Pascopyrum smithii</i>	western wheatgrass	X	X	X		X	X	X	X	X
<i>Phalaris arundinacea</i>	reed canarygrass					X				
<i>Poa secunda</i>	Sandberg bluegrass		X		X					
<i>Schizachyrium scoparium</i>	little bluestem							X	X	
<i>Sporobolus heterolepis</i>	prairie dropseed								X	
FORBS										
<i>Achillea millefolium</i>	common yarrow	X	X	X		X	X	X	X	
<i>Agoseris glauca</i>	false dandelion									X
<i>Allium textile</i>	wild onion									X
<i>Artemisia ludoviciana</i>	cudweed sagewort	X	X	X		X	X	X	X	X
<i>Artemisia dracunculus</i>	green sagewort	X		X		X				X
<i>Asclepias</i> sp.	milkweed									X
<i>Astragalus crassicaarpus</i>	groundplum milkvetch	X				X				
<i>Campanula rotundiflora</i>	harebell						X			
<i>Cirsium flodmanii</i>	Flodman's thistle			X		X	X	X	X	X
<i>Cirsium undulatum</i>	wavyleaf thistle	X		X		X				
<i>Dalea purpurea</i>	purple prairie clover	X		X		X				X
<i>Echinacea angustifolia</i>	blacksamson	X		X		X	X			X
<i>Erodium cicutarium</i>	redstem filaree								X	
<i>Galium boreale</i>	northern bedstraw			X						
<i>Geum triflorum</i>	prairie smoke			X		X	X	X	X	
<i>Glaux</i> sp.	milkwort		X		X					
<i>Glycyrrhiza lepidota</i>	American licorice						X			
<i>Grindelia squarrosa</i>	curlycup gumweed	X	X	X	X	X		X	X	X

Table 3.9b (continued): Plant species observed in Ecological Sites 1-8a along the proposed Hale Marina Road improvement project.

SCIENTIFIC NAME	COMMON NAME	Site #1	Site #2	Site #3	Site #4	Site #5	Site #6	Site #7	Site #8	Site #8A
SHRUBS/TREES										
<i>Artemisia cana</i>	silver sagebrush					X			X	
<i>Artemisia frigida</i>	fringed sagewort	X	X	X	X	X	X	X	X	
<i>Crataegus</i> sp.	hawthorn					X		X		
<i>Fraxinus pennsylvanica</i>	green ash					X				
<i>Gutierrezia sarothrae</i>	broom snakeweed									X
<i>Rosa arkansana</i>	prairie rose	X	X	X	X	X	X	X	X	X
<i>Shepherdia argentea</i>	silver buffaloberry					X			X	
<i>Symphoricarpos occidentalis</i>	western snowberry	X	X	X	X	X	X	X		X
<i>Toxicodendron rydbergii</i>	poison ivy						X	X		X

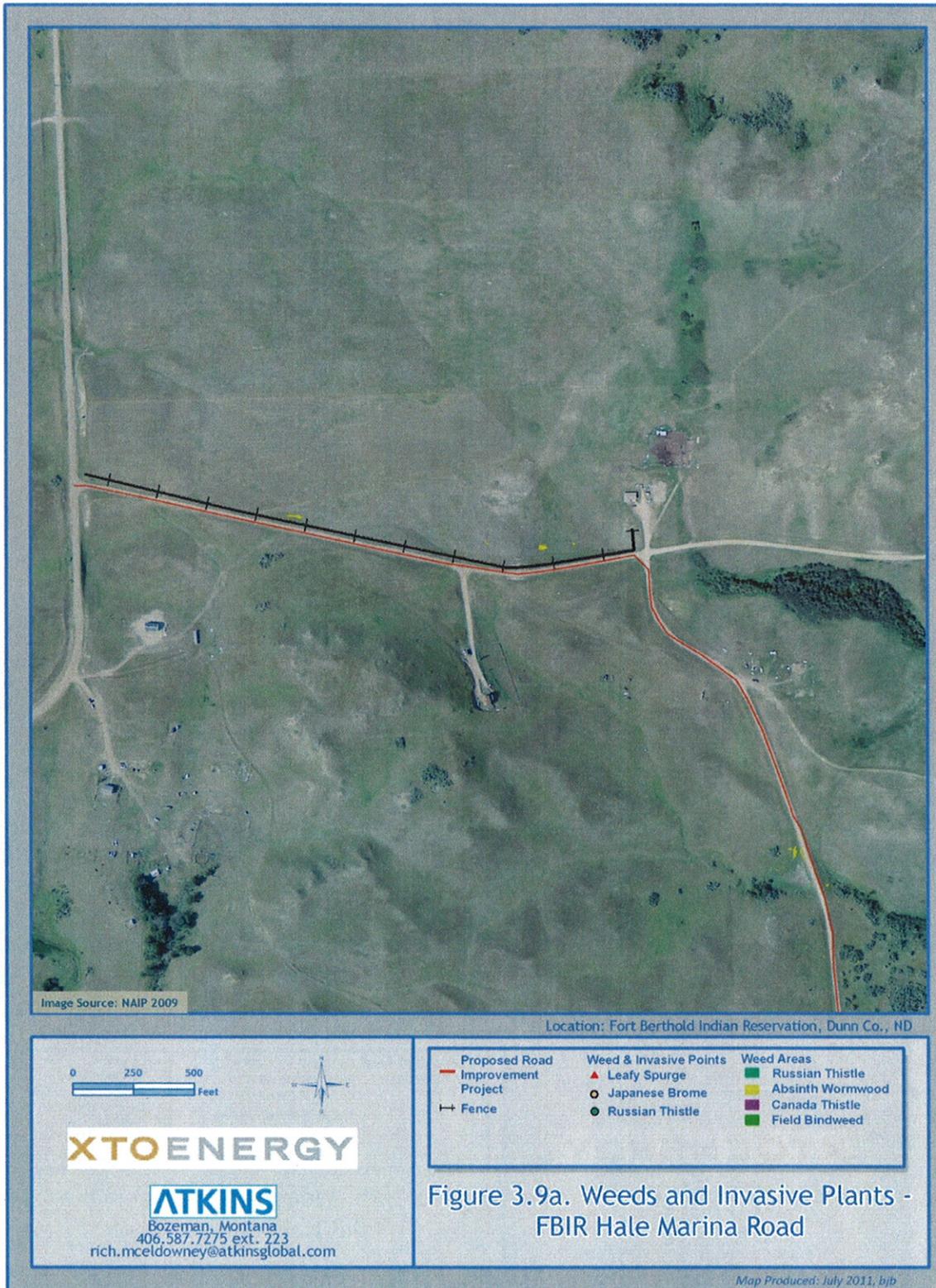
Table 3.9c: Plant species observed in Ecological Sites 9-17 along the proposed Hale Marina Road improvement project corridor.

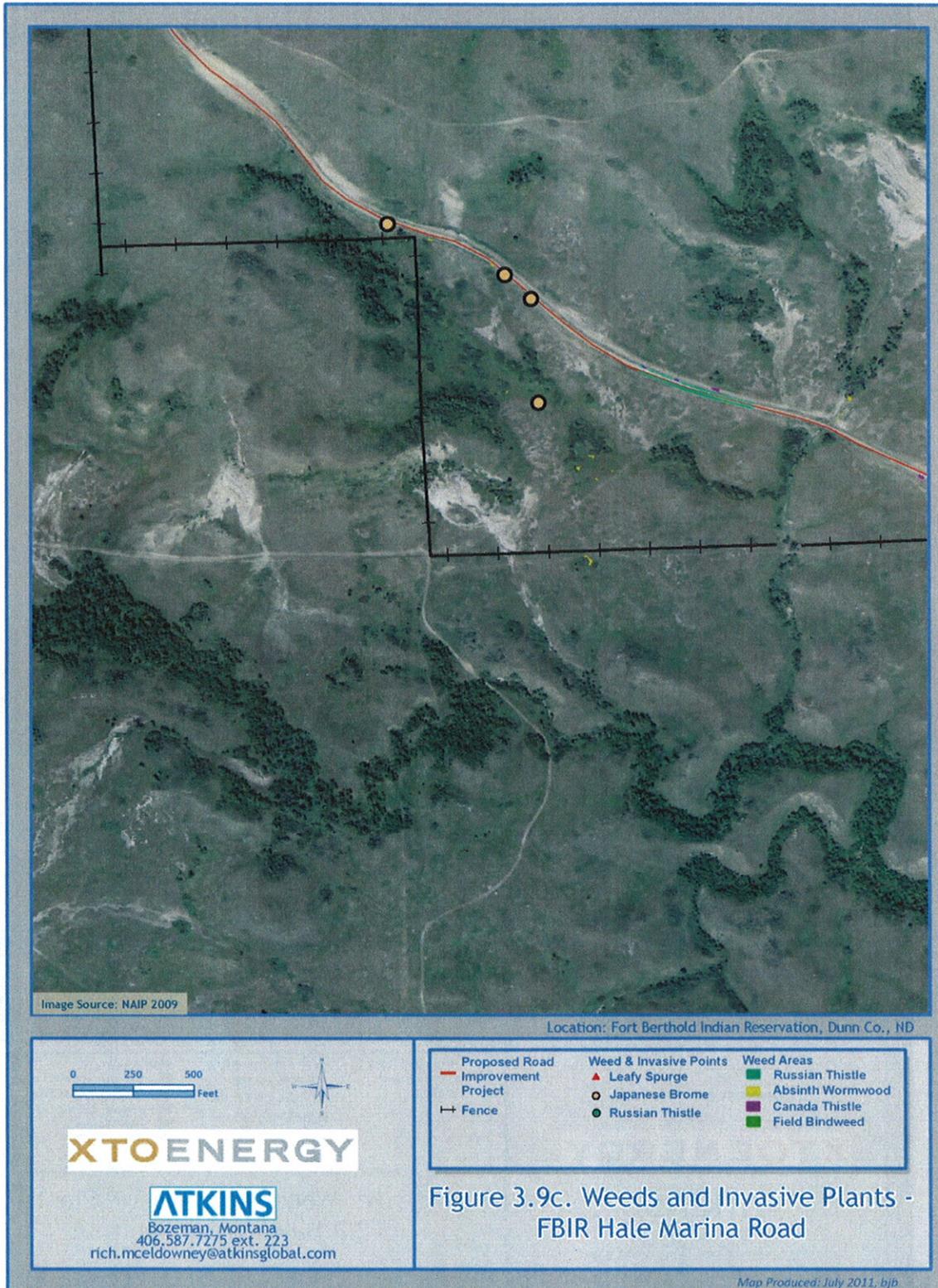
SCIENTIFIC NAME	COMMON NAME	Site #9	Site #10	Site #11	Site #12	Site #13	Site #14	Site #15	Site #16	Site #17
GRASSES/GRASS-LIKES										
<i>Andropogon gerardii</i>	big bluestem		X				X	X		
<i>Aristida longiseta</i>	red threeawn		X			X		X	X	X
<i>Bouteloua curtipendula</i>	sideoats grama				X					
<i>Bouteloua gracilis</i>	blue grama	X		X	X	X		X	X	X
<i>Bromus inermis</i>	smooth brome						X	X		
<i>Calamagrostis montanensis</i>	plains reedgrass				X					
<i>Calamovilfa longifolia</i>	prairie sandreed				X					
<i>Carex filifolia</i>	threadleaf sedge	X			X		X			
<i>Carex inops</i>	sun sedge				X					
<i>Elymus caninus</i>	bearded wheatgrass						X			
<i>Elymus lanceolatus</i>	thickspike wheatgrass						X			
<i>Equisetum hyemale</i>	scouringrush horsetail						X			
<i>Hesperostipa comata</i>	needleandthread	X	X	X	X	X			X	X
<i>Hesperostipa spartea</i>	porcupine grass						X			
<i>Koeleria macrantha</i>	prairie junegrass					X			X	X

Table 3.9c (continued): Plant species observed in Ecological Sites 9-17 along the proposed Hale Marina Road improvement project.

SCIENTIFIC NAME	COMMON NAME	Site #9	Site #10	Site #11	Site #12	Site #13	Site #14	Site #15	Site #16	Site #17
FORBS (continued)										
<i>Heterotheca villosa</i>	hairy goldenaster	X								
<i>Lappula occidentalis</i>	western sticktight			X						
<i>Liatris punctata</i>	dotted gayfeather	X	X							
<i>Lilium philadelphicum</i>	western red lily	X	X		X				X	X
<i>Lesquerella arenosa</i>	sand bladderpod				X					
<i>Lomatium</i> sp.	biscuitroot	X	X							
<i>Lygodesmia juncea</i>	rush skeletonweed			X						
<i>Mentha</i> sp.	mint					X				
<i>Penstemon</i> sp.	penstemon					X				
<i>Phlox hoodii</i>	hood phlox		X							
<i>Psoralea argophylla</i>	silverleaf scurfspea		X	X	X	X	X	X	X	X
<i>Ranunculus rhomboides</i>	prairie buttercup		X	X						
<i>Ratibida columnifera</i>	prairie coneflower		X		X		X			
<i>Rudbeckia hirta</i>	black-eyed susan	X	X							
<i>Senecio vulgaris</i>	common groundsel	X	X		X	X			X	X
<i>Solidago</i> sp.	goldenrod			X	X		X			
<i>Sphaeralcea coccinea</i>	scarlet globemallow		X					X		
<i>Tripleurospermum perforata</i>	scentless mayweed			X		X			X	X
<i>Urtica dioica</i>	stinging nettle									X
<i>Vicia americana</i>	American vetch		X			X	X		X	X
<i>Zigadenus elegans</i>	deathcamas		X	X		X			X	X
INVASIVE GRASSES & FORBS										
<i>Artemisia absinthium</i> ¹	absinth wormwood ¹	X	X	X	X	X		X	X	X
<i>Brassica</i> sp.	mustard			X	X			X		
<i>Bromus inermis</i>	smooth brome						X			
<i>Bromus japonicus</i>	Japanese brome									
<i>Cirsium arvense</i> ¹	Canada thistle ¹								X	X
<i>Euphorbia esula</i> ¹	leafy spurge ¹						X			

¹ North Dakota State Noxious Weed; Mapped by Atkins on May 11-12, 2011 (see Figures 3.9a through 3.9d).





3.9.4 Noxious Weeds

The State of North Dakota defines a "noxious weed" as any plant propagated by either seed or vegetative parts which is determined by the commissioner after consulting with the North Dakota State University Extension Service county agent or the county weed board to determine if the plant is harmful to public health, crops, livestock, land, or other property (ND Century Code 63-01.1-02) (NDDA 2009). Noxious weeds can spread easily to the detriment of public health, indigenous plant communities, crops, livestock, and recreational areas, and to the detriment of natural or agricultural systems management. In North Dakota, twelve species have been declared noxious under the North Dakota Century Code (Chapter 63-01.1) (Table 3.9d). However, only five noxious weeds are known to occur in Dunn County (Table 3.9d). Within the project boundaries, three noxious weeds were found: absinth wormwood (*Artemisia absinthium*), Canada thistle (*Cirsium arvense*), and leafy spurge (*Euphorbia esula*) (Table 3.9d).

Table 3.9d: North Dakota noxious weeds present in Dunn County and in vicinity of the proposed Hale Marina Road project corridor.

Scientific Name	Common Name	Present in Dunn County	Present in Project Corridor
<i>Artemisia absinthium</i>	absinth wormwood	Yes	Yes
<i>Carduus nutans</i>	musk thistle	No	No
<i>Centaurea diffusa</i>	diffuse knapweed	No	No
<i>Centaurea maculosa</i>	spotted knapweed	No	No
<i>Centaurea repens</i>	Russian knapweed	No	No
<i>Centaurea solstitialis</i>	yellow starthistle	No	No
<i>Cirsium arvense</i>	Canada thistle	Yes	Yes
<i>Convolvulus arvensis</i>	field bindweed	Yes	No
<i>Euphorbia esula</i>	leafy spurge	Yes	Yes
<i>Linaria dalmatica</i>	Dalmatian toadflax	Yes	No
<i>Lythrum salicaria</i>	purple loosestrife	No	No
<i>Tamarix</i> sp. [complex]	saltcedar	Yes	No

3.9.5 Vegetation Impacts

Construction of the proposed Hale Marina Road improvement project would impact all five ecological soil types. For the proposed project corridor 69.4 surface acres would be permanently impacted. The proposed road reconstruction would decrease the amount of available forage for livestock and wildlife. However, edges of rangeland habitat often provide the lowest quality forage. The edges of rangeland along the Hale Marina Road is a mixture of native and exotic (including noxious) plants that are subjected to greater amounts of dust, trampling and soil compaction from vehicles and livestock.

Invasive and noxious weeds often out-compete native plants because they grow in the absence of population controls. Ground disturbing activities could lead to an increase in exotic and noxious weeds acreage found within the proposed Hale Marina Road project site. Controlling the existing noxious and exotic weed populations through hand-pulling, herbicide, and/or mowing, before ground disturbing activities occur would greatly reduce their ability to spread and colonize disturbed ground. In combination with controlling noxious and exotic plants, disturbed soil would be revegetated with native species in order to create competition (Table C1, Appendix C). Noxious and exotic plant populations reduce the quality and quantity of forage for game/livestock and crop production, reduces species diversity in the landscape, and generally does not provide habitat for native fauna (NDDA 2009).

3.9.6 Vegetative Mitigation

The following mitigation measures would be implemented to avoid, minimize and mitigate for impacts to vegetative resources in the project corridor.

- To maintain plant biodiversity, ground disturbance would be minimized to the extent that is necessary for the project. Equipment would work within the confines of the approved ROW.

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 road was conducted by personnel of Kadrmas, Lee & Jackson, Inc., using an intensive pedestrian methodology. Approximately 44 acres were inventoried on May 2, 2011 (Morgan 2011). No historic properties were located that appear to possess the quality of integrity and meet at least one of the criteria (36 CFR 60.6) for inclusion on 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. This determination was communicated to the THPO on September 13, 2011; however, the THPO did not respond within the allotted 30 day comment period.

Cultural Resource Mitigation

The following mitigation measure would be implemented to avoid and mitigate for impacts to cultural resources in the project corridor.

- If cultural resources are discovered during construction or operation, XTO Energy, Inc. would immediately stop work, secure the affected site, and notify the 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, XTO Energy, Inc. would not resume construction or operations until written authorization to proceed was received from the BIA.
- ***Project personnel are prohibited from collecting any artifacts or disturbing cultural resources in the area under any circumstances.***

Table 3.11b: North Dakota population trends at the Reservation, County, and State levels.

Reservation, County, & State	Estimated 2008 Population	% of 2008 State Population	% Change, April 2000 – July 2008	Predominant Ethnic Group (2008)	Predominant Minority (2008)
Fort Berthold Reservation ¹	5,915 (in 2000)	0.92 (in 2000)	+ 9.8 (1990 to 2000)	American Indian (in 2000)	White (in 2000) (26.9%)
Dunn ²	3,318	0.52	- 7.8	White	American Indian (14.1%)
McKenzie ²	5,674	0.88	- 1.1	White	American Indian (22%)
McLean ²	8,337	1.29	- 10.5	White	American Indian (7.0%)
Mountrail ²	6,511	1.01	- 1.8	White	American Indian (34.9%)
Statewide ²	641,481	100	- 0.1	White	American Indian (5.5%)

¹ Source: USCB (2000).

² Source: USCB (2008).

The proposed project would not be expected to have measurable effects on demographic distributions. Substantial and widespread beneficial economic impacts would likely occur as a result of the proposed project by slightly easing unemployment and increasing income through short-term construction employment and long-term commercial development. Consequently, no mitigation measures are proposed for socio-economic resources in the area.

3.12 Environmental Justice

This section describes existing conditions, potential impacts from the Proposed Action, and mitigation measures for environmental justice in the proposed project corridor.

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations* 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 environmental consequences from federal programs, policies, decisions, or operations. Meaningful involvement means federal officials actively promote opportunities for public participation and federal decisions can be materially affected by participating groups and individuals.

The 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.

Within the overlapping counties the predominant race is White ranging from approximately 65% in Mountrail County to approximately 92% in McLean County (Table 3.12). Within the FBIR, the predominant race is American Indian (65%) followed by White (26%), and other or mixed races (5%) (Table 3.12).

The proposed project has not been found to pose significant impacts to any other critical element – air, public health and safety, water, wetlands, wildlife, soils, or vegetation – within the human environment. Avoiding or minimizing such impacts also makes unlikely disproportionate impacts to low-income or minority populations. The Proposed Action offers many positive consequences for tribal members, while recognizing Environmental Justice concerns. Procedures summarized in this Hale Marina Road Improvement Project Environmental Assessment are binding and sufficient. No laws, regulations or other requirements have been waived; no compensatory mitigation measures are required.

3.13 Mitigation and Monitoring

Many protective measures and procedures are described in this document. These mitigation measures are summarized below. No laws, regulations, or other requirements have been waived; no compensatory mitigation measures are required.

- All construction activities would follow practices, procedures, guidelines and standards in the book, *Surface Operating Standards for Oil and Gas Exploration and Development* (USDI-USDA 2007).
- Appropriate signage would be placed at intersections and points leading to and along Hale Marina Road informing motorists of road work and the presence of heavy equipment.
- Flagmen would be positioned where needed to control the flow of traffic and help direct motorists and residents along Hale Marina Road during periods of construction and peak commute times.
- A road construction plan would be prepared by the road contractor, according to standards established by the BIA, BLM and NDIC, that would provide a road design guide, construction, and maintenance standards and to allow for successful interim and final reclamation.
- Existing roads would be used to the extent possible.
- Traffic would be limited to roads and portions of rights-of-way indicated specifically for the project.
- Unimproved roads would be limited to emergency use only.
- Speed limits would be posted and all personnel and contractors will be instructed and required to adhere to posted speed limits to ensure safe and efficient traffic flow.
- Construction vehicle traffic on public roadways would be limited, to the extent practicable, to off-peak commuting times to minimize impacts to local commuters.
- Public roads would be restored in compliance with approved right-of-way permit conditions.
- Off-highway vehicle traffic would only be used on newly constructed roads and access roads as required to facilitate construction, reclamation, and future servicing of project locations.
- Vehicular and human traffic would be minimized to the amount required to complete construction activities.
- North Dakota One Call would be contacted (call #811) so that all existing utilities would be located prior to earthmoving activities and avoided as much as practicable. In situations where

- Where practicable, work in riparian and the two NWWs would be conducted during low steamflow/low water conditions, which typically occur from mid-summer through winter.
- If construction is conducted in late fall, disturbed areas would be mulched and crimped (placing long-stemmed straw on bare soil that is then disked into the soil, which effectively stands the straw upright to replicate a stubble-like environment).
- Disturbed upland areas would be revegetated with native plants as soon as is practical after construction to prevent soil erosion and sedimentation into riparian/wetland areas and drainages.
- Appropriately sized culverts would be used in drainage swales.
- Hazardous materials, including fuels and lubricating oils, would not be stored within 50 feet of wetlands or streams. Additionally, construction equipment would not be refueled within 50 feet of such areas.

3.14 Cumulative Impacts

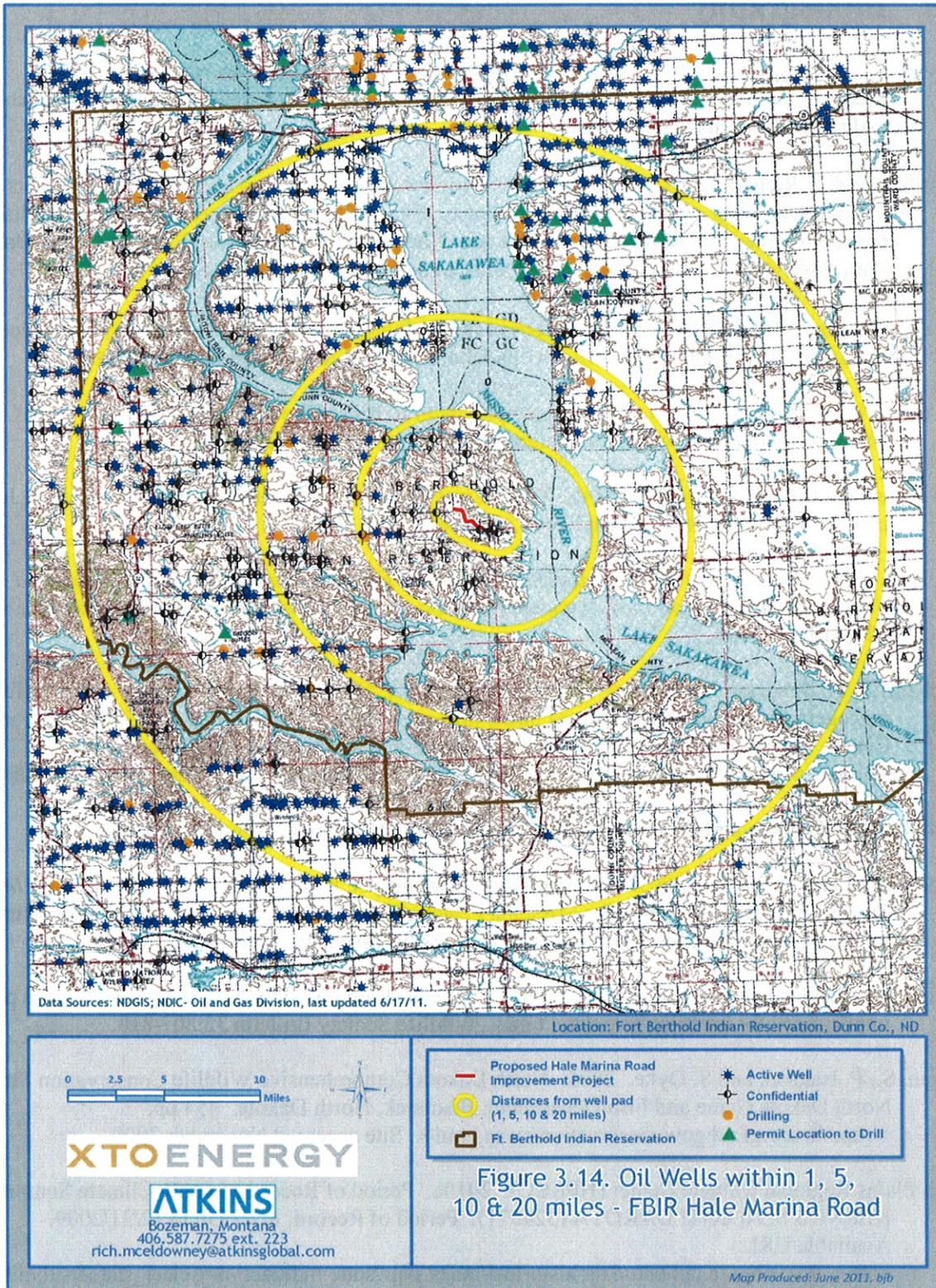
Environmental impacts may accumulate slowly over time or hasten when in combination with similar activities in the area. Unrelated activities may also have negative impacts on critical elements, thereby contributing to cumulative degradation of the environment. Reasonably foreseeable future impacts must also be considered.

Earlier oil and gas exploration did not result in commercial production. Current land uses would be expected to continue with little change since virtually all available acreage is currently organized into range units that facilitates using surface resources for economic benefit. Undivided interests in the land surface, range permits, and agricultural leases are often held by different tribal members than those holding the mineral rights; oil and gas development could have a small effect on current land use patterns.

Prairie habitat is increasingly being lost or fragmented in North Dakota. To prevent or limit habitat fragmentation XTO has proposed to perform improvements to the existing Hale Marina Road corridor. The 2.9 mile segment of the Hale Marina Road would connect with a minimum of five well pad sites. This existing road would be used to the maximum extent practicable, and allow continued use to residents, visitors of the Hale Marina, and could be used by other oil companies with the intent that this would reduce habitat fragmentation across the landscape.

Aside from new construction of access roads to permitted well pads within the Fort Berthold Reservation, several other road improvement projects are currently ongoing in response to the damage caused by precipitation in the Spring 2011. Cumulative impacts to air quality would include temporary increases in dust as a result of soil disturbance during new well pad and access road construction, and high traffic volumes on current dirt roads as a result of the Bakken oil exploration and development.

As of June 2011, 427 active wells occur within 20 miles of the proposed Hale Marina Road improvements project (Table 3.14a; Figure 3.14) (NDIC 2011). There are six confidential permitted or proposed wells within one mile of the proposed Hale Marina Road Improvement project corridor.



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5.0 List of Preparers

An interdisciplinary team contributed to this document, following guidance in Part 1502.6 of CEQ regulations. Atkins scientists prepared this EA under contract to XTO Energy, Inc. and in cooperation with the Bureau of Indian Affairs, Great Plains Regional Office, Division of Environment, Safety and Cultural Resources. Preparers, reviewers, consultants, and federal officials include the following:

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Affected Environment; Cumulative Effects
- Andrea Pipp Senior Scientist, Atkins
Air Quality; Public Health and Safety; Water Resources; Environmental
Justice; and Socio-Economics; and Document preparation.
- Lynn Bacon Senior Scientist, Atkins Document preparation; Threatened and
Endangered Species; Fisheries and Wildlife; and Water Resources
- Bridget Belliveau GIS Specialist, Atkins
Maps; Figures
- Dennis Phillippi Principal / Range Scientist, Natural Resource Options, Inc.
Vegetation and Invasive Species; Document QA/QC
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Soils
- Jennifer Harty Cultural Resources Specialist, Kadrmas, Lee & Jackson
Cultural Investigation
- Donny Worthington XTO Energy, Inc.
Document QA/QC
- Marilyn Bercier BIA - Regional Environmental Scientist. Division of Environmental,
Safety and Cultural Resources.
Reviewer of Draft EA and provides recommends to BIA Regional
Director regarding FONSI or EIS.

Table 6.0: Responses by direct mail by recipients of the proposed Hale Marina Road improvement project scoping letter sent on June 15, 2011.

ENTITY	CONTACT	RESPONSE*
MHA Nation		
Chairman	Tex G. Hall	No comments received
Four Bears Representative	V. Judy Brugh	No comments received
Mandaree Representative	Arnold Strahs	No comments received
New Town Representative	Scott Eagle	No comments received
Parshall/Lucky Mound Representative	Mervin Packineau	No comments received
Twin Buttes Representative	Barry Benson	No comments received
THPO	Perry Brady Director	No comments received
	Fred Fox	No comments received
Director of Game and Fish	Fred Poitra	No comments received
	Tom Sage	No comments received
	NAGPRA Office	No comments received
Natural Resource Dept.	Barry Benson	No comments received
Regional Native American Tribes		
Sisston-Wahpeton Sioux Tribe	Mike Selvage	No comments received
Spirit Lake Sioux Tribe	Myra Pearson	No comments received
Standing Rock Tribe	Charles W. Murphy	No comments received
Turtle Mountain Band of Chippewa	Richard Marcellais	No comments received
U.S. Department of Agriculture		
Natural Resource Conservation Service	Jerome Schaar State Soil Scientist/MO Leader	The proposed project is not supported by federal funding or action, therefore, the Farmland Protection Policy Act (FPPA) does not apply and no further action is needed. The Wetland Conservation Provisions of the 1985 Food Security Act, as amended, provides 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. Guidelines for the installation of permanent structures where wetlands occur are provided and if followed, participants would continue to receive USDA benefits. NRCS recommends that impacts to wetlands be avoided.
Little Missouri National Grassland-McKenzie		No comments received
U.S. Department of Defense		
Minot Air Force Base		No comments received
U.S. Army Corps of Engineers	Eric Laux (Acting Chief) Omaha	Proposed project does not appear within Corps owned or operated lands therefore we are providing no floodplain or flood risk information. Contact Jeff Klein (701) 328- 4898 to determine if proposed project may

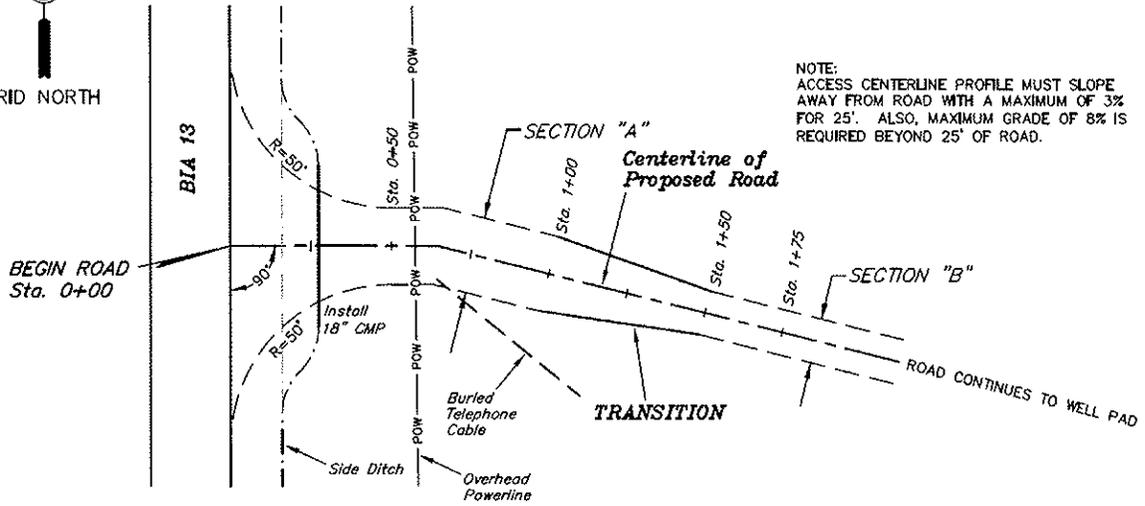
ENTITY	CONTACT	RESPONSE*
Bureau of Land Management	Billings, MT Office	No comments received
Bureau of Land Management	Dickinson, ND Office	No comments received
Bureau of Reclamation	Kelly B. McPhillips Environmental Specialist Bismarck, ND	The proposed well site appears to be near Reclamation facilities (rural water pipelines). Rural water lines commonly follow roads. A map is provided to aid in the identification of potential for adverse effect to or crossing of Federal facilities. Should you have need to cross a Fort Berthold Rural Water System pipeline while access your proposed project, please refer to the enclosed specification sheet and contact our engineer Colin Hygaard. Any work planned should be coordinated with Mr. Lester Crows Heart, Fort Berthold Rural Water Director, Three Affiliated Tribes, New Town.
U.S. Fish and Wildlife Service	Jeffrey Towner	The USFWS had no objections to the project and provided several recommendations: that a stop-work order be issued if Whooping Cranes are observed within 1-mile of the project site; to avoid the take of Bald or Golden Eagles ("take" being disturbance of any kind to a nest or resting eagle, removal of any body parts or nests, etc.); that in the event a Bald or Golden Eagle nest is observed within the project vicinity that a 0.5-mile buffer of no disturbance be placed around the nest; that an eagle nest survey be conducted within 0.5 mile of the project area; to avoid unauthorized take of migratory birds and to conduct a nest survey between Feb. 1 and July 15 if disturbance is planned for this time period; and, to avoid, protect and restore high-value habitats.
National Park Service	Midwest Regional Office	No comments received
U.S. Environmental Protection Agency		
Region 8 NEPA Program	Larry Svoboda	No comments received
Region 8 Water Quality Program	David Moon	No comments received
U.S. Department of Transportation		
Federal Aviation Administration	Patricia L. Dressler Environmental Protection Specialist Bismarck, ND	No objection provided the FAA is notified of construction or alterations as required by FAA Regulations Part 77, Objects Affecting Navigable Airspace, paragraph 77.9.
North Dakota State Government		
Department of Health	L. David Glatt	Impacts from proposed construction

ENTITY	CONTACT	RESPONSE*
North Dakota Industrial Commission	Oil & Gas Division	No comments received
County Government		
Dunn County, Treasurer	Reinhard Hauck	No comments received
Dunn County, Commissioner	Ray Kadrmas	No comments received
Dunn County, Commissioner Chair	Cliff Ferebee	No comments received
McKenzie County, Commissioner	Richard Cayko	No comments received
McKenzie County, Auditor	Frances Olson	No comments received
Municipal Government		
New Town Municipal Airport, Manager	Harley Johnson	No comments received
Parshall-Hankins Field Airport, Manager	John Kuehn	No comments received
Utility Companies		
McKenzie Electric Cooperative		No comments received
McLean Electric Cooperative, Inc.		No comments received
Mid-Continent Cable Company		No comments received
Montana-Dakota Utilities		No comments received
NoDak Electric Co-op, Inc.		No comments received
Northern Border Pipeline Company		No comments received
Reservation Telephone Cooperative		No comments received
Southwest Water Authority		No comments received
West Plains Electric Cooperative, Inc.		No comments received

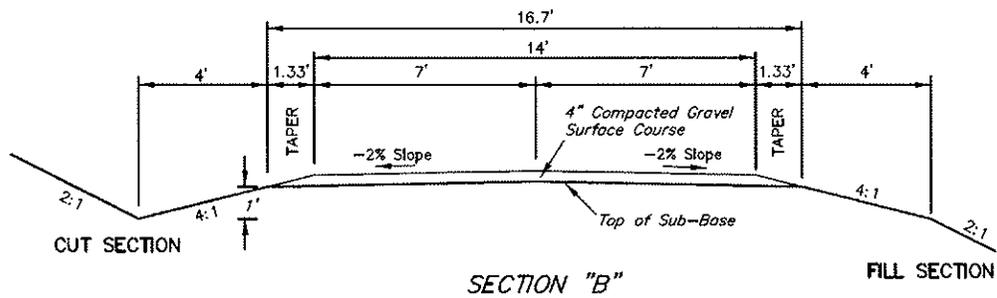
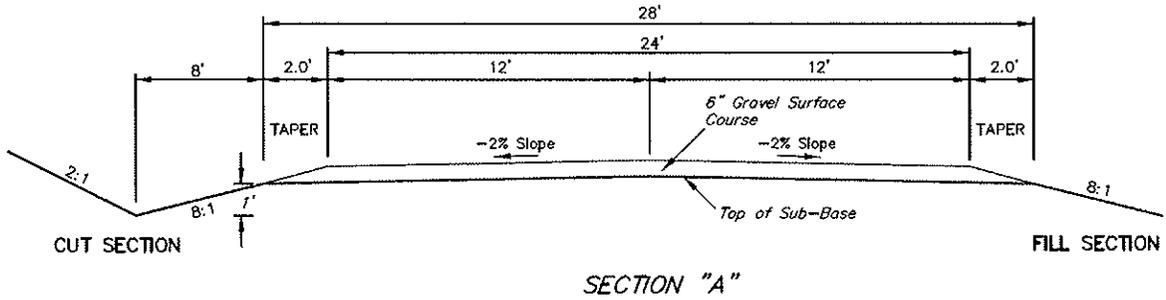
*See Appendix F for full comments from the agencies/organizations.

XTO ENERGY, INC.
TYPICAL ROAD ACCESS

SCALE: NONE
 DATE: 08-13-10
 DRAWN BY: P.M.



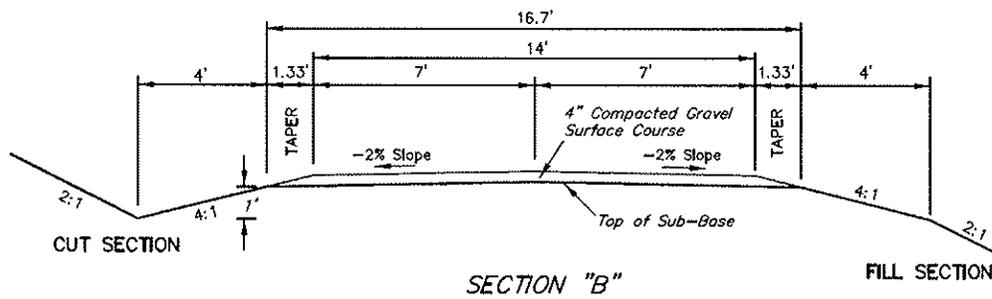
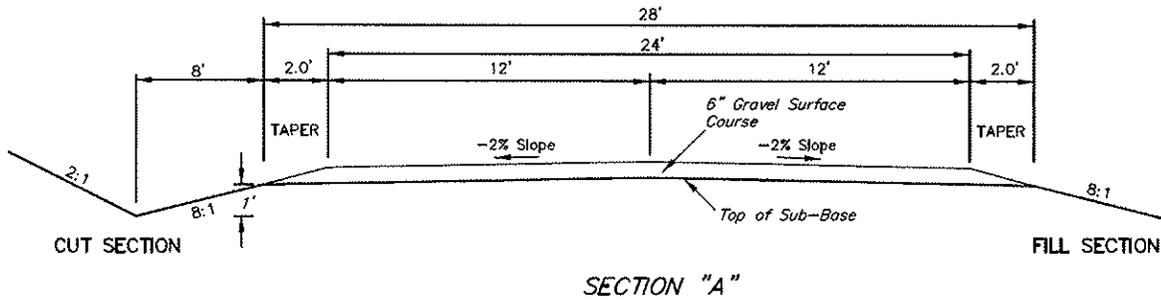
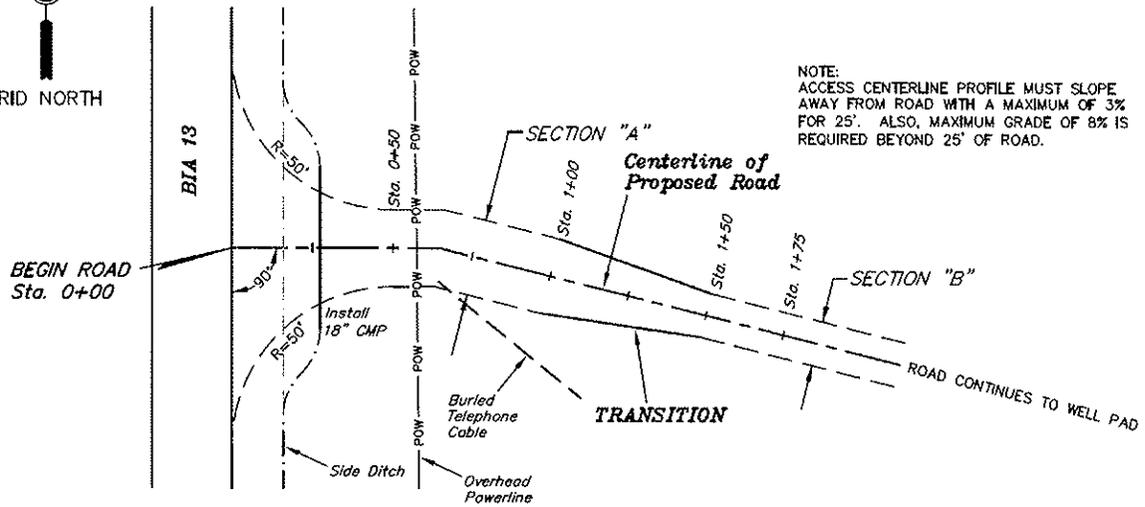
NOTE:
 ACCESS CENTERLINE PROFILE MUST SLOPE AWAY FROM ROAD WITH A MAXIMUM OF 3% FOR 25'. ALSO, MAXIMUM GRADE OF 8% IS REQUIRED BEYOND 25' OF ROAD.



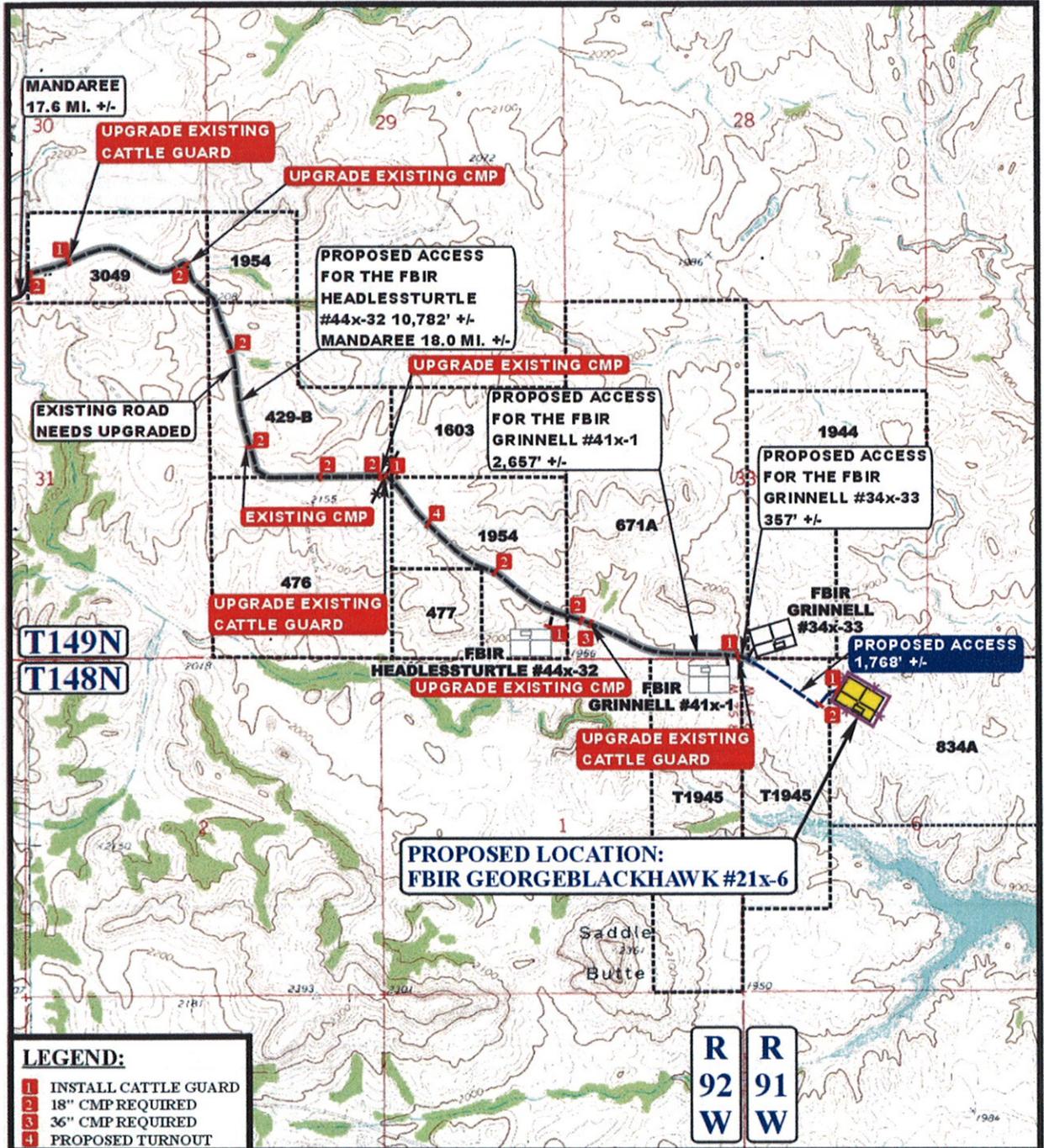
UINTAH ENGINEERING & LAND SURVEYING
 85 So. 200 East • Vernal, Utah 84078 • (435) 789-1017

XTO ENERGY, INC.
TYPICAL ROAD ACCESS

SCALE: NONE
 DATE: 08-13-10
 DRAWN BY: P.M.



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 85 So. 200 East • Vernal, Utah 84078 • (435) 789-1017



- LEGEND:**
- 1 INSTALL CATTLE GUARD
 - 2 18" CMP REQUIRED
 - 3 36" CMP REQUIRED
 - 4 PROPOSED TURNOUT

- LEGEND:**
- EXISTING ROAD
 - - - PROPOSED ACCESS ROAD
 - * * * * * EXISTING FENCE
 - * * * * * PROPOSED FENCE

R
92
W

R
91
W

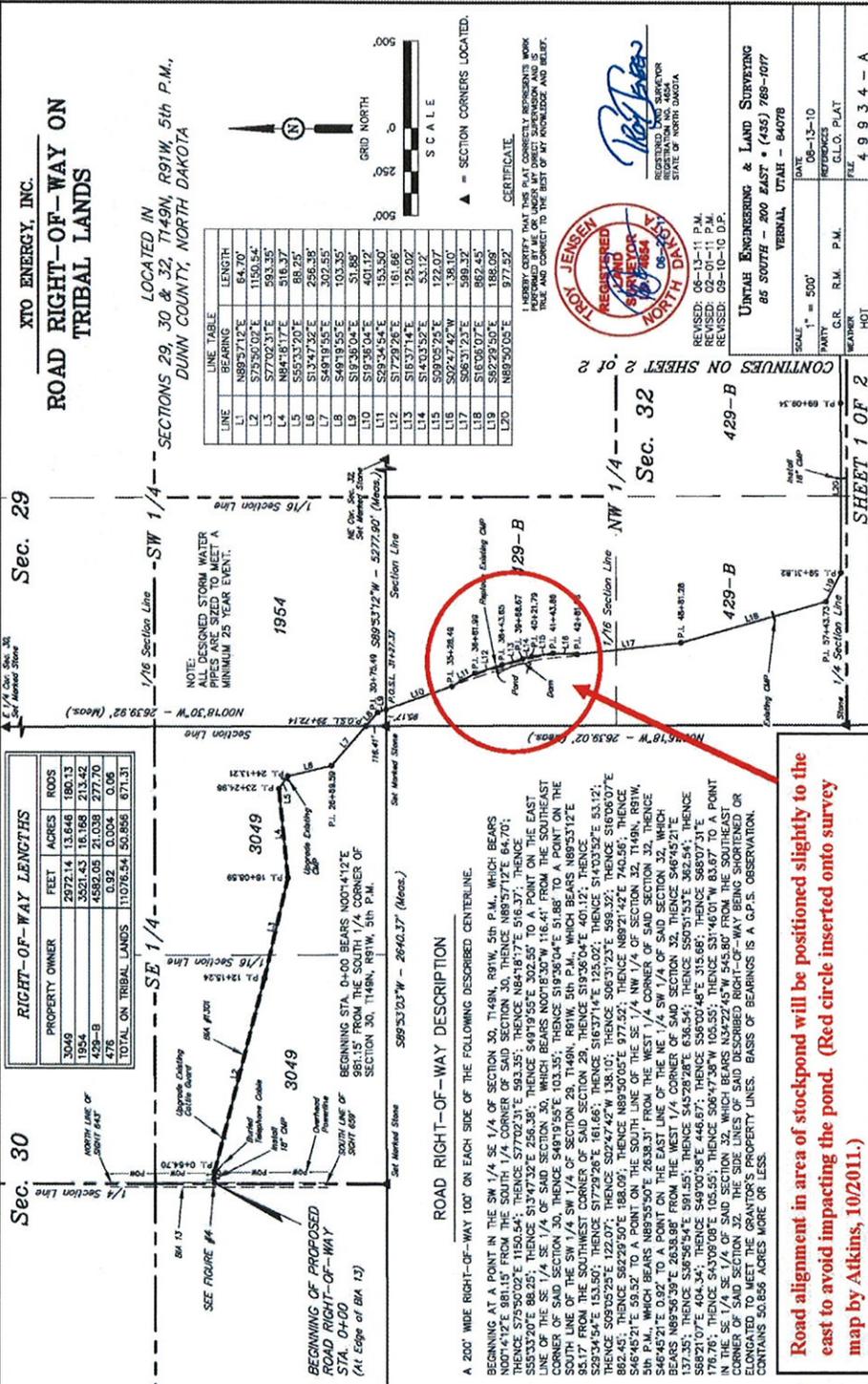
XTO ENERGY, INC.
FBIR GEORGEBLACKHAWK #21x-6
SECTION 6, T148N, R91W, 5th P.M.
621' FNL 1766' FWL

U&L S Uintah Engineering & Land Surveying
 85 South 200 East Vernal, Utah 84078
 (435) 789-1017 * FAX (435) 789-1813

ACCESS ROAD MAP

06	29	10
MONTH	DAY	YEAR

SCALE: 1" = 2000' DRAWN BY: J.L.G. REV: 06-22-11 J.J. **B TOPO**



XTO ENERGY, INC.
ROAD RIGHT-OF-WAY ON TRIBAL LANDS

LOCATED IN SECTIONS 29, 30 & 32, T149N, R91W, 5th P.M., DUNN COUNTY, NORTH DAKOTA

Sec. 29

Sec. 30

Sec. 32

SW 1/4 Section Line

SE 1/4 Section Line

NW 1/4 Section Line

Section Line

RIGHT-OF-WAY LENGTHS

PROPERTY OWNER	FEET	ACRES	RODS
3049	2972.14	13.648	180.13
1954	3521.43	16.188	213.42
429-B	4582.05	21.038	277.70
478	0.92	0.004	0.06
TOTAL ON TRIBAL LANDS	11076.54	50.856	871.31

NOTE: ALL DESIGNED STORM WATER PIPES ARE SIZED TO MEET A MINIMUM 25 YEAR EVENT.

BEG. OF PROPOSED ROAD RIGHT-OF-WAY STA. 0+00 (At Edge of Bk 13)

SEC. 30, T149N, R91W, 5th P.M.

SEC. 30, T149N, R91W, 5th P.M.

SEC. 32, T149N, R91W, 5th P.M.

SEC. 29, T149N, R91W, 5th P.M.

SEC. 30, T149N, R91W, 5th P.M.

SEC. 32, T149N, R91W, 5th P.M.

LINE TABLE

LINE	BEARING	LENGTH
L1	N89°57'12"E	64.70'
L2	S79°50'02"E	1150.54'
L3	S77°02'31"E	593.35'
L4	S85°13'00"E	88.24'
L5	S13°47'32"E	258.38'
L6	S49°19'55"E	302.55'
L7	S49°19'55"E	103.35'
L8	S19°38'04"E	51.88'
L9	S19°38'04"E	401.12'
L10	S99°54'54"E	153.50'
L11	S17°29'26"E	181.86'
L12	S16°37'14"E	125.02'
L13	S14°33'52"E	53.12'
L14	S09°25'25"E	122.07'
L15	S06°11'33"W	508.37'
L16	S16°06'07"E	882.45'
L17	S82°29'50"E	188.08'
L18	N88°50'05"E	977.52'

GRID NORTH

SCALE

▲ = SECTION CORNERS LOCATED.

CERTIFICATE

I HEREBY CERTIFY THAT THE PLAT CORRECTLY REPRESENTS WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR STATE OF NORTH DAKOTA

REVISOR: 06-13-11 P.M.
 REVISION: 08-10-10 D.P.
 REVISION: 08-10-10 D.P.

UTAH ENGINEERING & LAND SURVEYING
 85 SOUTH - 200 EAST • (435) 768-1017
 VERNAL, UTAH - 84078

CONTINUES ON SHEET 2 OF 2

SHEET 1 OF 2

DATE: 08-13-10
 RETRODCES: G.L.O. PLAT
 FILE: 49934-A

ROAD alignment in area of stockpond will be positioned slightly to the east to avoid impacting the pond. (Red circle inserted onto survey map by Atkins, 10/2011.)

XTO ENERGY INC. MARINA HALE ROAD PROPOSED EROSION AND SEDIMENTATION CONTROL PLANS

PROPOSED ROAD IMPROVEMENTS LOCATED IN:

Sec. 29, 30, 32 & 33, T149N, R91W, 5th P.M.
Sec. 6, T148N, R91W, 5th P.M.
Fort Berthold Indian Res., Dunn Co., N.D.

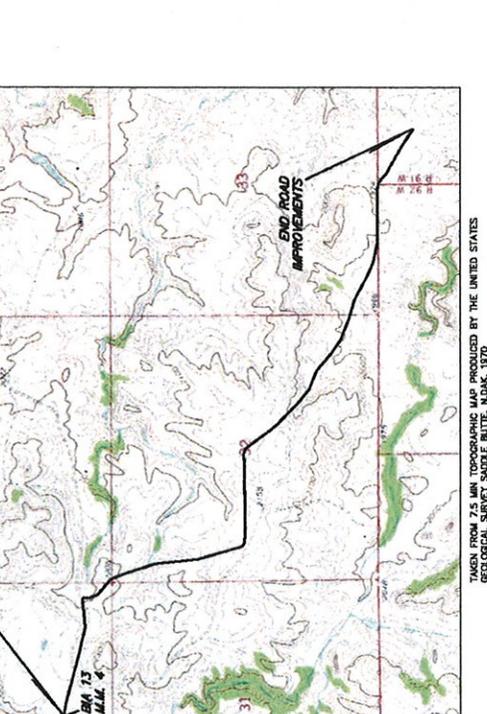
INDEX OF SHEETS

No.	SHEET DESCRIPTION
1	Third-Cover Sheet
2	General Notes, Geometric Standards, and Typical Details
3	Construction Details
4.1	Channel Channel Details
4.2	Channel Channel Details
4.3	Channel Channel Details
4.4	Channel Channel Details

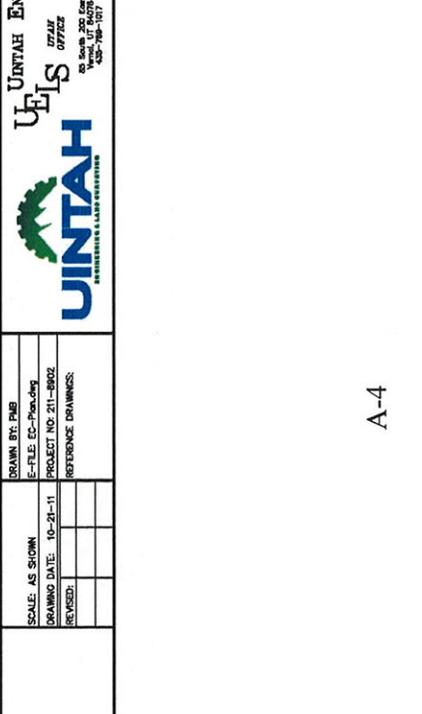
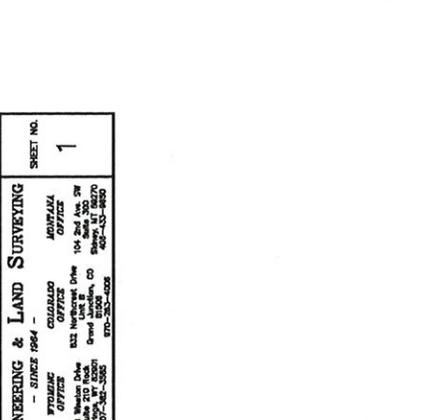
Unless Engineers and Land Surveyors assume no liability written or implied as to the location of pipelines or cable lines in the vicinity of this road design. North Dakota One-Call, 1-800-795-2552 (Public Utility Notification System) shall be contacted for identification and location service before construction begins. Transmission lines that may be identified on this map are not intended to be used to identify the location of transmission lines. Extreme caution shall be used when constructing from map or other location data.



SEDIMENTATION CONTROL PLANS



TAKEN FROM 7.5 MIN TOPOGRAPHIC MAP PRODUCED BY THE UNITED STATES GEOLOGICAL SURVEY, SIOUX FALLS, S.D., 1970
SCALE: 1"=2000'



TAKEN FROM 3040 MIN TOPOGRAPHIC MAP PRODUCED BY THE UNITED STATES GEOLOGICAL SURVEY, PAMPSHALL, NORTH DAKOTA 1982
NO SCALE

XTO ENERGY INC.
MARINA HALE ROAD
PROPOSED EROSION & SEDIMENTATION
CONTROL PLANS

UNTAH ENGINEERING & LAND SURVEYING
UNTAH ENGINEERS & LAND SURVEYORS
SINCE 1984

MINNAPOLIS OFFICE: 612-338-2000
MINNAPOLIS OFFICE: 612-338-2000

SCALE: AS SHOWN	DRAWN BY: PMS
DRAWING DATE: 10-21-11	E-FILE: CC-PMS.dwg
PROJECT NO: 211-8802	PROJECT NO: 211-8802
REVISED:	REFERENCE DRAWINGS:

UNTAH ENGINEERING & LAND SURVEYING	MINNAPOLIS OFFICE
UNTAH ENGINEERING & LAND SURVEYING	MINNAPOLIS OFFICE
UNTAH ENGINEERING & LAND SURVEYING	MINNAPOLIS OFFICE
UNTAH ENGINEERING & LAND SURVEYING	MINNAPOLIS OFFICE
UNTAH ENGINEERING & LAND SURVEYING	MINNAPOLIS OFFICE
UNTAH ENGINEERING & LAND SURVEYING	MINNAPOLIS OFFICE
UNTAH ENGINEERING & LAND SURVEYING	MINNAPOLIS OFFICE
UNTAH ENGINEERING & LAND SURVEYING	MINNAPOLIS OFFICE
UNTAH ENGINEERING & LAND SURVEYING	MINNAPOLIS OFFICE
UNTAH ENGINEERING & LAND SURVEYING	MINNAPOLIS OFFICE

SHEET NO. 1

GENERAL NOTES:
 All materials for construction of the complete project including but not limited to rip-rap, water for dust control and compaction, culverts, bedding materials for culverts, surface course gravel, signs, etc. are to be provided by XTO Energy unless other arrangements are made.
 Utah Engineering and Land Surveying assumes no liability written or implied as to the location of pipelines or cable lines in the vicinity of this road design. North Dakota One-Call for public lines and or the owner of the transmission line (Private/Corporate lines) must be contacted for identification and location before construction begins. Transmission lines that may be identified on these plans may not be the only transmission lines in the vicinity of the road. These plans are not intended to be used to identify the location of transmission lines. Extreme caution shall be used when constructing road near or over transmission lines.

EXPLANATIONS:

PLAN SHEETS
 Plan sheets show the horizontal alignment of the road, sign placement if any, turnout placement if any, estimated culvert placements and sizes, and estimated wing ditches.

SEALING THE ROADWAY

The roadway is to be sealed to the dimensions shown on the typical cross section included in this document. Care shall be given to insure that the roadway width is not less or significantly more than the dimensions given on the typical cross section. Where turnouts are indicated, the typical section widths shown on the typical cross section will need to be modified by the amounts shown on the typical turn-out. Where horizontal curves, super-elevations will be constructed to the percentages shown on the plan and profile sheets. One-third of the super transition occurs on the curve and two-thirds on the tangent.

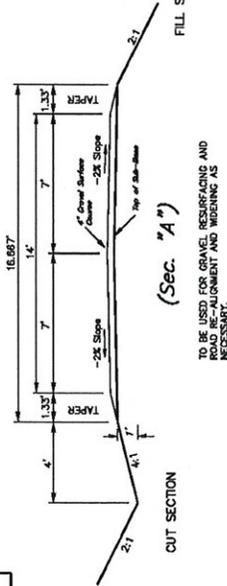
Top soil will be handled in the manner agreed upon and stated within the EA and the conditions of approval. If top soil is to be moved, Top soil will be peeled back during construction. Some over-excavation of cut slopes and ber ditches will provide needed material for road construction. Top soil will then be spread back over the cut and fill slopes and ber ditches.

The road shall have a crown as shown on the typical cross section to insure that water will drain off of the travelway surface.

GRAVEL SPECIFICATION:

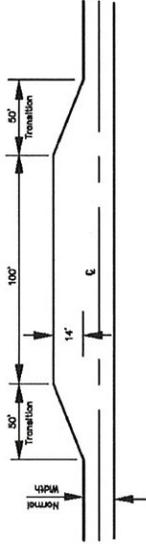
3" road base
 (ASTM M16-99 A-1-1-58)
 Do not place gravel on road until the sub-grade has been approved.
 Stone gravel to fill adjacent with on turnouts, curve widening, and intersection flows.

TYPICAL CROSS SECTION
 (For Proposed Road Improvements)

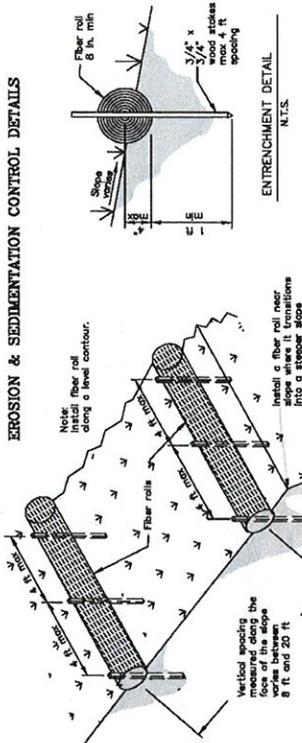


TO BE USED FOR GRAVEL RESURFACING AND ROAD RE-ALIGNMENT AND WIDENING AS NECESSARY.

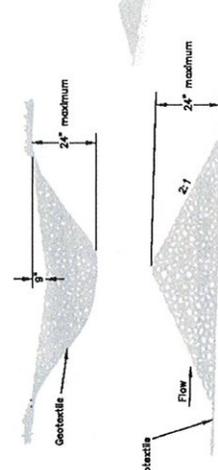
TURNOUT-WIDENING ON ONE SIDE



EROSION & SEDIMENTATION CONTROL DETAILS



TYPICAL WATTLE (FIBER ROLL) INSTALLATION
 N.T.S.



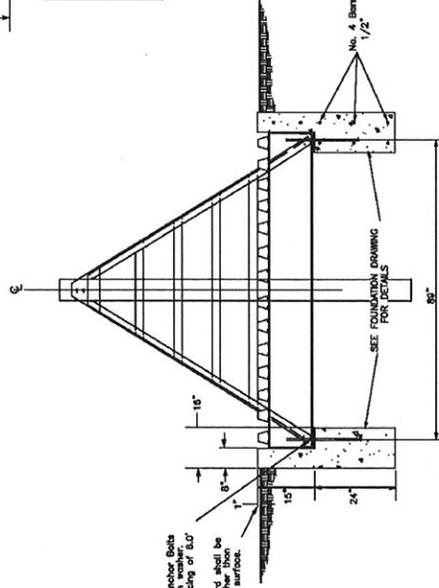
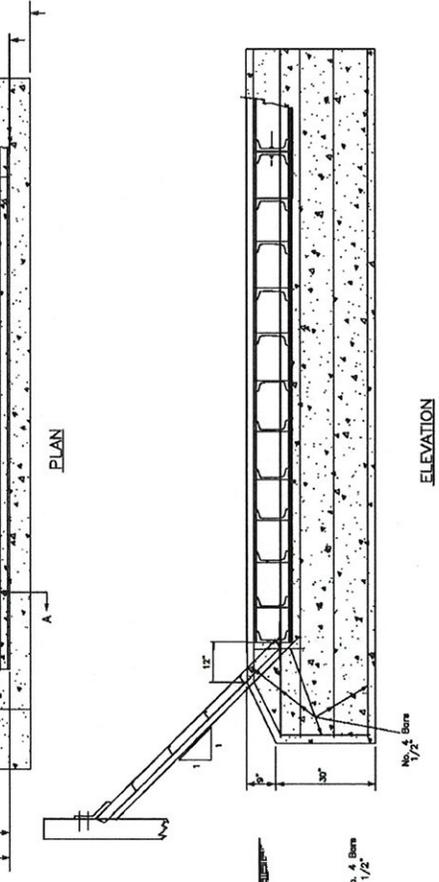
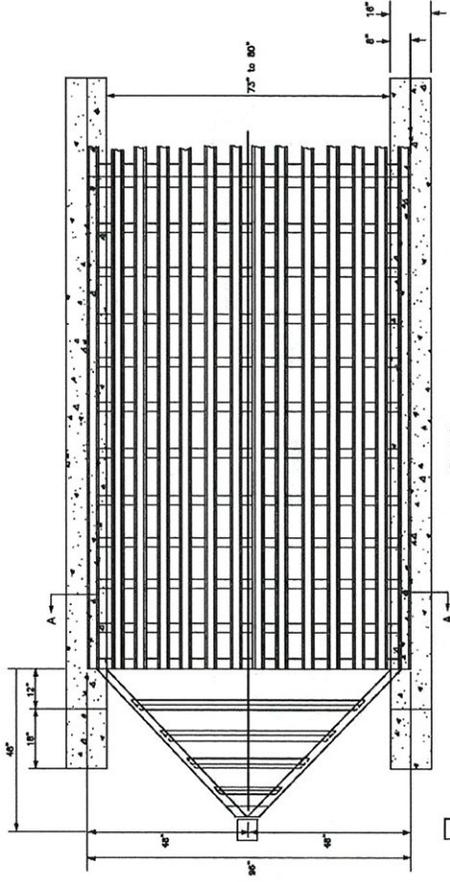
CHECK DAM (STONE) INSTALLATION
 N.T.S.

XTO ENERGY INC.
 MARINA HALE ROAD
 PROPOSED EROSION & SEDIMENTATION
 CONTROL PLANS

SCALE: 1"=100'
 DRAWING DATE: 10-21-11
 DRAWN BY: PMS
 E-FILE: EC-Pop-Pch
 PROJECT NO: 211-8902
 REFERENCE DRAWINGS:

JUNTAH UTILITIES
 ENGINEERING & LAND SURVEYING
 - SINCE 1964 -
 COLORADO OFFICE
 78 Shavano Drive
 104 2nd Ave. SW
 Grand Junction, CO 81501
 970-242-4000
 970-242-4005
 MONTANA OFFICE
 104 2nd Ave. SW
 Grand Junction, CO 81501
 970-242-4000
 970-242-4005

SHEET NO.
 2



SECTION A-A

3/4" x 10" Anchor Bolts with nut, lock washer. Maximum spacing of 6'0". The catchguard shall be placed 1" higher than finished road surface.

18"

8"

16"

24"

SEE FOUNDATION DRAWING FOR DETAILS

88"

SECTION A-A

48"

18"

12"

48"

96"

48"

75" to 80"

18"

PLAN

48"

18"

12"

48"

96"

48"

75" to 80"

18"

- REINFORCING STEEL SHALL BE ASHTO A615 GRADE 40 OR 60 CONFORMING TO ACI 318. BOLTS SHALL BE ASTM A307.**
- HARDWARE, DRIFT PINS SHALL BE ASHTO A615 GRADE 40 OR 60 WITH CUTTING CONFORMING TO ACI 318. BOLTS SHALL BE ASTM A307.**
1. RAIL SPACING MUST NOT EXCEED (7.5') CENTER TO CENTER AND THE OPENING BETWEEN RAILS MUST BE SIMILAR TO THOSE SHOWN ON THE DRAWING.
 2. ROADWAY WIDTH AND CATCHGUARD WIDTH MUST MEET THE REQUESTED DIMENSIONS.
 3. ALL MATERIALS MUST BE NEW AND MUST HAVE A MATERIAL CERTIFICATION FROM A RECOGNIZED NATIONAL ORGANIZATION WHEN COMPLETED CATCHGUARD IS DELIVERED.
 4. SHOP DRAWINGS MUST BE APPROVED BY THE CONTRACTING OFFICE BEFORE ANY FABRICATION IS BEGUN.

CONCRETE: THE CONCRETE FOUNDATION IS DESIGNED FOR ONE SURFACE METHOD A OR B. IF THE CONTRACTOR CHOOSES TO USE PRECAST CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE DETAILS FOR THE PRECAST UNITS. (1) MINIMUM DEPTH LEVELING COURSE MEETING STANDARD SPECIFICATION FOR ROAD C OR D, UPON WHICH THE PRECAST UNIT IS SET.

REINFORCING: REINFORCING STEEL SHALL BE ASHTO A615 GRADE 40 OR 60 CONFORMING TO ACI 318. BOLTS SHALL BE ASTM A307.

HARDWARE: DRIFT PINS SHALL BE ASHTO A615 GRADE 40 OR 60 WITH CUTTING CONFORMING TO ACI 318. BOLTS SHALL BE ASTM A307.

STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS: UNITED STATES DEPARTMENT OF TRANSPORTATION (FEDERAL HIGHWAY ADMINISTRATION, 203) SHALL BE USED UNLESS OTHERWISE SPECIFIED. DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS ARE AVAILABLE THROUGHOUT THE BRIDGE SECTION.

XTO ENERGY INC.
MARINA HALE ROAD
PROPOSED EROSION & SEDIMENTATION
CONTROL PLANS

SCALE: 1"=100'	DRAWN BY: PHE
DRAWING DATE: 10-21-11	E-FILE: EC-Phe.dwg
REVISED:	PROJECT NO: 21-8802
	REFERENCE DRAWINGS:

UJINTAH
 ENGINEERING & LAND SURVEYING

UTS

UTAH OFFICE: 777 W. 1000 S. SUITE 200, WEST VALLEY CITY, UT 84119, 801-735-3300

IDAHO OFFICE: 70 WESTON DRIVE, SUITE 100, BOISE, IDAHO 83720, 208-333-3300

NEW MEXICO OFFICE: 104 2nd Ave. SW, SUITE 100, GRAND JUNCTION, CO 81505, 970-242-4300

SHEET NO. 4

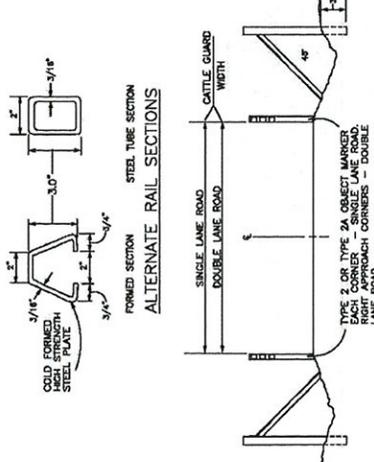
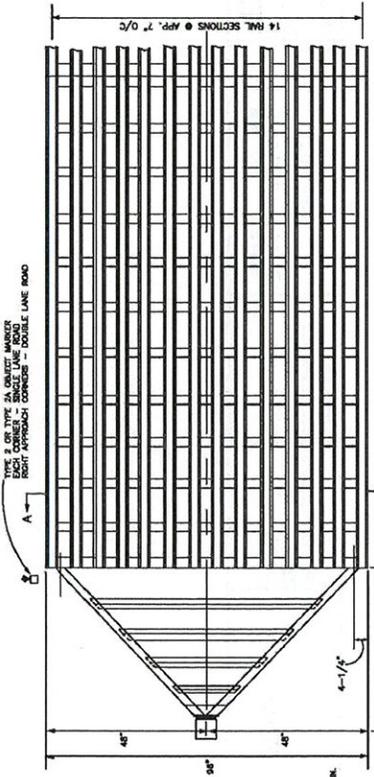
GENERAL NOTES

DESIGN LOADS: ASHTO HS20-44 LOADING AND U.S.F. UB0 LOADING.

ALL STRUCTURAL STEEL, EXCEPT REINFORCING BARS, SHALL BE A36 STEEL. ALL WELDS SHALL BE MADE FROM HIGH STRENGTH EPOXY FORTIFIED REINFORCING STEEL. ALL WELDS SHALL BE MADE FROM HIGH STRENGTH EPOXY FORTIFIED REINFORCING STEEL. ALL WELDS SHALL BE MADE FROM HIGH STRENGTH EPOXY FORTIFIED REINFORCING STEEL.

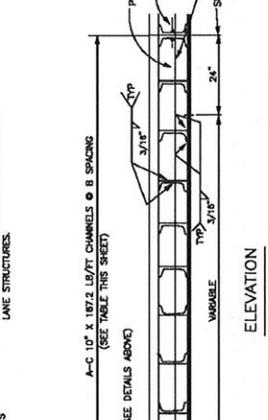
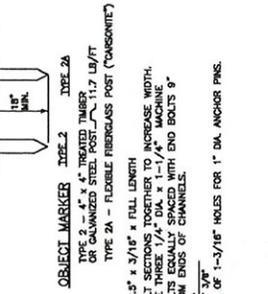
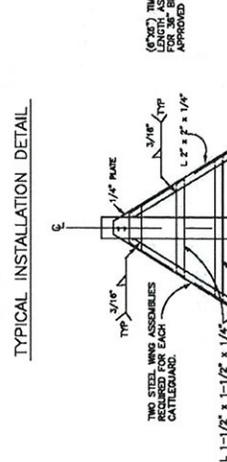
WELDS AND FABRICATION SHALL BE DONE IN ACCORDANCE WITH THE AISC CODE OF REVISION 8.10.0/10/2. PENETRATION SHALL BE AS SPECIFIED IN AISC C-2.

ANCHOR BOLTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASHTO DESIGNATION M 111 (ASTM A 153).

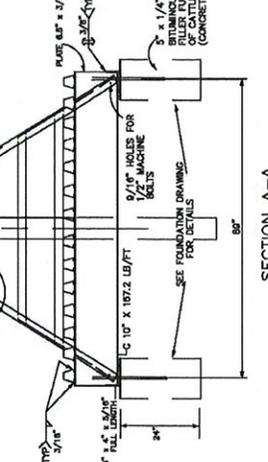


CATTLEGUARD WIDTH	96	120	144	168
LOADING	UB0	UB0	HS20	UB0
A (NUMBER)	7	9	10	9
B (SPACING)	16"	15"	16"	18"
				18.5"

NOTE: SINGLE LANE STRUCTURES SHALL BE MINIMUM 18" WIDE. OTHER WIDTHS ARE TO BE USED ONLY IN COMBINATION TO FORM EITHER SINGLE LANE OR DOUBLE LANE STRUCTURES.



ANCHOR BOLTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASHTO DESIGNATION M 111 (ASTM A 153).



XTO ENERGY INC.
MARINA HALE ROAD
PROPOSED EROSION & SEDIMENTATION CONTROL PLANS

JUNTAH ENGINEERING & LAND SURVEYING
SHEET NO. 5

DRAWN BY: PAB
E-FILE: EC-Prop.dwg
PROJECT NO: 211-8002
DRAWING DATE: 10-21-11
REVISIONS:

SCALE: 1"=100'
DRAWING DATE: 10-21-11
REVISIONS:

JUNTAH ENGINEERING & LAND SURVEYING
750 West 200 East
Salt Lake City, UT 84119
801-487-1000
801-487-1001
801-487-1002
801-487-1003
801-487-1004
801-487-1005
801-487-1006
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NOTE:
POSTING ROAD TO BE RESURFACED WITH
GRAVEL STOCKPILES SHOULD NOT BE
PLACED IN ROADSIDE BITCHES.

XTO ENERGY INC.
MARINA HALE ROAD
PROPOSED EROSION & SEDIMENTATION
CONTROL PLANS

SCALE: 1"=100'	DRAWN BY: PWB	PROJECT NO: 21-8802	SHEET NO. 6
DRAWING DATE: 10-21-11	E-FILE: EC-Pop-Eng	REFERENCE DRAWINGS:	
REVISED:			



JINTAH
ENGINEERING & LAND SURVEYING

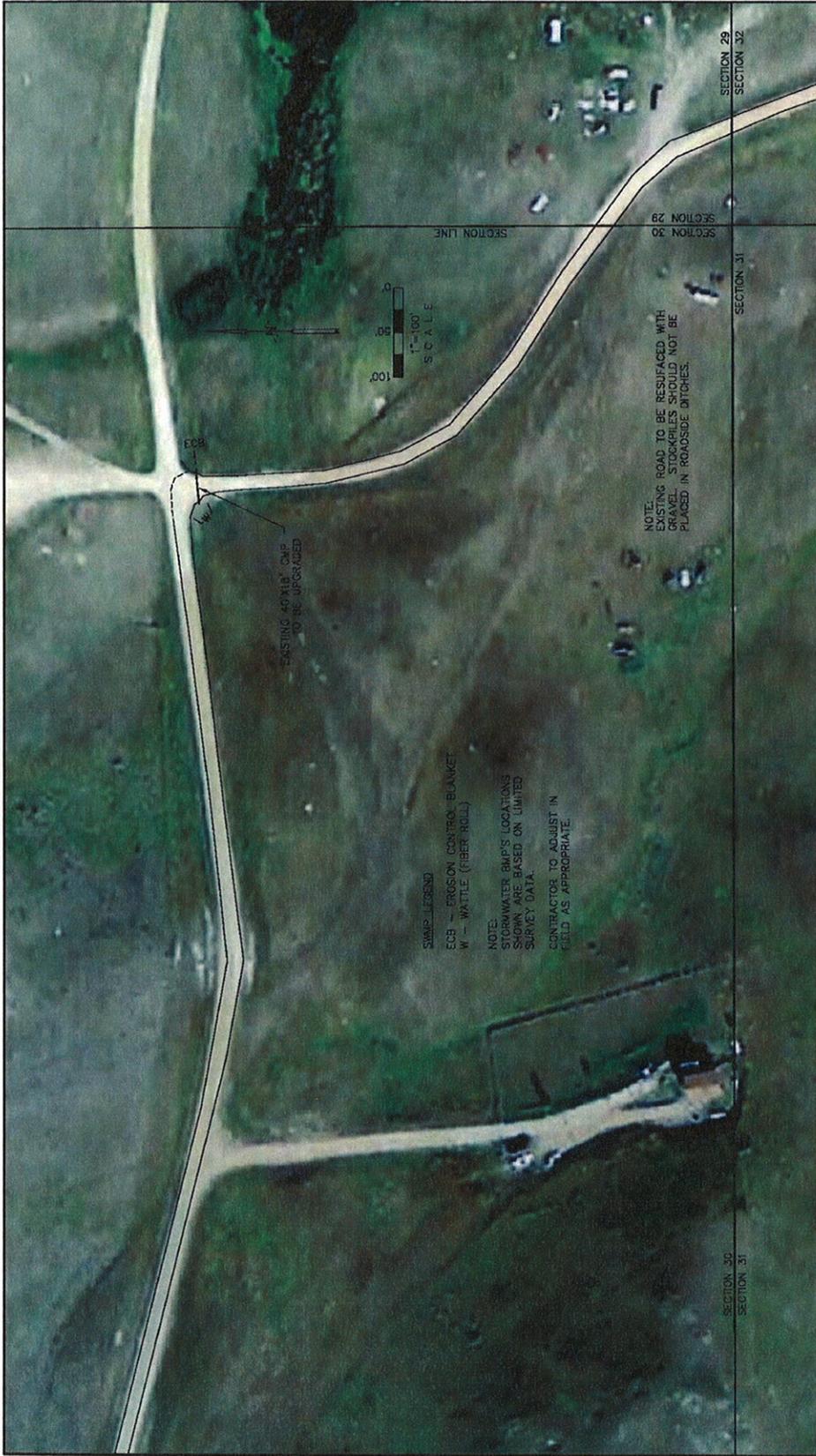
UNTAH ENGINEERING & LAND SURVEYING
— SINCE 1964 —

UTAH OFFICE
75 Westown Drive
PO BOX 200 East
MOUNTAIN VIEW, UT 84051
801-735-7178
801-735-3365

WYOMING OFFICE
104 2nd Ave. SW
SHERIDAN, WY 82801
307-672-4008

COLORADO OFFICE
632 North W. Drive
Grand Junction, CO
970-252-4008

MONTANA OFFICE
104 2nd Ave. SW
SHERIDAN, WY 82801
406-653-9850



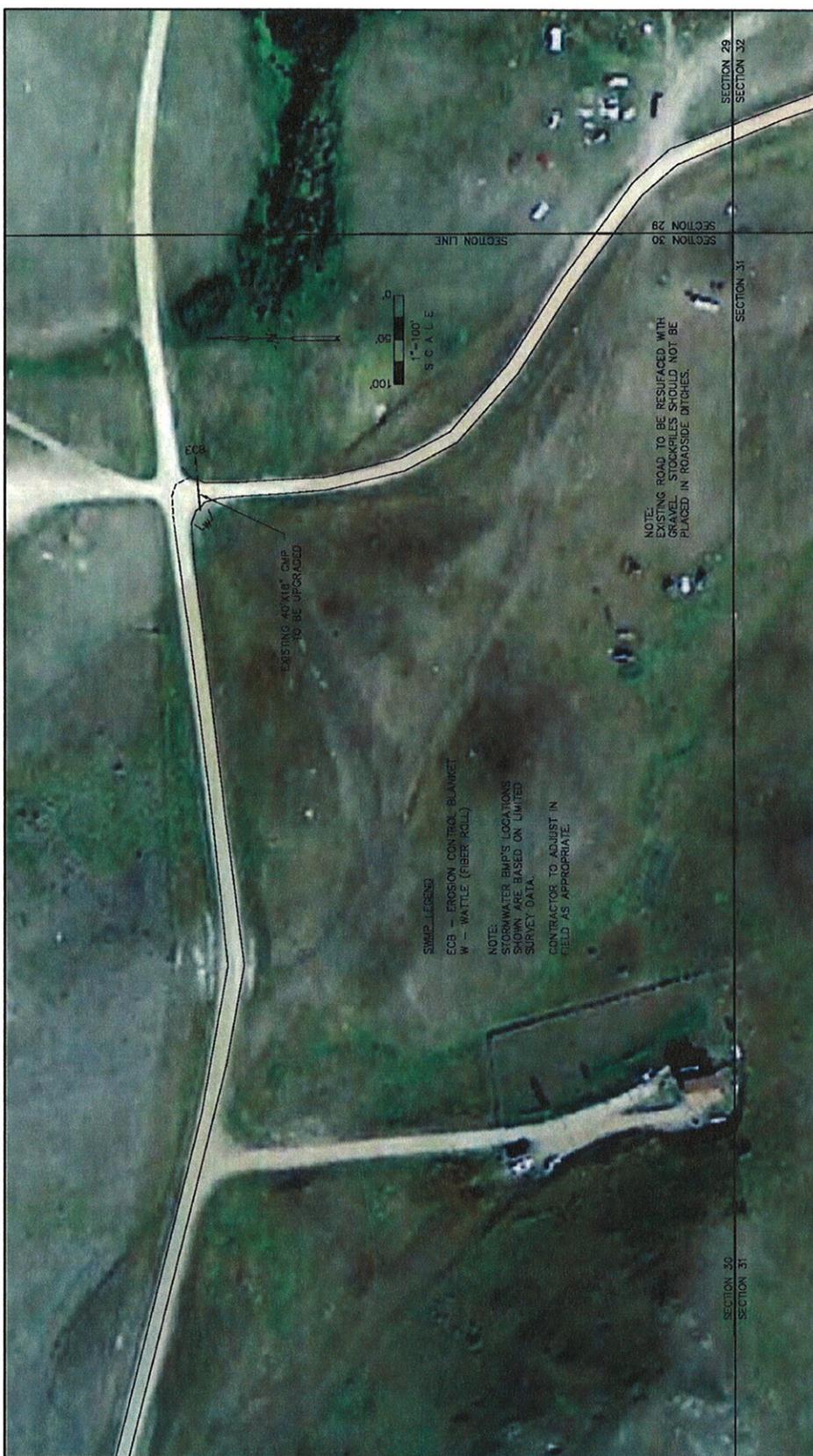
EXISTING 40x14' CURB
TO BE UPGRADED

SUMP LEGEND
 ECB - FROGSON CONTROL BLANKET
 W - WATTLE (FIBER ROLL)
 NOTE:
 STORMWATER SUMP LOCATIONS
 SHOWN ARE BASED ON LIMITED
 SURVEY DATA.
 CONTRACTORS TO ADJUST IN
 FIELD AS APPROPRIATE.

NOTE:
 EXISTING ROAD TO BE RESURFACED WITH
 GRAVEL. STOCKPILES SHOULD NOT BE
 PLACED IN ROADSIDE DITCHES.



<p>XTO ENERGY INC. MARINA HALE ROAD PROPOSED EROSION & SEDIMENTATION CONTROL PLANS</p>		<p>SCALE: 1"=100' DRAWING DATE: 10-21-11 REVISED:</p>	<p>DRAWN BY: PMS C-FILE: EC-PMS.dwg PROJECT NO: 211-8002 REFERENCE DRAWINGS:</p>	<p>JUNTAH ENGINEERING & LAND SURVEYING UTELIS REGISTERED PROFESSIONAL ENGINEERS REGISTERED PROFESSIONAL SURVEYORS - SINCE 1964 - OFFICE: 79 Marina Dale, Suite 210, Rock Spire, CO 80465 PHONE: 303-978-1517 FAX: 303-978-1595 MOBILE: 303-978-1595 WEBSITE: www.juntasurvey.com</p>	<p>SHEET NO. 7</p>
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SWMP LEGEND
 ECB - EROSION CONTROL BLANKET
 W - WATTLE (FIBER ROLL)

NOTE:
 STORMWATER BMP'S LOCATIONS SHOWN ARE BASED ON LIMITED SURVEY DATA.
 CONTRACTOR TO ADJUST IN FIELD AS APPROPRIATE.

NOTE:
 EXISTING ROAD TO BE RESURFACED WITH GRAVEL. STOCKPILES SHOULD NOT BE PLACED IN ROADSIDE DITCHES.

0
 50
 100
 1" = 100'
 SCALE

XTO ENERGY INC.
MARINA HALE ROAD
PROPOSED EROSION & SEDIMENTATION CONTROL PLANS

SCALE: 1"=100'	DRAWN BY: PMB	DATE: 10-21-11	PROJECT NO: 211-SM02
DRAWING DATE: 10-21-11	E-FILE: EC-Plan.dwg	REVISED:	REFERENCE DRAWINGS:

JINTAH
AGRICULTURE & LAND REVENUE

UENTAH ENGINEERING & LAND SURVEYING

UTELIS

UTAH OFFICE: 75 Madison Drive, Suite 200, Salt Lake City, UT 84119, 402-769-1077, 402-769-3060

MISSOURI OFFICE: 632 Northpark Drive, Grand Junction, CO 81505, 970-262-4208

NEVADA OFFICE: 104 2nd Ave SW, Reno, NV 89501, 775-784-7070

SHEET NO. **7**



SWAMP LEGEND
 ECB - EROSION CONTROL BLANKET
 RV - REVEGETATION
 W - WATTLE (FIBER ROLL)

NOTE:
 STORMWATER BMP'S LOCATIONS SHOWN ARE BASED ON LIMITED SURVEY DATA.
 CONTRACTOR TO ADJUST IN FIELD AS APPROPRIATE.

NOTE:
 EXISTING ROAD TO BE RESURFACED WITH GRANULAR FILL AND NOT BE PLACED IN ROADSIDE DITCHES.

SECTION 32
 SECTION 31

XTO ENERGY INC.
MARINA HALE ROAD
PROPOSED EROSION & SEDIMENTATION CONTROL PLANS

SCALE: 1"=100' DRAWING DATE: 10-21-11 REVISED:	DRAIN BY: P&B E-FILE: EC-P&B.dwg PROJECT NO: 211-8002 REFERENCE DRAWINGS:	 <p>JINTAH ENGINEERING & LAND SURVEYING - SINCE 1984 - PROVIDING PROFESSIONAL ENGINEERING AND SURVEYING SERVICES 1111 W. 1000 N. SUITE 100 SALT LAKE CITY, UT 84119 (801) 487-1000 FAX: (801) 487-1001 WWW.JINTAH.COM</p>
		SHEET NO. 8 <small>UTAH OFFICE: 104 S. 200 W. SALT LAKE CITY, UT 84115 (801) 487-1000 COLORADO OFFICE: 822 HARBOR DRIVE, DENVER, CO 80202 (303) 733-0000 ARIZONA OFFICE: 104 S. 200 W. SALT LAKE CITY, UT 84115 (801) 487-1000</small>

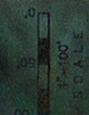


SUMP LOC. 2303

EGS - EROSION CONTROL BLANKET
 W - WATTLE (FIBER ROLL)

NOTE:
 STORMWATER SUMPS LOCATIONS
 SHOWN ARE BASED ON LIMITED
 SURVEY DATA.
 CONTRACTOR TO ADJUST IN
 FIELD AS APPROPRIATE.

EXISTING 30'x16\"/>



NOTE:
 EXISTING ROAD TO BE RESURFACED WITH
 GRAVEL. STOCKPILES SHOULD NOT BE
 PLACED IN ROADSIDE DITCHES.

XTO ENERGY INC.
MARINA HALE ROAD
PROPOSED EROSION & SEDIMENTATION
CONTROL PLANS

SCALE: 1"=100'	DRAWN BY: PAB
DRAWING DATE: 10-21-11	E-FILE: EC-PAB.dwg
REVISED:	PROJECT NO: 211-8902
	REFERENCE DRAWINGS:



JINTAH ENGINEERING & LAND SURVEYING

UTLS

UTLS OFFICE: 7777 S. JONES ROAD, SUITE 200, DENVER, CO 80231, 303-752-4000

UTLS OFFICE: 833 Northcrest Drive, Suite 200, Fort Collins, CO 80526, 970-232-4000

UTLS OFFICE: 104 2nd Ave. SW, Suite 200, Grand Junction, CO 81505, 970-232-4000

SHEET NO. **9**



EXISTING 40X18' BMP
TO BE UPGRADED

PROPOSED TURNOUT

NOTE:
EXISTING ROAD TO BE RESURFACED WITH
DRAVE. STAKEPOLES SHOULD NOT BE
PLACED IN ROADSIDE DITCHES.

SWMP LEGEND
ECB - EROSION CONTROL BAYNETS
W - WATTLE (FIBER ROLL)

NOTE:
STORMWATER BMP'S LOCATIONS
SHOWN ARE BASED ON LATEST
SURVEY DATA.
CONTRACTOR TO ADJUST IN
FIELD AS APPROPRIATE.

EXISTING FENCE
TO REMAIN

XTO ENERGY INC.
MARINA HALE ROAD
PROPOSED EROSION & SEDIMENTATION
CONTROL PLANS

SCALE: 1"=100'	DRAWN BY: PMS
DRAWING DATE: 10-21-11	E-FILE: EC-Pen.dwg
REVISED:	PROJECT NO: 211-8802
	REFERENCE DRAWINGS:

JUNTAH ENGINEERING & LAND SURVEYING
UT-ELS
 REGISTERED PROFESSIONAL ENGINEERS
 REGISTERED LAND SURVEYORS

UTAH OFFICE
 1774 W. 700 N.
 SUITE 210 ROCK
 SPRING, UT 84601
 435-798-1077
 435-798-2382
 435-798-2383

COLORADO OFFICE
 822 HORTON DR
 LITTLETON, CO
 800-424-2000
 303-973-0000

ARIZONA OFFICE
 104 2ND AVE SW
 TUCSON, AZ
 520-733-8800
 520-733-8800

SHEET NO. **10**



SWAMP LEGEND:
 CD - CHECK DAM
 ECB - EROSION CONTROL BLANKET
 W - WATTLE (FIBER ROLL)

NOTE:
 STORMWATER BMP'S LOCATIONS SHOWN ARE BASED ON LIMITED SURVEY DATA.
 CONTRACTORS TO ADJUST IN FIELD AS APPROPRIATE.

NOTE:
 EXISTING ROAD TO BE RESURFACED WITH GRAVEL. STOCKPILES SHOULD NOT BE PLACED IN ROADSIDE DITCHES.

<p>XTIO ENERGY INC. MARINA HALE ROAD PROPOSED EROSION & SEDIMENTATION CONTROL PLANS</p>		<p>SCALE: 1"=100' DRAWING DATE: 10-21-11 REVISED:</p>	<p>DRAWN BY: PMS E-FILE: EC-Pan.dwg PROJECT NO: 211-8802 REFERENCE DRAWINGS:</p>	<p>UNTIAH ENGINEERING & LAND SURVEYING - SINCE 1964 - UTPLS UTAH OFFICE 78 West 200 East West Valley City, UT 84119 801-967-1000 801-967-3600</p>	<p>UTPLS COLORADO OFFICE 104 2nd Ave. SW Grand Junction, CO 81501 970-262-4008 970-262-4000</p>	<p>SHEET NO. 11</p>
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NOTE:
EXISTING ROAD TO BE REPAVED WITH GRAVEL. STOCKPILES SHOULD NOT BE PLACED IN ROADSIDE DITCHES.

SUMP LEGEND
W - WATTLE (FIBER ROLL)
NOTE:
STORMWATER SUMPS LOCATIONS SHOWN ARE BASED ON LIMITED SURVEY DATA.
CONTRACTOR TO ADJUST IN FIELD AS APPROPRIATE.

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1.00'
1"=100'
SCALE

XTO ENERGY INC.
MARINA HALE ROAD
PROPOSED EROSION & SEDIMENTATION CONTROL PLANS

SCALE: 1"=100'	DRAWING DATE: 10-21-11	DRAWN BY: PMS	UENTAH ENGINEERING & LAND SURVEYING
REVISED:	PROJECT NO: 211-8802	E-FILE EC-Pen.dwg	UTIS
	REFERENCE DRAWINGS:		JINTAH ENGINEERING & LAND SURVEYING
			- SINCE 1964 -
			UTAH OFFICE 20 South 200 West Salt Lake City, UT 84115 801-467-1017 801-467-2000 801-467-2002
			ARIZONA OFFICE 633 Northpark Drive Lake Park, CO 80424 303-531-8900
			SHEET NO. 12



NOTE:
EXISTING ROAD TO BE RESURFACED WITH GRAVEL. STOCKPILES SHOULD NOT BE PLACED IN ROADSIDE DITCHES.

REMAINING EXISTING BAR DITCH

EXISTING CATTLE GUARD TO BE UPGRADED

SECTION LINE

SECTION 13
SECTION 11

SUMP LEGEND

W - WATTLE (FIBER ROLL)

NOTE:
STORMWATER BMP'S LOCATIONS SHOWN ARE BASED ON LIMITED SURVEY DATA.
CONTRACTOR TO ADJUST IN FIELD AS APPROPRIATE.

**XTO ENERGY INC.
MARINA HALE ROAD
PROPOSED EROSION & SEDIMENTATION
CONTROL PLANS**

SCALE: 1"=100'	DRAWN BY: PMB
DRAWING DATE: 10-21-11	E-FILE: EC-PMB.dwg
PROJECT NO. 211-8902	REFERENCE DRAWINGS:
REVISED:	



JINTAH ENGINEERING & LAND SURVEYING

— SINCE 1984 —

UTAH OFFICE
774 S. 200 East
Provo, UT 84601
801-734-3000

COLORADO OFFICE
632 Northgate Drive
Grand Junction, CO 81505
970-242-4008

WYOMING OFFICE
104 2nd Ave. SW
Casper, WY 82401
307-233-8900

SHEET NO.
13

Appendix B

Ecological Site Photographs

*Hale Marina Road Improvement Project Environmental Assessment
XTO Energy, Inc.*

2011 FBIR Hale Marina Road Photographs

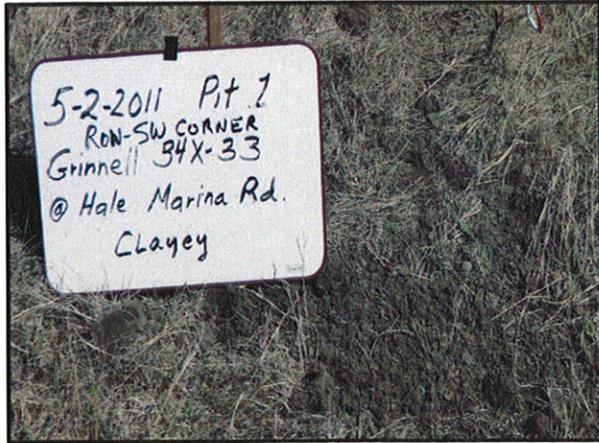


Photo 1: Ecological Site #1 – Clayey. Soil pit on Hale Marina Road ROW.
UTM Coordinates: N5283541, E0700248.



Photo 2: Ecological Site #2 – Thin Clay pan. Soil pit on Hale Marina Road ROW.
UTM Coordinates: N52835631, E0699958.



Photo 3: General view of Site #2 looking east.

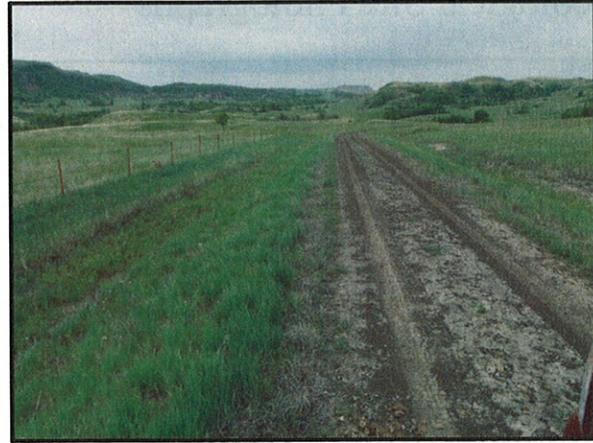


Photo 4: General view between Site #2 and #3 looking west.



Photo 5: Ecological Site #3 – Loamy. Soil pit on Hale Marina Road ROW.
UTM Coordinates: N5283557, E699953.



Photo 6: General view of Site #3 looking north.

2011 FBIR Hale Marina Road Photographs

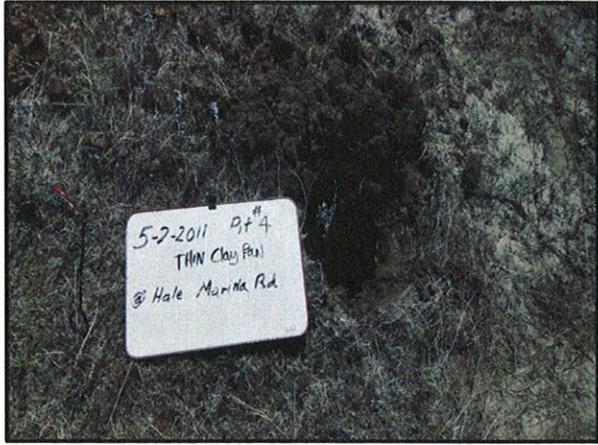


Photo 7: Ecological Site #4 – Thin Clay Pan.
UTM Coordinates: N5283617, E699660.



Photo 8: General view toward Site #4 and #5 looking northwest.



Photo 9: Ecological Site #5 – Clayey.
UTM Coordinates: N5283576, E699623.



Photo 10: General view of Site #5 looking northwest.



Photo 11: Ecological Site #6 – Loamy Overflow.
UTM Coordinates: N5283634, E699515.

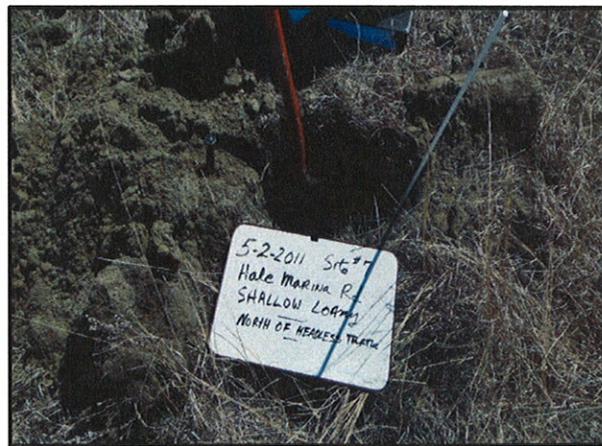


Photo 12: Ecological Site #7 – Shallow Loamy.
UTM Coordinates: N5283789, E699323.

2011 FBIR Hale Marina Road Photographs



Photo 13: General view of Site #7 and #8 looking northwest.

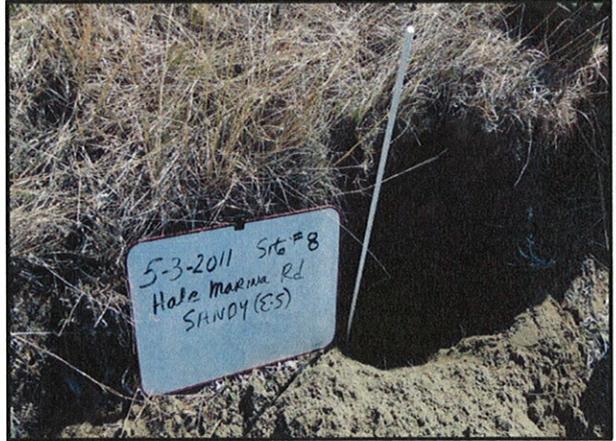


Photo 14: Ecological Site #8 – Sandy.
UTM Coordinates: N5283969, E698926.

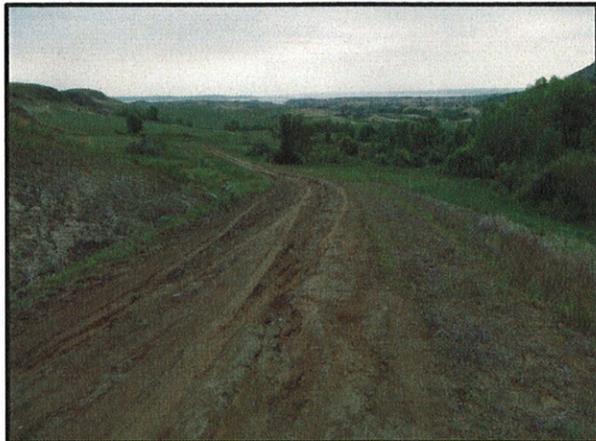


Photo 15: General view of Site #7 and #8 looking southeast.



Photo 16: Ecological Site #8a – Loamy Overflow.
UTM Coordinates: N5283938, E698899.



Photo 17: General view of Site #8a looking south.



Photo 18: Ecological Site #9 – Sandy.
UTM Coordinates: N5284123, E698771.

2011 FBIR Hale Marina Road Photographs



Photo 19: General view of Site #9 looking southeast.

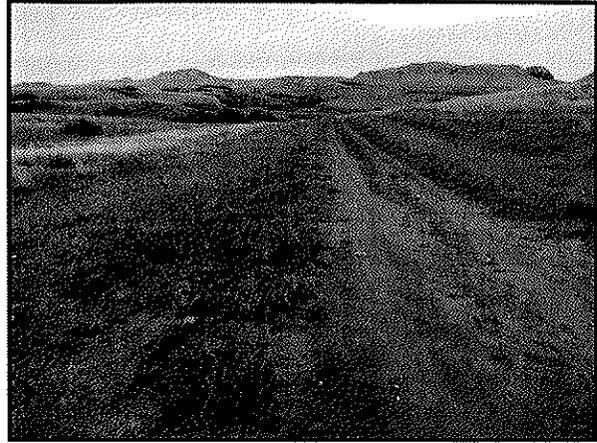


Photo 20: General view of Site #9 looking east.



Photo 21: Ecological Site #10 – Loamy.
UTM Coordinates: N5284278, E698521.



Photo 22: General view of Site #10 looking west from gate.

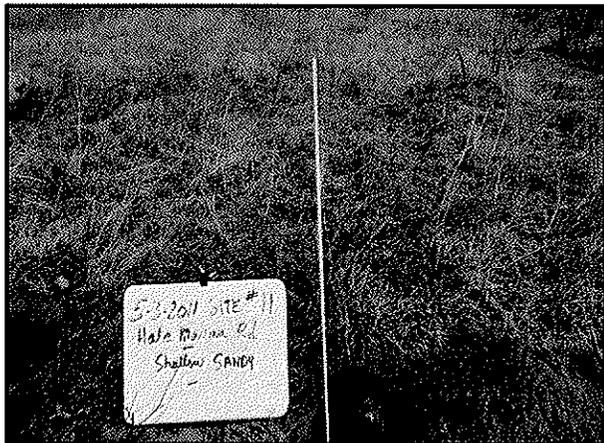


Photo 23: Ecological Site #11 – Shallow Sandy. UTM
Coordinates: N5284296, E698371.



Photo 24: General view of Site #11 looking east to gate.

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Photo 25: Ecological Site #12 – Sandy.
UTM Coordinates: N5284261, E698065.



Photo 26: General view of Site #12 looking west.



Photo 27: Ecological Site #13 – Loamy.
UTM Coordinates: N5284561, E697894.

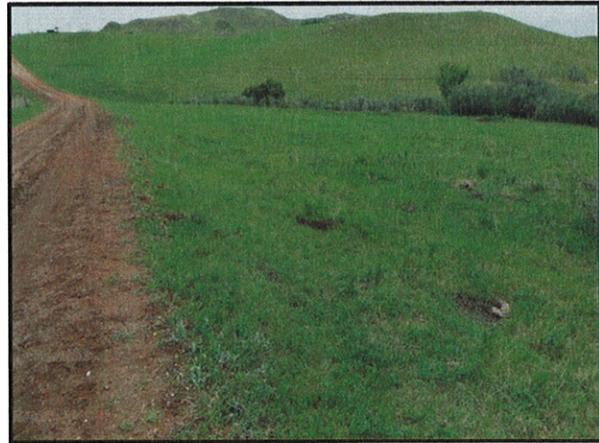


Photo 28: General view from pond site #13 and #14 looking North.



Photo 29: Ecological Site #14 – Loamy Overflow.
UTM Coordinates: N5284813, E6977876.

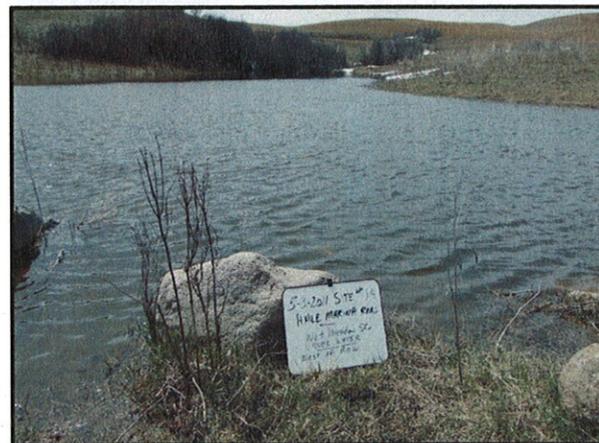


Photo 30: General view of Site #14

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Photo 31: Ecological Site #15 – Sandy.
UTM Coordinates: N5285042, E697770.



Photo 32: General view from Site #15 looking south.



Photo 33: Ecological Site #16 – Loamy.
UTM Coordinates: N5285250, E697296.



Photo 34: General view from Site #16 looking east.

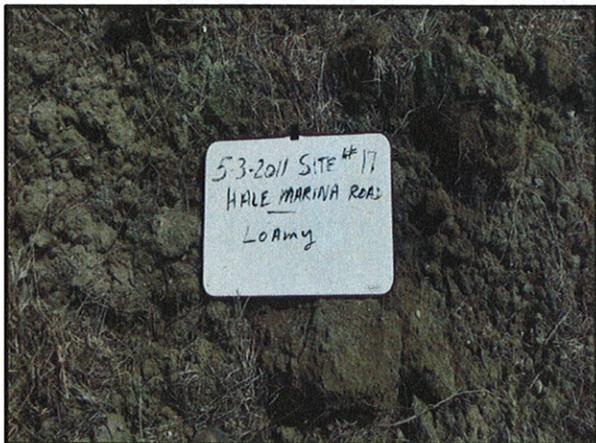


Photo 35: Ecological Site #17 – Loamy.
UTM Coordinates: N5285315, E696975.



Photo 36: Ecological Site #17 – Loamy. Soil pit on Access road. General appearance looking west.

2011 FBIR Hale Marina Road Photographs

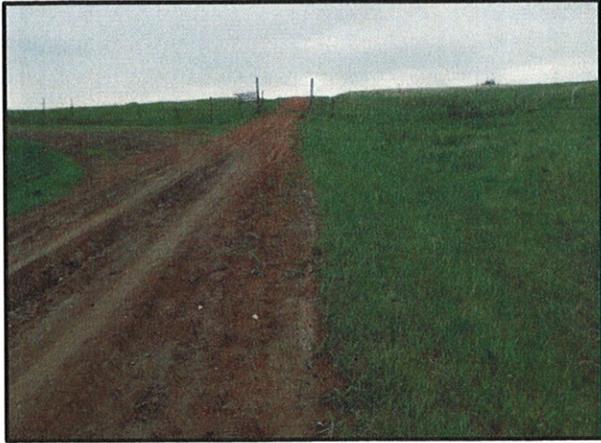


Photo 37: General view toward a private residence access looking south.



Photo 38: General view along access road looking south.



Photo 39: General view along access road looking north

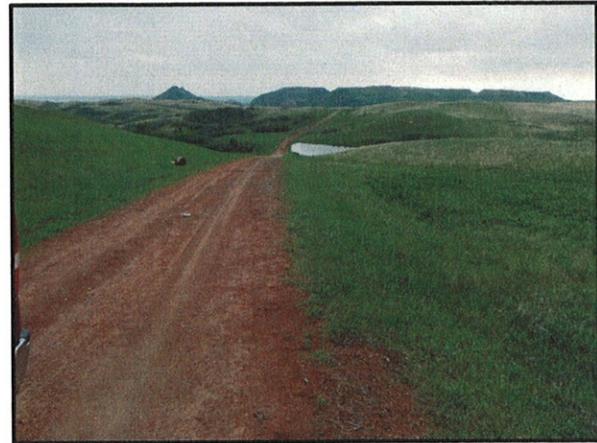


Photo 40: General view of Hale Marina Road looking south and at stockpond on west side of road.



Photo 41: General view of ROW looking east.



Photo 42: Hale Marina Road looking east and opposite of the stockpond illustrated in Photo 40.

Appendix C

Ecological Worksheets
Characteristics of Native Seed Mix

Hale Marina Road Improvement Project Environmental Assessment
XTO Energy, Inc.

Ecological Worksheets

Site #1 Road Site

Date: May 3, 2011

Slope: 4

Aspect: South

Resource Area: Hale Marina Road ROW

UTM Coordinates: N5283541 E0700248

Ecological Site: Clayey

Community Type: Blue grama, Western wheatgrass, Western snowberry

PLANT COMPOSITION	
Common Name	Scientific Name
GRASSES	
Red threeawn	<i>Aristida longiseta</i>
Blue grama	<i>Bouteloua gracilis</i>
Needleandthread	<i>Hesperostipa comata</i>
Western wheatgrass	<i>Pascopyrum smithii</i>
FORBS/LEGUMES	
Common yarrow	<i>Achillea millefolium</i>
Cudweed sagewort	<i>Artemisia ludoviciana</i>
Groundplum milkvetch	<i>Astragalus crassicaarpus</i>
Purple prairie clover	<i>Dalea purpurea</i>
Blacksamson	<i>Echinacea angustifolia</i>
Fringed sagewort	<i>Artemisia frigida</i>
Curlycup gumweed	<i>Grindelia squarrosa</i>
Hairy goldenaster	<i>Heterotheca villosa</i>
Western red lily	<i>Lillium philadelphicum</i>
Biscuitroot	<i>Lomatium spp.</i>
Silverleaf scurfpea	<i>Psoralea argophylla</i>
Prairie coneflower	<i>Ratibida columnifera</i>
Goldenrod	<i>Solidago spp.</i>
Scentless mayweed	<i>Tripleurospermum perforata</i>
American vetch	<i>Vicia americana</i>
INVASIVES/WEEDS	
Absinth wormwood	<i>Artemesia absinthium</i>
Kentucky bluegrass	<i>Poa pratensis</i>
Western salsify	<i>Tragopogon dubius</i>
Canada thistle	<i>Cirsium arvense</i>
Wavyleaf thistle	<i>Cirsium undulatum</i>
Common dandelion	<i>Taraxacum officinale</i>
SHRUBS/TREES	
Green sagewort	<i>Artemisia dracunculus</i>
Prairie rose	<i>Rosa arkansana</i>
Western snowberry	<i>Symphoricarpos occidentalis</i>

Ecological Worksheets

Site #2 Road Site

Date: May 3, 2011

Slope: 6

Aspect: South

Resource Area: Hale Marina Road ROW

UTM Coordinates: N5283563 E0699958

Ecological Site: Thin Clay pay

Community Type: Blue grama, Needleandthread, Western snowberry

PLANT COMPOSITION	
Common Name	Scientific Name
GRASSES	
Blue grama	<i>Bouteloua gracilis</i>
Needleandthread	<i>Hesperostipa comata</i>
Western wheatgrass	<i>Pascopyrum smithii</i>
Sandberg bluegrass	<i>Poa secunda</i>
FORBS/LEGUMES	
Common yarrow	<i>Achillea millefolium</i>
Cudweed sagewort	<i>Artemisia ludoviciana</i>
Fringed sagewort	<i>Artemisia frigida</i>
Milkwort	<i>Glaux spp.</i>
Curlycup gumweed	<i>Grindelia squarrosa</i>
Hairy goldenaster	<i>Heterotheca villosa</i>
Woolly indianwheat	<i>Plantago patagonica</i>
Silverleaf scurfpea	<i>Psoralea argophylla</i>
Common groundsel	<i>Senecio vulgaris</i>
Clover	<i>Trifolium spp.</i>
INVASIVES/WEEDS	
Mustard	<i>Brassica spp.</i>
Smooth brome	<i>Bromus inermis</i>
Cheatgrass brome	<i>Bromus tectorum</i>
Common dandelion	<i>Taraxacum officinale</i>
Western salsify	<i>Tragopogon dubius</i>
SHRUBS/TREES	
Prairie rose	<i>Rosa arkansana</i>
Western snowberry	<i>Symphoricarpos occidentalis</i>

Ecological Worksheets

Site #3 Road Site

Date: May 3, 2011

Slope: 6

Aspect: South

Resource Area: Hale Marina Road ROW

UTM Coordinates: N5283557 E0699953

Ecological Site: Loamy

Community Type: Blue grama, Western wheatgrass, Western snowberry

PLANT COMPOSITION	
Common Name	Scientific Name
GRASSES	
Red threeawn	<i>Aristida longiseta</i>
Blue grama	<i>Bouteloua gracilis</i>
Needleandthread	<i>Hesperostipa comata</i>
Western wheatgrass	<i>Pascopyrum smithii</i>
FORBS/LEGUMES	
Common yarrow	<i>Achillea millefolium</i>
Cudweed sagewort	<i>Artemisia ludoviciana</i>
Purple prairie clover	<i>Dalea purpurea</i>
Blacksamson	<i>Echinacea angustifolia</i>
Fringed sagewort	<i>Artemisia frigida</i>
Northern bedstraw	<i>Galium boreale</i>
Prairie smoke	<i>Geum triflorum</i>
Curlycup gumweed	<i>Grindelia squarrosa</i>
Hairy goldenaster	<i>Heterotheca villosa</i>
Dotter gayfeather	<i>Liatris punctata</i>
Western red lily	<i>Lillium philadelphicum</i>
Biscuitroot	<i>Lomatium spp.</i>
Silverleaf scurfpea	<i>Psoralea argophylla</i>
Prairie coneflower	<i>Ratibida columnifera</i>
Goldenrod	<i>Solidago spp.</i>
Scentless mayweed	<i>Tripeurospermum perforata</i>
American vetch	<i>Vicia americana</i>
Green sagewort	<i>Artemisia dracunculus</i>
INVASIVES/WEEDS	
Absinth wormwood	<i>Artemesia absinthium</i>
Canada thistle	<i>Cirsium arvense</i>
Flodman's thistle	<i>Cirsium flodmanii</i>
Wavyleaf thistle	<i>Cirsium undulatum</i>
Kentucky bluegrass	<i>Poa pratensis</i>
Common dandelion	<i>Taraxacum officinale</i>
SHRUBS/TREES	
Fringed sagewort	<i>Artemisia frigida</i>
Prairie rose	<i>Rosa arkansana</i>
Western snowberry	<i>Symphoricarpos occidentalis</i>

Ecological Worksheets

Site #4 Road Site

Date: May 3, 2011

Slope: 7

Aspect: Southwest

Resource Area: Hale Marina Road ROW

UTM Coordinates: N5283617 E0699660

Ecological Site: Thin Claypan

Community Type: Blue grama, Needleandthread, Prairie rose

PLANT COMPOSITION	
Common Name	Scientific Name
GRASSES	
Needleandthread	<i>Hesperostipa comata</i>
Western wheatgrass	<i>Pascopyrum smithii</i>
Sandberg bluegrass	<i>Poa secunda</i>
FORBS/LEGUMES	
Common yarrow	<i>Achillea millefolium</i>
Milkwort	<i>Glaux spp.</i>
Curlycup gumweed	<i>Grindelia squarrosa</i>
Hairy goldenaster	<i>Heterotheca villosa</i>
Western red lily	<i>Lillium philadelphicum</i>
Woolly indianwheat	<i>Plantago patagonica</i>
Silverleaf scurfpea	<i>Psoralea argophylla</i>
Clover	<i>Trifolium spp.</i>
Scentless mayweed	<i>Tripeurospermum perforata</i>
INVASIVES/WEEDS	
Mustard	<i>Brassica spp.</i>
Smooth brome	<i>Bromus inermis</i>
Common dandelion	<i>Taraxacum officinale</i>
Western salsify	<i>Tragopogon dubius</i>
SHRUBS/TREES	
Fringed sagewort	<i>Artemisia frigida</i>
Prairie rose	<i>Rosa arkansana</i>
Western snowberry	<i>Symphoricarpos occidentalis</i>

Ecological Worksheets

Site #5 Road Site

Date: May 3, 2011

Slope: 4

Aspect: Southwest

Resource Area: Hale Marina Road ROW

UTM Coordinates: N5283576 E0699623

Ecological Site: Clayey

Community Type: Blue grama, Western wheatgrass, Western snowberry

PLANT COMPOSITION	
Common Name	Scientific Name
GRASSES	
Red threeawn	<i>Aristida longiseta</i>
Blue grama	<i>Bouteloua gracilis</i>
Needleandthread	<i>Hesperostipa comata</i>
Western wheatgrass	<i>Pascopyrum smithii</i>
Reed canarygrass	<i>Phalaris arundinacea</i>
FORBS/LEGUMES	
Green sagewort	<i>Artemisia dracunculus</i>
Cudweed sagewort	<i>Artemisia ludoviciana</i>
Silverleaf scurfpea	<i>Psoralea argophylla</i>
Common yarrow	<i>Achillea millefolium</i>
Groundplum milkvetch	<i>Astragalus spp.</i>
Purple prairie clover	<i>Dalea purpurea</i>
Blacksamson	<i>Echinacea angustifolia</i>
Prairie smoke	<i>Geum triflorum</i>
Curlycup gumweed	<i>Grindelia squarrosa</i>
Hairy goldenaster	<i>Heterotheca villosa</i>
Dotter gayfeather	<i>Liatris punctata</i>
Western red lily	<i>Lillium philadelphicum</i>
Biscuitroot	<i>Lomatium spp.</i>
Mint	<i>Mentha spp.</i>
Silverleaf scurfpea	<i>Psoralea argophylla</i>
Prairie buttercup	<i>Ranunculus rhomboides</i>
Prairie coneflower	<i>Ratibida columnifera</i>
Goldenrod	<i>Solidago spp.</i>
Scentless mayweed	<i>Tripeurospermum perforata</i>
American vetch	<i>Vicia americana</i>
INVASIVES/WEEDS	
Absinth wormwood	<i>Artemisia absinthium</i>
Canada thistle	<i>Cirsium arvense</i>
Flodman's thistle	<i>Cirsium flodmanii</i>
Wavyleaf thistle	<i>Cirsium undulatum</i>
Kentucky bluegrass	<i>Poa pratensis</i>
Common dandelion	<i>Taraxacum officinale</i>
Western salsify	<i>Tragopogon dubius</i>
Cocklebur	<i>Xanthium spp.</i>
SHRUBS/TREES	
Silver sagebrush	<i>Artemisia cana</i>
Hawthorn	<i>Crataegus spp.</i>
Green ash	<i>Fraxinus pennsylvanica</i>
Prairie rose	<i>Rosa arkansana</i>
Silver buffaloberry	<i>Shepherdia argentea</i>
Western snowberry	<i>Symphoricarpos occidentalis</i>

Ecological Worksheets

Site #6 Road Site

Date: May 3, 2011

Slope: 3

Aspect: South

Resource Area: Hale Marina Road ROW

UTM Coordinates: N5283634 E0699515

Ecological Site: Loamy Overflow

Community Type: Blue grama, Big bluestem, Cudweed sagewort, Western snowberry

PLANT COMPOSITION	
Common Name	Scientific Name
GRASSES	
Big bluestem	<i>Andropogon gerardii</i>
Blue grama	<i>Bouteloua gracilis</i>
Threadleaf sedge	<i>Carex filifolia</i>
Needleandthread	<i>Hesperostipa comata</i>
Prairie junegrass	<i>Koeleria macrantha</i>
Switchgrass	<i>Panicum virgatum</i>
Western wheatgrass	<i>Pascopyrum smithii</i>
FORBS/LEGUMES	
Common yarrow	<i>Achillea millefolium</i>
Meadow anemone	<i>Anemone canadensis</i>
Cudweed sagewort	<i>Artemisia ludoviciana</i>
Harebell	<i>Campanula rotundiflora</i>
Blacksamson	<i>Echinacea angustifolia</i>
Prairie smoke	<i>Geum triflorum</i>
American licorice	<i>Glycyrrhiza lepidota</i>
Hairy goldenaster	<i>Heterotheca villosa</i>
Dotted gayfeather	<i>Liatris punctata</i>
Mint	<i>Mentha spp.</i>
Silverleaf scurfpea	<i>Psoralea argophylla</i>
Prairie coneflower	<i>Ratibida columnifera</i>
Common groundsel	<i>Senecio vulgaris</i>
American vetch	<i>Vicia americana</i>
INVASIVES/WEEDS	
Absinth wormwood	<i>Artemesia absinthium</i>
Canada thistle	<i>Cirsium arvense</i>
Flodman's thistle	<i>Cirsium flodmanii</i>
Kentucky bluegrass	<i>Poa pratensis</i>
Tall tumbled mustard	<i>Sisymbrium altissimum</i>
Common dandelion	<i>Taraxacum officinale</i>
Cocklebur	<i>Xanthium spp.</i>
SHRUBS/TREES	
Prairie rose	<i>Rosa arkansana</i>
Western snowberry	<i>Symphoricarpos occidentalis</i>
Poison ivy	<i>Toxicodendron rydbergii</i>

Ecological Worksheets

Site #7 Road

Date: May 3, 2011

Slope: 9

Aspect: Southeast

Resource Area: Hale Marina Road ROW

UTM Coordinates: N5283789 E0699232

Ecological Site: Shallow Loamy

Community Type: Blue grama, Little bluestem, Western snowberry

PLANT COMPOSITION	
Common Name	Scientific Name
GRASSES	
Blue grama	<i>Bouteloua gracilis</i>
Threadleaf sedge	<i>Carex filifolia</i>
Needleandthread	<i>Hesperostipa comata</i>
Prairie junegrass	<i>Koeleria macrantha</i>
Western wheatgrass	<i>Pascopyrum smithii</i>
Little bluestem	<i>Schizachyrium scoparium</i>
FORBS/LEGUMES	
Common yarrow	<i>Achillea millefolium</i>
Cudweed sagewort	<i>Artemisia ludoviciana</i>
Prairie smoke	<i>Geum triflorum</i>
Curlycup gumweed	<i>Grindelia squarrosa</i>
Hood phlox	<i>Phlox hoodii</i>
Hairy goldenaster	<i>Heterotheca villosa</i>
Dotted gayfeather	<i>Liatris punctata</i>
Silverleaf scurfpea	<i>Psoralea argophylla</i>
Prairie buttercup	<i>Ranunculus rhomboides</i>
Prairie coneflower	<i>Ratibida columnifera</i>
Common groundsel	<i>Senecio vulgaris</i>
Goldenrod	<i>Solidago spp.</i>
American vetch	<i>Vicia americana</i>
INVASIVES/WEEDS	
Japanese brome	<i>Bromus inermis</i>
Cheatgrass brome	<i>Bromus tectorum</i>
Canada thistle	<i>Cirsium arvense</i>
Flodman's thistle	<i>Cirsium flodmanii</i>
Kentucky bluegrass	<i>Poa pratensis</i>
Common dandelion	<i>Taraxacum officinale</i>
SHRUBS/TREES	
Fringed sagewort	<i>Artemisia frigida</i>
Hawthorn	<i>Crataegus spp.</i>
Prairie rose	<i>Rosa arkansana</i>
Western snowberry	<i>Symphoricarpos occidentalis</i>
Poison ivy	<i>Toxicodendron rydbergii</i>

Ecological Worksheets

Site #8 Road

Date: May 5, 2011

Slope: 23

Aspect: Southwest

Resource Area: Hale Marina Road ROW

UTM Coordinates: N5283969 E0698926

Ecological Site: Sandy

Community Type: Little bluestem, Silverleaf scurfpea, Silver buffaloberry

PLANT COMPOSITION	
Common Name	Scientific Name
GRASSES	
Big bluestem	<i>Andropogon gerardii</i>
Red threeawn	<i>Aristida longiseta</i>
Blue grama	<i>Bouteloua gracilis</i>
Threadleaf sedge	<i>Carex filifolia</i>
Needleandthread	<i>Hesperostipa comata</i>
Prairie junegrass	<i>Koeleria macrantha</i>
Green needlegrass	<i>Nassella viridula</i>
Western wheatgrass	<i>Pascopyrum smithii</i>
Little bluestem	<i>Schizachyrium scoparium</i>
Prairie dropseed	<i>Sporobolus heterolepis</i>
FORBS/LEGUMES	
Common yarrow	<i>Achillea millefolium</i>
Cudweed sagewort	<i>Artemisia ludoviciana</i>
Redstem filaree	<i>Erodium cicutarium</i>
Prairie smoke	<i>Geum triflorum</i>
Curlycup gumweed	<i>Grindelia squarrosa</i>
Hairy goldenaster	<i>Heterotheca villosa</i>
Dotted gayfeather	<i>Liatris punctata</i>
Western red lily	<i>Lillium philadelphicum</i>
Biscuitroot	<i>Lomatium spp.</i>
Rush skeletonweed	<i>Lygodesmia juncea</i>
Common groundsel	<i>Senecio vulgaris</i>
INVASIVES/WEEDS	
Absinth wormwood	<i>Artemisia absinthium</i>
Canada thistle	<i>Cirsium arvense</i>
Flodman's thistle	<i>Cirsium flodmanii</i>
Yellow sweetclover	<i>Melilotus officinalis</i>
Kentucky bluegrass	<i>Poa pratensis</i>
Common dandelion	<i>Taraxacum officinale</i>
SHRUBS/TREES	
Silver sagebrush	<i>Artemisia cana</i>
Fringed sagewort	<i>Artemisia frigida</i>
Prairie rose	<i>Rosa arkansana</i>
Silver buffaloberry	<i>Shepherdia argentea</i>

Ecological Worksheets

Site #8a Road

Date: May 3, 2011

Slope: 8

Aspect: East

Resource Area: Hale Marina Road ROW

UTM Coordinates: N5283938 E0698899

Ecological Site: Loamy Overflow

Community Type: Big bluestem, Green needlegrass, Mint, Western snowberry

PLANT COMPOSITION	
Common Name	Scientific Name
GRASSES	
Big bluestem	<i>Andropogon gerardii</i>
Blue grama	<i>Bouteloua gracilis</i>
Threadleaf sedge	<i>Carex filifolia</i>
Needleandthread	<i>Hesperostipa comata</i>
Prairie junegrass	<i>Koeleria macrantha</i>
Green needlegrass	<i>Nassella viridula</i>
Switchgrass	<i>Panicum virgatum</i>
Western wheatgrass	<i>Pascopyrum smithii</i>
FORBS/LEGUMES	
False dandelion	<i>Agoseris glauca</i>
Wild onion	<i>Allium textile</i>
Green sagewort	<i>Artemisia dracuncululus</i>
Cudweed sagewort	<i>Artemisia ludoviciana</i>
Milkweed	<i>Astragalus spp.</i>
Purple prairie clover	<i>Dalea purpurea</i>
Blacksamson	<i>Echinacea angustiflora</i>
Curlycup gumweed	<i>Grindelia squarrosa</i>
Hairy goldenaster	<i>Heterotheca villosa</i>
Dotted gayfeather	<i>Liatris punctata</i>
Western red lily	<i>Lillium philadelphicum</i>
Mint	<i>Mentha spp.</i>
Common groundsel	<i>Senecio vulgaris</i>
INVASIVES/WEEDS	
Flodman's thistle	<i>Cirsium flodmanii</i>
Kentucky bluegrass	<i>Poa pratensis</i>
Common dandelion	<i>Taraxacum officinale</i>
Stinging nettle	<i>Urtica dioica</i>
SHRUBS/TREES	
Broom snakeweed	<i>Gutierrezia sarothrae</i>
Prairie rose	<i>Rosa arkansana</i>
Western snowberry	<i>Symphoricarpos occidentalis</i>
Poison ivy	<i>Toxicodendron rydbergii</i>

Ecological Worksheets

Site #9 Road

Date: May 3, 2011

Slope: 9

Aspect: South

Resource Area: Hale Marina Road ROW

UTM Coordinates: N5284123 E0698771

Ecological Site: Sandy

Community Type: Little bluestem, Cudweed sagewort, Silver buffaloberry

PLANT COMPOSITION	
Common Name	Scientific Name
GRASSES	
Blue grama	<i>Bouteloua gracilis</i>
Threadleaf sedge	<i>Carex filifolia</i>
Needleandthread	<i>Hesperostipa comata</i>
Green needlegrass	<i>Nassella viridula</i>
Little bluestem	<i>Schizachyrium scoparium</i>
Prairie dropseed	<i>Sporobolus heterolepis</i>
FORBS/LEGUMES	
Common yarrow	<i>Achillea millefolium</i>
Pasqueflower	<i>Anemone patens</i>
Cudweed sagewort	<i>Artemisia ludoviciana</i>
Groundplum milkvetch	<i>Astragalus crassicaarpus</i>
Curlycup gumweed	<i>Grindelia squarrosa</i>
Sunflower	<i>Helianthus spp.</i>
Hairy goldenaster	<i>Heterotheca villosa</i>
Dotted gayfeather	<i>Liatris punctata</i>
Western red lily	<i>Lillium philadelphicum</i>
Biscuitroot	<i>Lomatium spp.</i>
Blackeyed susan	<i>Rudbeckia hirta</i>
Common groundsel	<i>Senecio vulgaris</i>
INVASIVES/WEEDS	
Absinth wormwood	<i>Artemisia absinthium</i>
Flodman's thistle	<i>Cirsium flodmanii</i>
False flax	<i>Camelina sp.</i>
Canada thistle	<i>Cirsium arvense</i>
Tall tumbled mustard	<i>Sisymbrium altissimum</i>
Common dandelion	<i>Taraxacum officinale</i>
SHRUBS/TREES	
Silver sagebrush	<i>Artemisia cana</i>
Prairie rose	<i>Rosa arkansana</i>
Silver buffaloberry	<i>Shepherdia argentea</i>
Small soapweed	<i>Yucca glauca</i>

Ecological Worksheets

Site #10 Road

Date: May 3, 2011

Slope: 4

Aspect: North

Resource Area: Hale Marina Road ROW

UTM Coordinates: N5284278 E0698521

Ecological Site: Loamy

Community Type: Big bluestem, Needleandthread, Prairie rose

PLANT COMPOSITION	
Common Name	Scientific Name
GRASSES	
Big bluestem	<i>Andropogon gerardii</i>
Red threeawn	<i>Aristida longiseta</i>
Needleandthread	<i>Hesperostipa comata</i>
Green needlegrass	<i>Nassella viridula</i>
Western wheatgrass	<i>Pascopyrum smithii</i>
Little bluestem	<i>Schizachyrium scoparium</i>
FORBS/LEGUMES	
Common yarrow	<i>Achillea millefolium</i>
Green sagewort	<i>Artemisia dracunculus</i>
Cudweed sagewort	<i>Artemisia ludoviciana</i>
Purple prairie clover	<i>Dalea purpurea</i>
Blacksamson	<i>Echinacea angustifolia</i>
Sunflower	<i>Helianthus spp.</i>
Dotted gayfeather	<i>Liatris punctata</i>
Western red lily	<i>Lilium philadelphicum</i>
Biscuitroot	<i>Lomatium spp.</i>
Hood phlox	<i>Phlox hoodii</i>
Silverleaf scurfpea	<i>Psoralea argophylla</i>
Prairie buttercup	<i>Ranunculus rhomboides</i>
Prairie coneflower	<i>Ratibida columnifera</i>
Black-eyed susan	<i>Rudbeckia hirta</i>
Common groundsel	<i>Senecio vulgaris</i>
Scarlet globemallow	<i>Sphaeralcea coccinea</i>
American vetch	<i>Vicia Americana</i>
Deathcamas	<i>Zigadenus elegans</i>
INVASIVES/WEEDS	
Absinth wormwood	<i>Artemisia absinthium</i>
False flax	<i>Camelina sp.</i>
Canada thistle	<i>Cirsium arvense</i>
Kentucky bluegrass	<i>Poa pratensis</i>
Tall tumblemustard	<i>Sisymbrium altissimum</i>
Common dandelion	<i>Taraxacum officinale</i>
Western salsify	<i>Tragopogon dubius</i>
SHRUBS/TREES	
Silver sagebrush	<i>Artemisia cana</i>
Fringed sagewort	<i>Artemisia frigida</i>
Hawthorn	<i>Crataegus spp.</i>
Prairie rose	<i>Rosa arkansana</i>
Silver buffaloberry	<i>Shepherdia argentea</i>
Western snowberry	<i>Symphoricarpos occidentalis</i>
Poison ivy	<i>Toxicodendron rydbergii</i>

Ecological Worksheets

Site #11 **Road**

Date: May 3, 2011

Slope: 9

Aspect: North

Resource Area: Hale Marina Road

UTM Coordinates: N5284296 E0698371

Ecological Site: Shallow Sandy

Community Type: Needleandthread, Little bluestem, Fringed sagewort, Prairie rose

PLANT COMPOSITION	
Common Name	Scientific Name
GRASSES	
Blue grama	<i>Bouteloua gracilis</i>
Needleandthread	<i>Hesperostipa comata</i>
Little bluestem	<i>Schizachyrium scoparium</i>
FORBS/LEGUMES	
Common yarrow	<i>Achillea millefolium</i>
Green sagewort	<i>Artemisia dracunculus</i>
Cudweed sagewort	<i>Artemisia ludoviciana</i>
Purple prairie clover	<i>Dalea purpurea</i>
Blacksamson	<i>Echinacea angustifolia</i>
Rush skeletonweed	<i>Lygodesmia</i>
Silverleaf scurfpea	<i>Psoralea argophylla</i>
Prairie buttercup	<i>Ranunculus rhomboides</i>
Goldenrod	<i>Solidago spp.</i>
Scentless mayweed	<i>Tripleurospermum perforata</i>
Deathcamas	<i>Zigadenus elegans</i>
INVASIVES/WEEDS	
Absinth wormwood	<i>Artemisia absinthium</i>
Mustard	<i>Brassica sp.</i>
Canada thistle	<i>Cirsium arvense</i>
Flodman's thistle	<i>Cirsium flodmanii</i>
Western sticktight	<i>Lappula occidentalis</i>
Pepperweed	<i>Lepidium spp.</i>
Tall tumbled mustard	<i>Sisymbrium altissimum</i>
Western salsify	<i>Tragopogon dubius</i>
SHRUBS/TREES	
Prairie rose	<i>Rosa arkansana</i>

Ecological Worksheets

Site #12 **Access Road**

Date: May 3, 2011

Slope: 9

Aspect: North

Resource Area: Hale Marina Road ROW

UTM Coordinates: N5284261 E0698065

Ecological Site: Sandy

Community Type: Needleandthread, Little bluestem, Silverleaf scurfpea, Western snowberry

PLANT COMPOSITION	
Common Name	Scientific Name
GRASSES	
Sideoats grama	<i>Bouteloua curtipendula</i>
Blue grama	<i>Bouteloua gracilis</i>
Plains reedgrass	<i>Calamagrostis montanensis</i>
Prairie sandreed	<i>Calamovilfa longifolia</i>
Threadleaf sedge	<i>Carex filifolia</i>
Sun sedge	<i>Carex inops</i>
Needleandthread	<i>Hesperostipa comata</i>
Green needlegrass	<i>Nassella viridula</i>
Western wheatgrass	<i>Pascopyrum smithii</i>
Little bluestem	<i>Schizachyrium scoparium</i>
Prairie dropseed	<i>Sporobolus heterolepis</i>
FORBS/LEGUMES	
Common yarrow	<i>Achillea millefolium</i>
Cudweed sagewort	<i>Artemisia ludoviciana</i>
Sand bladderpod	<i>Lesquerella arenosa</i>
Silverleaf scurfpea	<i>Psoralea argophylla</i>
Prairie coneflower	<i>Ratibida columnifera</i>
Goldenrod	<i>Solidago spp.</i>
INVASIVES/WEEDS	
Absinth wormwood	<i>Artemisia absinthium</i>
Mustard	<i>Brassica spp.</i>
SHRUBS/TREES	
Prairie rose	<i>Rosa arkansana</i>
Western snowberry	<i>Symphoricarpos occidentalis</i>

Ecological Worksheets

Site #13 Road

Date: May 3, 2011

Slope: 6

Aspect: Southeast

Resource Area: Hale Marina Road ROW

UTM Coordinates: N5284561 E0697894

Ecological Site: Loamy

Community Type: Blue grama, Western wheatgrass, Fringed sagewort, Western snowberry

PLANT COMPOSITION	
Common Name	Scientific Name
GRASSES	
Red threeawn	<i>Aristida longiseta</i>
Blue grama	<i>Bouteloua gracilis</i>
Needleandthread	<i>Hesperostipa comata</i>
Prairie junegrass	<i>Koeleria macrantha</i>
Western wheatgrass	<i>Pascopyrum smithii</i>
Little bluestem	<i>Schizachyrium scoparium</i>
FORBS/LEGUMES	
Cudweed sagewort	<i>Artemisia ludoviciana</i>
Harebell	<i>Campanula rotundiflora</i>
Purple prairie clover	<i>Dalea purpurea</i>
Northern bedstraw	<i>Galium boreale</i>
Prairie smoke	<i>Geum triflorum</i>
Western red lily	<i>Lilium philadelphicum</i>
Silverleaf scurfpea	<i>Psoralea argophylla</i>
Common groundsel	<i>Senecio vulgaris</i>
Clover	<i>Trifolium spp.</i>
Scentless mayweed	<i>Tripleurospermum perforata</i>
American vetch	<i>Vicia Americana</i>
Deathcamas	<i>Zigadenus elegans</i>
INVASIVES/WEEDS	
Absinth wormwood	<i>Artemisia absinthium</i>
Canada thistle	<i>Cirsium arvense</i>
Flodman's thistle	<i>Cirsium flodmanii</i>
Common dandelion	<i>Taraxacum officinale</i>
Western salsify	<i>Tragopogon dubius</i>
SHRUBS/TREES	
Silver sagebrush	<i>Artemisia cana</i>
Fringed sagewort	<i>Artemisia frigida</i>
Hawthorn	<i>Crataegus spp.</i>
Prairie rose	<i>Rosa arkansana</i>
Silver buffaloberry	<i>Shepherdia argentea</i>
Western snowberry	<i>Symphoricarpos occidentalis</i>

Ecological Worksheets

Site #14 **Road**
Date: May 3, 2011 **Slope:** 9 **Aspect:** East
Resource Area: Hale Marina Road ROW
UTM Coordinates: N5284813 E0697876
Ecological Site: Loamy Overflow
Community Type: Big bluestem, Thickspike wheatgrass, Green needlegrass, Mint, Hawthorn, Western snowberry

PLANT COMPOSITION		
Common Name		Scientific Name
GRASSES		
Big bluestem		<i>Andropogon gerardii</i>
Threadleaf sedge		<i>Carex filifolia</i>
Bearded wheatgrass		<i>Elymus caninus</i>
Thickspike wheatgrass		<i>Elymus lanceolatus</i>
Scouringrush horsetail		<i>Equisetum hyemale</i>
Porcupine grass		<i>Hesperostipa spartea</i>
Green needlegrass		<i>Nassella viridula</i>
Switchgrass		<i>Panicum virgatum</i>
Western wheatgrass		<i>Pascopyrum smithii</i>
Sandberg bluegrass		<i>Poa secunda</i>
Prairie cordgrass		<i>Spartina pectinata</i>
FORBS/LEGUMES		
Common yarrow		<i>Achillea millefolium</i>
False dandelion		<i>Agoseris glauca</i>
Green sagewort		<i>Artemisia dracunculus</i>
Cudweed sagewort		<i>Artemisia ludoviciana</i>
Milkweed		<i>Asclepias sp.</i>
Milkvetch		<i>Astragalus spp.</i>
Harebell		<i>Campanula rotundiflora</i>
Purple prairie clover		<i>Dalea purpurea</i>
Blacksamson		<i>Echinacea angustifolia</i>
American licorice		<i>Glycyrrhiza lepidota</i>
Hedysarum		<i>Hedysarum alpinum</i>
Sunflower		<i>Helianthus spp.</i>
Mint		<i>Mentha spp.</i>
Penstemon		<i>Penstemon spp.</i>
Silverleaf scurfpea		<i>Psoralea argophylla</i>
Prairie coneflower		<i>Ratibida columnifera</i>
Goldenrod		<i>Solidago spp.</i>
Clover		<i>Trifolium spp.</i>
American vetch		<i>Vicia Americana</i>
INVASIVES/WEEDS		
Smooth brome		<i>Bromus inermis</i>
Flodman's thistle		<i>Cirsium flodmanii</i>
Leafy spurge		<i>Euphorbia esula</i>
Common dandelion		<i>Taraxacum officinale</i>
Western salsify		<i>Tragopogon dubius</i>
SHRUBS/TREES		
Hawthorn		<i>Crataegus spp.</i>
Green ash		<i>Fraxinus pennsylvanica</i>
Shrubby cinquefoil		<i>Potentilla fruticosa</i>
Golden current		<i>Ribes aureum</i>
Prairie rose		<i>Rosa arkansana</i>
Silver buffaloberry		<i>Shepherdia argentea</i>
Common snowberry		<i>Symphoricarpos</i>
Poison ivy		<i>Toxicodendron rydbergii</i>

Ecological Worksheets

Site #15 **Road**

Date: May 3, 2011

Slope: 12

Aspect: East

Resource Area: Hale Marina Road ROW

UTM Coordinates: N5285042 E0697770

Ecological Site: Sandy

Community Type: Blue grama, Red threeawn, Silverleaf scurfpea, Fringed sagewort, Prairie rose

PLANT COMPOSITION	
Common Name	Scientific Name
GRASSES	
Big bluestem	<i>Andropogon gerardii</i>
Red threeawn	<i>Aristida longiseta</i>
Blue grama	<i>Bouteloua gracilis</i>
Western wheatgrass	<i>Pascopyrum smithii</i>
FORBS/LEGUMES	
Common yarrow	<i>Achillea millefolium</i>
Cudweed sagewort	<i>Artemisia ludoviciana</i>
Silverleaf scurfpea	<i>Psoralea argophylla</i>
Purple prairie clover	<i>Dalea purpurea</i>
Redstem filaree	<i>Erodium cicutarium</i>
Curlycup gumweed	<i>Grindelia squarrosa</i>
Penstemon	<i>Penstemon spp.</i>
Scarlet globemallow	<i>Sphaeralcea coccinea</i>
INVASIVES/WEEDS	
Absinth wormwood	<i>Artemisia absinthium</i>
Mustard	<i>Brassica spp.</i>
Smooth brome	<i>Bromus inermis</i>
Flodman's thistle	<i>Cirsium flodmanii</i>
Common dandelion	<i>Taraxacum officinale</i>
Fanweed	<i>Thlaspi arvense</i>
Western salsify	<i>Tragopogon dubius</i>
SHRUBS/TREES	
Prairie rose	<i>Rosa arkansana</i>

Ecological Worksheets

Site #16 **Road**

Date: May 3, 2011

Slope: 4

Aspect: North

Resource Area: Hale Marina Road ROW

UTM Coordinates: N5285250 E0697296

Ecological Site: Loamy

Community Type: Blue grama, Needleandthread, Cudweed sagewort, Prairie rose

PLANT COMPOSITION		
Common Name		Scientific Name
GRASSES		
Red threeawn		<i>Aristida longiseta</i>
Blue grama		<i>Bouteloua gracilis</i>
Needleandthread		<i>Hesperostipa comata</i>
Prairie junegrass		<i>Koeleria macrantha</i>
Western wheatgrass		<i>Pascopyrum smithii</i>
Little bluestem		<i>Schizachyrium scoparium</i>
FORBS/LEGUMES		
Cudweed sagewort		<i>Artemisia ludoviciana</i>
Harebell		<i>Campanula rotundiflora</i>
Purple prairie clover		<i>Dalea purpurea</i>
Prairie smoke		<i>Geum triflorum</i>
Western red lily		<i>Lilium philadelphicum</i>
Silverleaf scurfpea		<i>Psoralea argophylla</i>
Common groundsel		<i>Senecio vulgaris</i>
Clover		<i>Trifolium spp.</i>
Scentless mayweed		<i>Tripleurospermum perforata</i>
American vetch		<i>Vicia Americana</i>
Deathcamas		<i>Zigadenus elegans</i>
INVASIVES/WEEDS		
Absinth wormwood		<i>Artemisia absinthium</i>
Canada thistle		<i>Cirsium arvense</i>
Common dandelion		<i>Taraxacum officinale</i>
Western salsify		<i>Tragopogon dubius</i>
SHRUBS/TREES		
Silver sagebrush		<i>Artemisia cana</i>
Fringed sagewort		<i>Artemisia frigida</i>
Hawthorn		<i>Crataegus spp.</i>
Prairie rose		<i>Rosa arkansana</i>
Silver buffaloberry		<i>Shepherdia argentea</i>
Western snowberry		<i>Symphoricarpos occidentalis</i>

Ecological Worksheets

Site #17 **Road**

Date: May 3, 2011

Slope: 3

Aspect: Northwest

Resource Area: Hale Marina Road ROW

Legal Description:

UTM Coordinates: N5285315 E0696975

Ecological Site: Loamy

Community Type: Blue grama, Needleandthread, Cudweed sagewort, Western snowberry

PLANT COMPOSITION	
Common Name	Scientific Name
GRASSES	
Red threeawn	<i>Aristida longiseta</i>
Blue grama	<i>Bouteloua gracilis</i>
Needleandthread	<i>Hesperostipa comata</i>
Prairie junegrass	<i>Koeleria macrantha</i>
Western wheatgrass	<i>Pascopyrum smithii</i>
Little bluestem	<i>Schizachyrium scoparium</i>
FORBS/LEGUMES	
Cudweed sagewort	<i>Artemisia ludoviciana</i>
Harebell	<i>Campanula rotundiflora</i>
Purple prairie clover	<i>Dalea purpurea</i>
Prairie smoke	<i>Geum triflorum</i>
Western red lily	<i>Lilium philadelphicum</i>
Silverleaf scurfpea	<i>Psoralea argophylla</i>
Common groundsel	<i>Senecio vulgaris</i>
Clover	<i>Trifolium spp.</i>
Scentless mayweed	<i>Tripleurospermum perforata</i>
American vetch	<i>Vicia Americana</i>
Deathcamas	<i>Zigadenus elegans</i>
INVASIVES/WEEDS	
Absinth wormwood	<i>Artemisia absinthium</i>
Canada thistle	<i>Cirsium arvense</i>
Common dandelion	<i>Taraxacum officinale</i>
Western salsify	<i>Tragopogon dubius</i>
Stinging nettle	<i>Urtica dioica</i>
SHRUBS/TREES	
Silver sagebrush	<i>Artemisia cana</i>
Fringed sagewort	<i>Artemisia frigida</i>
Hawthorn	<i>Crataegus spp.</i>
Prairie rose	<i>Rosa arkansana</i>
Silver buffaloberry	<i>Shepherdia argentea</i>
Western snowberry	<i>Symphoricarpos occidentalis</i>

Table C1: Characteristics of the native seed mix to be used for reclamation at the proposed Hale Marina Road improvement project corridor.

Common Name	Plant Species	Suggested Variety ¹	Pounds (PLS) ²	Seeds per Pound	Composition	Preferred soil type	Notes ^{1,3}
Cool Season Grasses							
Slender wheatgrass	<i>Elymus trachycaulus</i> ssp. <i>trachycaulus</i>	Primer	0.5	135,000	10%	sandy to clayey	Moderate drought tolerance. Rapid establishment, short-lived. Saline-tolerant and adapted to a wide range of sites. Useful where quick, native, non-aggressive perennial cover is desired.
Western wheatgrass	<i>Pascopyrum smithii</i>	Mandan 456	2.4	115,000	30%	silty-loamy to clay	Drought tolerant. Fairly easy to moderate establishment, long-lived. Useful for slightly saline, erosive soils where long-lived hardy vegetation is desired and rapid establishment is not.
Prairie junegrass	<i>Koeleria macrantha</i>	NA	0.1	2,315,000	10%	sandy	Drought tolerant. Easy establishment. Useful where early season forage is desired and erosion is not a severe problem. Not tolerant of heavy early season grazing.
Green needlegrass	<i>Nassella viridula</i>	Lodorm	1.2	167,840	20%	wide-range	Drought tolerant. Establishes on a wide variety of sites, long-lived, fibrous deep root system. Moderately palatable to livestock and wildlife year-round.
Warm season grasses							
Blue grama	<i>Bouteloua gracilis</i>	Bad River	0.2	724,400	10%	fine-textured rolling uplands	Drought resistant. Easy establishment. Saline tolerant. Sod-forming with seedling vigor and leafiness.
Sideoats grama	<i>Bouteloua curtipendula</i>	Killdeer	0.6	159,200	10%	fine to coarse textured	Moderately drought tolerant. Excellent winter hardiness. Saline tolerant. High palatability during spring and summer.
Little bluestem	<i>Andropogon scoparius</i>	Aldous, Blaze, Camper	0.4	240,670	10%	wide-range	Moderately drought tolerant. Long-lived bunchgrass with deep fibrous root system. Intolerant of saline or wetland conditions.
Total			5.4		100%		

¹ USGS 2006.

² PLS = pound of pure live seed

³ Source: Goodwin and Sheley 2003.

Appendix D

Soil Data Summary

*Hale Marina Road Improvement Project Environmental Assessment
XTO Energy, Inc.*

Table D2: A summary of soil attributes for ecological sites at the proposed Hale Marina Road improvement project corridor.

Soil Pit Number	UTM Location*	SMU	Soil Series Component	Text. Family/Taxonomic Class	Slope %	Aspect	Landform/Pos.	Depth (inch)	Parent Material	Ecological Site
1	N5283541 E0700248	62B	Savage silt loam	Fn-smect,f,Vertic Argiustolls	4	S	Hills/Swale	>60	Alluvium/Mixed Sed	Clayey
2	N5283563 E0699958	52C	Dogtooth silt loam	Fn-smect,f,Leptic Natrustolls	6	S	Hills/Backslope	20-40	Residuum/Siltstone	Thin Claypan
3	N5283557 E0699953	52C	Morton silt loam	Fn-si,m,SA,f,Typic Argiustolls	6	S	Hills/Backslope	40-60	Residuum/Siltstone	Loamy
4	N5283617 E0699660	52C	Dogtooth silt loam	Fn-smect,f,Leptic Natrustolls	7	SW	Hills/Toeslope	20-40	Residuum/Siltstone	Thin Claypan
5	N5283576 E0699623	62B	Savage silt loam	Fn-smect,f,Vertic Argiustolls	4	SW	Hills/Swale	>60	Alluvium/Mixed Sed	Clayey
6	N5283634 E0699515	30E	Arnegard loam	Fn-lo,m,SA,f,Pachic Haplustolls	3	S	Hills/Drainage	>60	Alluvium/Mixed Sed	Loamy Overflow
7	N5283789 E0699232	209E	Cabba silt loam	Lo,m,SA,cal,f,shal,Typic Ustorthents	9	SE	Hills/Backslope	>20	Residuum/Siltstone	Shallow Loamy
8	N5283969 E0698926	30E	Vebar fine sandy loam	Co-lo,m,SA,f,Typic Haplustolls	23	SW	Hills/Backslope	20-40	Residuum/Sandstone	Sandy
8a	N5283938 E0698899	30E	Arnegard loam	Fn-lo,m,SA,f,Pachic Haplustolls	8	E	Hills/Drainage	>60	Alluvium/Mixed Sed	Loamy Overflow
9	N5284123 E0698771	30E	Vebar fine sandy loam	Co-lo,m,SA,f,Typic Haplustolls	9	S	Hills/Backslope	20-40	Residuum/Sandstone	Sandy
10	N5284278 E0698521	4B	Arnegard loam	Fn-lo,m,SA,f,Pachic Haplustolls	4	N	Hills/Swale	>60	Alluvium/Mixed Sed	Loamy
11	N5284296 E0698371	30E	Colhagen fine sandy loam	Lo,m,SA,cal,f,shal,Typic Ustorthents	9	N	Hills/Summit	10-20	Residuum/Sandstone	Shallow Sandy
12	N5284261 E0698065	81D	Vebar fine sandy loam	Co-lo,m,SA,f,Typic Haplustolls	9	N	Hills/Backslope	20-40	Residuum/Sandstone	Sandy
13	N5284561 E0697894	4B	Arnegard loam	Fn-lo,m,SA,f,Pachic Haplustolls	6	SE	Hills/Backslope	>60	Alluvium/Mixed Sed	Loamy
14	N5284813 E0697876	30E	Arnegard loam	Fn-lo,m,SA,f,Pachic Haplustolls	9	E	Hills/Drainage	>60	Alluvium/Mixed Sed	Loamy Overflow
15	N5285042 E0697770	30E	Vebar fine sandy loam	Co-lo,m,SA,f,Typic Haplustolls	12	E	Hills/Backslope	20-40	Residuum/Sandstone	Sandy
16	N5285250 E0697296	88B	Williams loam	Fn-lo,m,SA,f,Typic Argiustolls	4	N	Uplands	>60	Glacial till	Loamy
17	N5285315 E0696975	88B	Williams loam	Fn-lo,m,SA,f,Typic Argiustolls	3	NW	Uplands	>60	Glacial till	Loamy

* Differentially corrected; UTM Zone is 13T.

Figure D1: Definitions of the Unified Soil Classification System

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES			
COARSE GRAINED SOILS (More than 50% of material is LARGER than No. 200 sieve size)	GRAVELS (More than 50% of coarse fraction is LARGER than the No. 4 sieve size)	CLEAN GRAVELS (Little or no fines)	 GW	Well-graded gravels or gravel-sand mixtures, little or no fines.			
		GRAVELS WITH FINES (Appreciable amt. of fines)	 GP	Poorly-graded gravels or gravel-sand mixtures, little or no fines.			
			 GM	Silty gravels, gravel-sand-silt mixtures.			
		 GC	Clayey gravels, gravel-sand-clay mixtures.				
	SANDS (More than 50% of coarse fraction is SMALLER than the No. 4 sieve size)	CLEAN SANDS (Little or no fines)	 SW	Well-graded sands or gravelly sands, little or no fines.			
		SANDS WITH FINES (Appreciable amt. of fines)	 SP	Poorly-graded sands or gravelly sands, little or no fines.			
 SM			Silty sands, sand-silt mixtures.				
 SC		Clayey sands, sand-clay mixtures.					
FINE GRAINED SOILS (More than 50% of material is SMALLER than No. 200 sieve size)	SILTS AND CLAYS (Liquid limit LESS than 50)		 ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.			
	SILTS AND CLAYS (Liquid limit GREATER than 50)		 CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.			
			 OL	Organic silts and organic silt-clays of low plasticity.			
			 MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.			
			 CH	Inorganic clays of high plasticity, fat clays.			
			 OH	Organic clays of medium to high plasticity, organic silts.			
 Pt			Peat and other highly organic soils.				
BOUNDARY CLASSIFICATIONS: Soils possessing characteristics of two groups are designated by combinations of group symbols.							
PARTICLE SIZE LIMITS							
SILT OR CLAY	SAND			GRAVEL		COBBLES	BOULDERS
	Fine	Medium	Coarse	Fine	Coarse		
	No. 200	No. 40	No. 10	No. 4	¾ in.	3 in.	12 in.
U. S. STANDARD SIEVE SIZE							

Reference: The Unified Soil Classification System, Corps of Engineers, U.S. Army Technical Memorandum No. 3-357, Vol. 1, March, 1953 (Revised April, 1960)

1969

A.M.F.

Figure G 160

Appendix E

Cultural Resources Documentation

*Hale Marina Road Improvement Project Environmental Assessment
XTO Energy, Inc.*



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

SEP 13 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 road improvement project in Dunn County, North Dakota. Approximately 44 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the area depicted in the enclosed report. No historic properties were located that appear to possess the quality of integrity and meet at least one of the criteria (36 CFR 60.4) for inclusion on the National Register of Historic Places. No properties were located that appear to qualify for protection under the American Indian Religious Freedom Act (42 USC 1996).

As the surface management agency, and as provided for in 36 CFR 800.5, we have therefore reached a determination of **no historic properties affected** for this undertaking. Catalogued as **BIA Case Number AAO-1733/FB/10**, the proposed undertaking, location, and project dimensions are described in the following report:

Morgan, Kelly
(2011) Hale Marina Road Expansion: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for XTO Energy, Fort Worth, TX.

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

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

Sincerely,

ACTING 
Regional Director

Enclosure

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

Appendix F

Agency Correspondence

*Hale Marina Road Improvement Project Environmental Assessment
XTO Energy, Inc.*

Appendix F

Agency Correspondence

*Hale Marina Road Improvement Project Environmental Assessment
XTO Energy, Inc.*



An employee-owned company

June 18, 2010

Kathy Duttonhefner
Planning & Natural Resources Division
North Dakota Parks & Recreation Department
1600 East Century Ave., Suite 3
Bismarck, ND 58503-0649

Dear Ms. Duttonhefner:

We are requesting known location information and any associated data for threatened, endangered, and rare animals and plants within a one-mile distance of our project area boundary (**Project Vicinity Map**). Our project is located on the Fort Berthold Indian Reservation, east of Mandaree, in Dunn County, North Dakota. The project sites occur within:

- * Township 149N, Range 92W, Sections 2, 11, 14, 22, 23, 24, 25, 26, 27, 34, & 35;
- * Township 149N, Range 91W, Sections 16, 21, 22, 27, 28, 29, 30, 31, 32, & 33;
- * Township 148N, Range 92W, Sections 1, 2, 9, & 16;
- * Township 148N, Range 91W, Sections 6, 7, 13, & 18.

I understand there is a fee for out-of-state information requests. Please let me know the total cost and we will gladly pay the fee. I can be contacted by phone at (406) 439-0284 or through e-mail at apipp@pbsj.com. Information can be mailed to me at the address on this letterhead or to my e-mail address.

Thank you very much for providing plant and animal information.

Sincerely,

A handwritten signature in black ink that reads 'Andrea Pipp'.

Andrea K. Pipp
Botanist



John Hoeven, 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

July 14, 2010

Andrea K. Pipp
PBS & J
820 North Montana Avenue, Suite A
Helena, MT 59601

Re: XTO Energy, Inc. Oil Exploration Project

Dear Ms. Pipp:

The North Dakota Parks and Recreation Department (NDPRD) has reviewed the above referenced project proposal to conduct oil exploration in areas located in Sections 2, 11, 14, 22-27, 34, and 35, T149N, R92W; Sections 16, 21, 22, and 27-33, T149N, R91W; Sections 1, 2, 9, 13, and 16, T148N, R92W; and Sections 6, 7, and 18, T148N, R91W, Dunn County.

Our agency scope of authority and expertise covers recreation and biological resources (in particular rare species 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 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 project area. Based on this review, we do have records for the occurrence of *Charadrius melodus* (piping plover) in a section adjacent to the project area indicating that the habitat in the project area may be suited for this specie or other rare, threatened, sensitive or endangered species. Please see the attached spreadsheet and map for more information on these occurrences. We defer further comments regarding animal species to the North Dakota Game and Fish Department and the United States Fish and Wildlife Service.

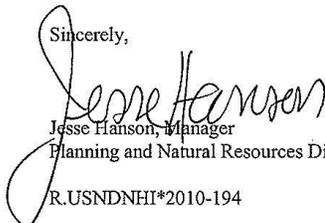
Because this information is not based on a comprehensive inventory, there may be species of concern or otherwise significant ecological communities in the area that are not represented in the database. The lack of data for any project area cannot be construed to mean that no significant features are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

Regarding any reclamation efforts, we recommend that any impacted areas be revegetated with species native to the project area.

It is our policy to charge out-of-state requests for data services including data retrieval, data analysis, manual and computer searches, packaging and collection of data. An invoice for services provided has been enclosed.

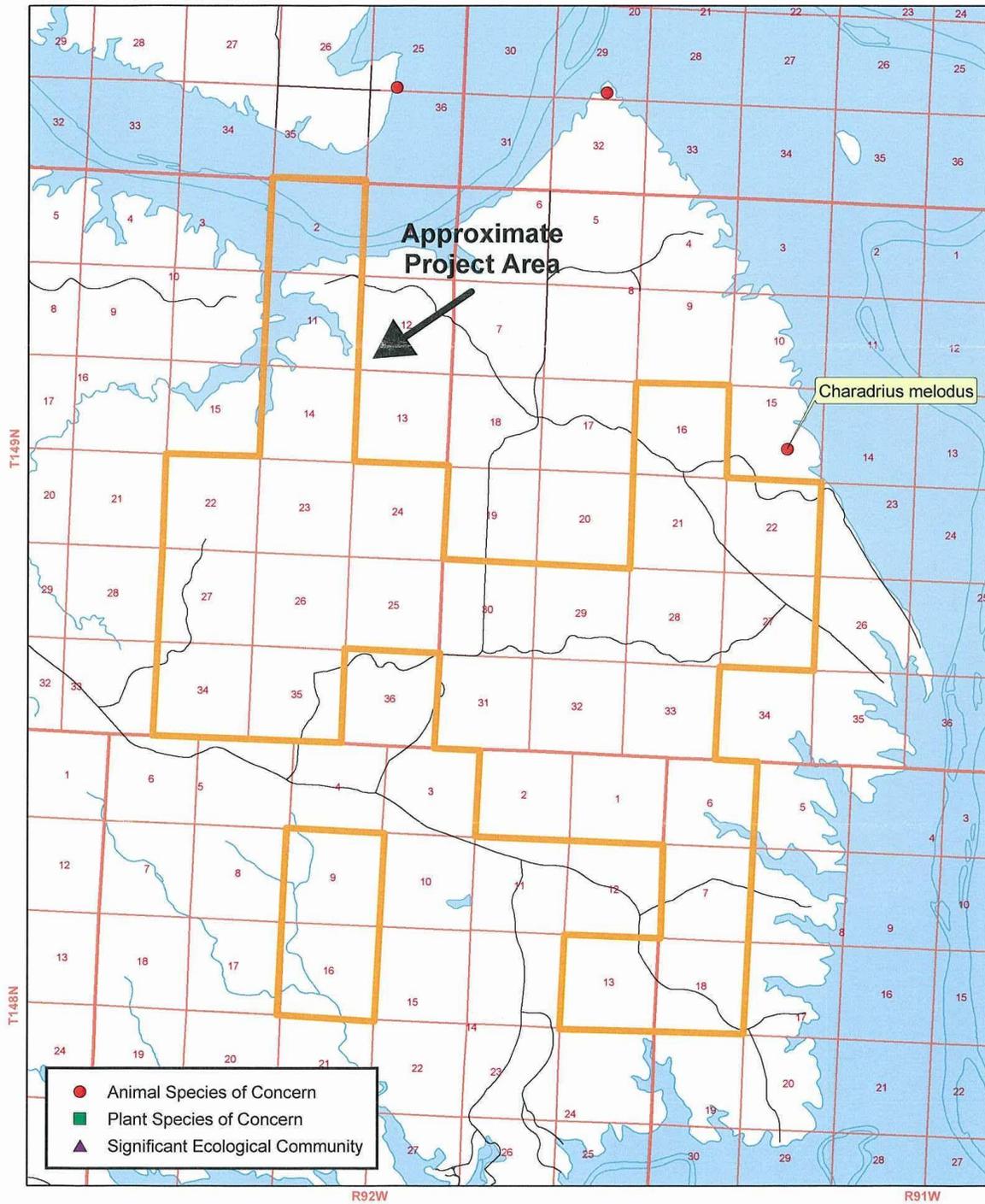
Thank you for the opportunity to comment on this project. Please contact Kathy Duttenhefner (701-328-5370 or kgduttonhefner@nd.gov) of our staff if additional information is needed.

Sincerely,


Jesse Hanson, Manager
Planning and Natural Resources Division
R.USNDNHI*2010-194

.....
Play in our backyard!

North Dakota Parks and Recreation Department
North Dakota Natural Heritage Inventory



July 2010

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	County	Last Observation	Estimated Representation Accuracy	Precision
Charadrius melodus	Piping Plover	S1S2	G3	LE, LT	149N091W - 15	Dunn	1996		S

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 to be occupied 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



Atkins North America, Inc.
820 North Montana Avenue, Suite A
Helena, Montana 59601

Telephone: +1.406.495.1377
Fax: +1.406.495.1379

www.atkinsglobal.com/northamerica

May 31, 2011

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

Subject: XTO Energy Exploration on the Fort Berthold Indian Reservation - Hale Marina Road

Dear Mr. Towner:

XTO Energy, Inc. (XTO) is proposing to improve the existing Hale Marina Road in order to facilitate access and conduct oil exploration activities at several well sites in Dunn County, east of Mandaree, North Dakota on the Fort Berthold Indian Reservation (FBIR) (see enclosed **Project Vicinity Map**). The proposed Hale Marina Road improvement project falls under the jurisdiction of the U.S. Department of Interior's Bureau of Indian Affairs (BIA), necessitating the preparation of an environmental assessment (EA). XTO is preparing a draft EA for this road on behalf of the BIA. As outlined under Section 7 of the Endangered Species Act of 1973, as amended, XTO and their consultants, as the designated agent for the BIA for XTO projects, requests that the U.S. Fish and Wildlife Service provide a list of and ancillary information for known or potential occurrences of proposed, candidate, threatened, and endangered species, as well as, designated critical habitat areas that occur or potentially occur in the project area (see **Project Vicinity Map**). We would also appreciate guidance regarding migratory birds, Bald and Golden Eagles, wetlands, other related biological issues that your office regulates or has a specific interest in, and related concerns to the proposed activity.

The Hale Marina Road begins at the intersection with BIA 13 and extends east and south through Sections 29, 30, 32, and 33 of Township 149N, Range 91W, Section 1 of Township 148N and Range 92W, and Section 6 of Township 148N and Range 91W (see **Location Map**). Photographs of the existing dirt road were taken on May 11-12, 2011 and are attached to this letter. The proposed action would improve approximately 3.1 miles of the existing Hale Marina Road by widening, resurfacing with gravel, adding turn-outs, and adjusting the turning radii of curves to accommodate trucks travelling to and from proposed well sites.

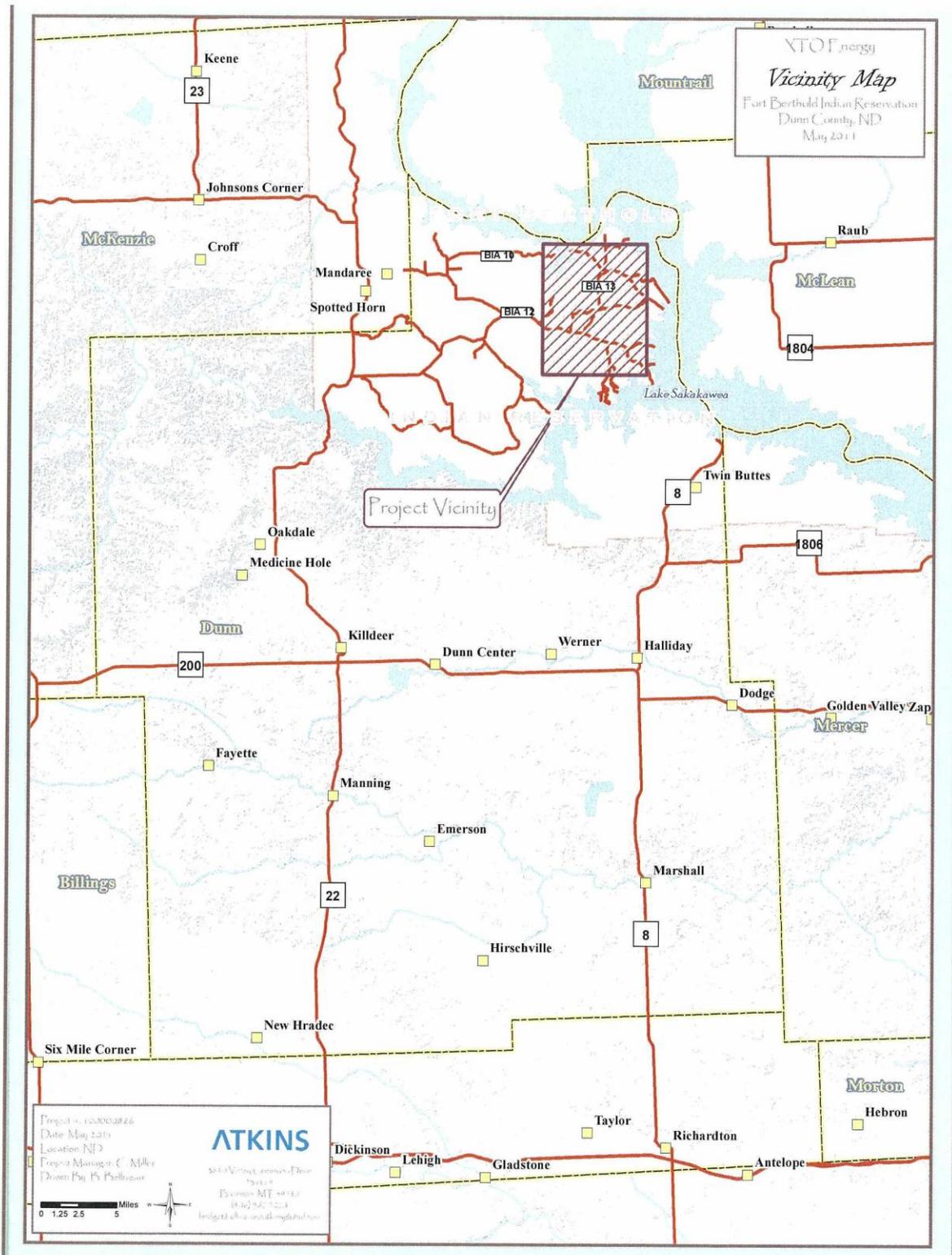
We appreciate your assistance and comments related to the proposed Hale Marina Road improvement project. If you have any questions, please contact me by e-mail at andrea.pipp@atkinsglobal.com or by cell phone at (406) 439-0284.

Sincerely,

Andrea K. Pipp
Botanist

Enclosures

Cc: C. Miller, Atkins; R. McEldowney, Atkins; D. Phillippi, NRO; D. Worthington, XTO Energy; M. Warren, XTO Energy; M. Bercier, BIA.



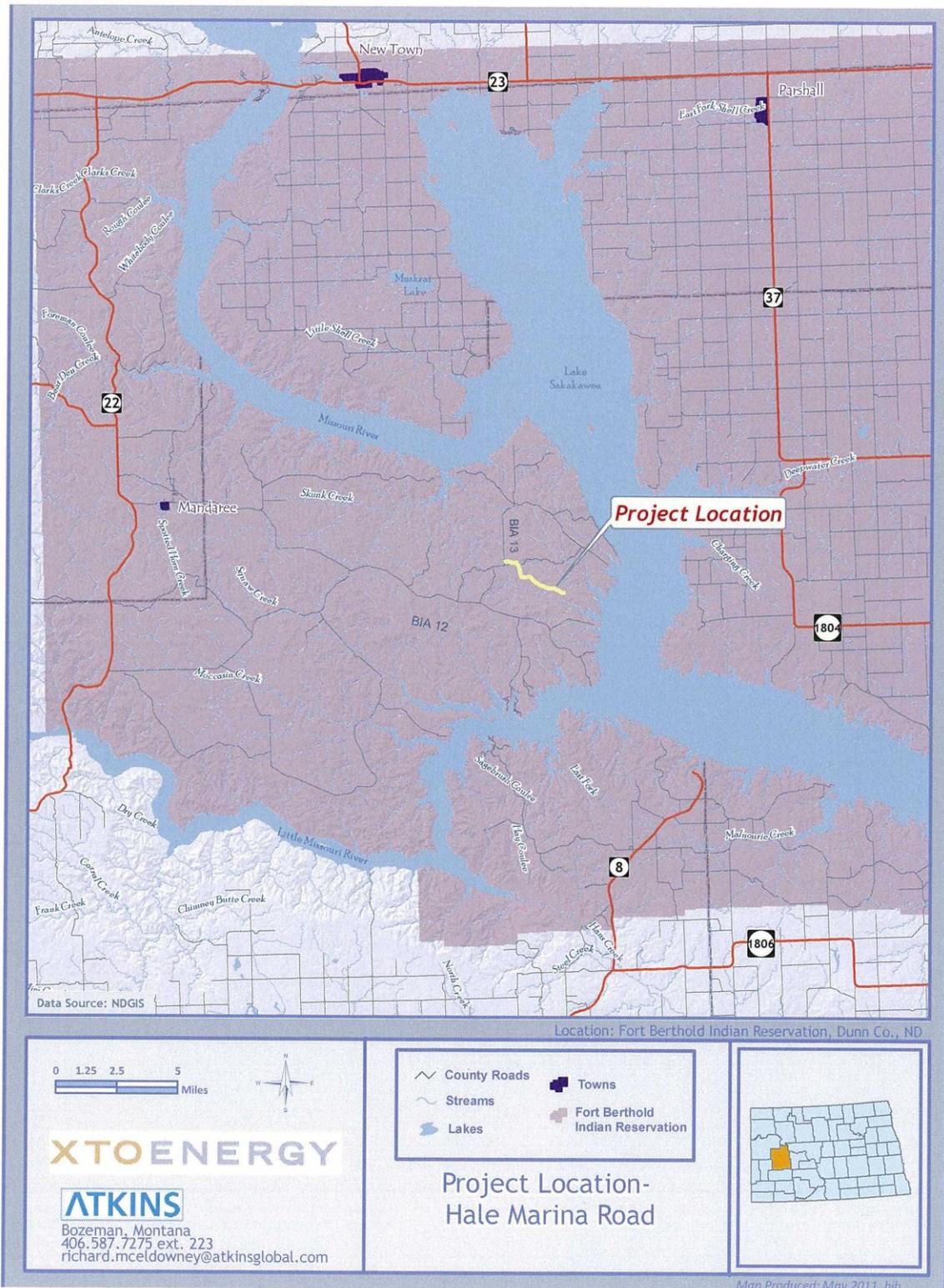




Photo 1: Hale Marina Road near the intersection with BIA 13. View is east.



Photo 2: Hale Marina Road where adjustments to the turning radii are proposed.



Photo 3: Hale Marina Road and a seasonal pond. View is south.



Photo 4: Hale Maria Road. View is east.



Photo 5: View is northwest towards hill.



Photo 6: View is southeast near end of proposed improvement.



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Helena, Montana 59601

Telephone: +1.406.495.1377
Fax: +1.406.495.1379

www.atkinsglobal.com/northamerica

May 31, 2011

Fred Poitra
Three Affiliated Tribes
Game & Fish Director
404 Frontage Road
New Town, North Dakota 58763

Subject: XTO Energy Exploration on the Fort Berthold Indian Reservation - Hale Marina Road

Dear Mr. Poitra:

XTO Energy, Inc. (XTO) is proposing to improve the existing Hale Marina Road in order to facilitate access and conduct oil exploration activities at several well sites in Dunn County, east of Mandaree, North Dakota on the Fort Berthold Indian Reservation (FBIR) (see enclosed **Project Vicinity Map**). The proposed Hale Marina Road improvement project falls under the jurisdiction of the U.S. Department of Interior's Bureau of Indian Affairs (BIA), necessitating the preparation of an environmental assessment (EA). XTO is preparing a draft EA for this road on behalf of the BIA. We would appreciate information on threatened & endangered plants and animals (i.e., black-footed ferret, Dakota skipper, gray wolf, Interior Least Tern, Piping Plover, and Whooping Crane), concerns related to the proposed activity, known locations of Bald Eagle, Golden Eagle, and other raptor nests, information on big game winter/summer range, and information on general wildlife and plants. In addition please let us know if there are any Tribal revegetation guidelines and any Tribal management plans or agreements between the Tribe and the USFWS that contain conservation measures relevant to listed species and their habitats that we should address in the EA.

The Hale Marina Road begins at the intersection with BIA 13 and extends east and south through Sections 29, 30, 32, and 33 of Township 149N, Range 91W, Section 1 of Township 148N and Range 92W, and Section 6 of Township 148N and Range 91W (see **Location Map**). Photographs of the existing dirt road were taken on May 11-12, 2011 and are attached to this letter. The proposed action would improve approximately 3.1 miles of the existing Hale Marina Road by widening, resurfacing with gravel, adding turn-outs, and adjusting the turning radii of curves to accommodate trucks travelling to and from proposed well sites.

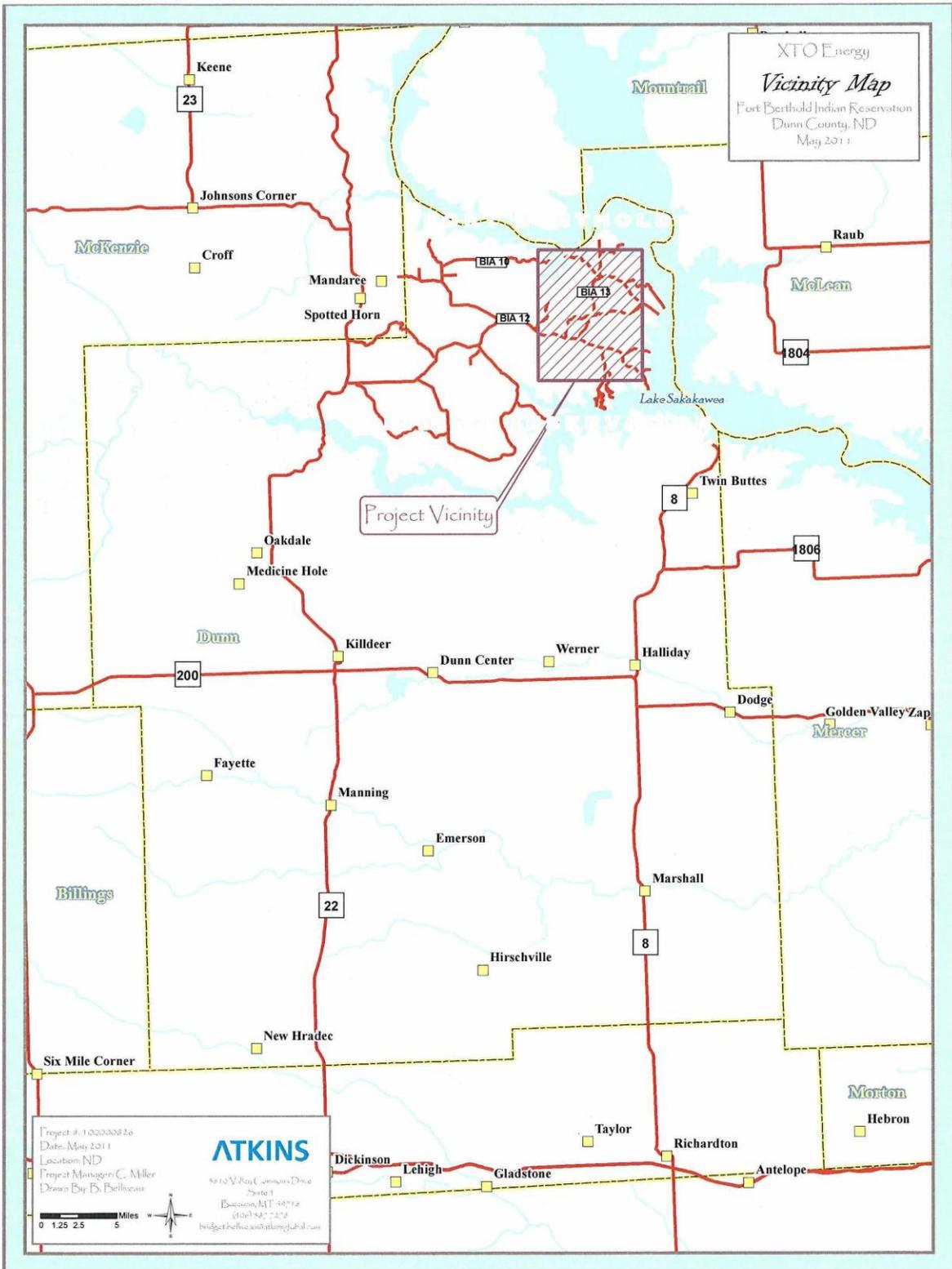
We appreciate your assistance and comments related to the proposed Hale Marina Road improvement project. I will contact you in mid-June to discuss this project. Please note that our former company, PBS&J, has merged with Atkins. If you have any questions, please contact me by e-mail at andrea.pipp@atkinsglobal.com or by cell phone at (406) 439-0284.

Sincerely,

Andrea K. Pipp
Botanist

Enclosures

Cc: C. Miller, Atkins; R. McEldowney, Atkins; D. Phillippi, NRO; D. Worthington, XTO Energy; M. Warren, XTO Energy; M. Bercier, BIA.



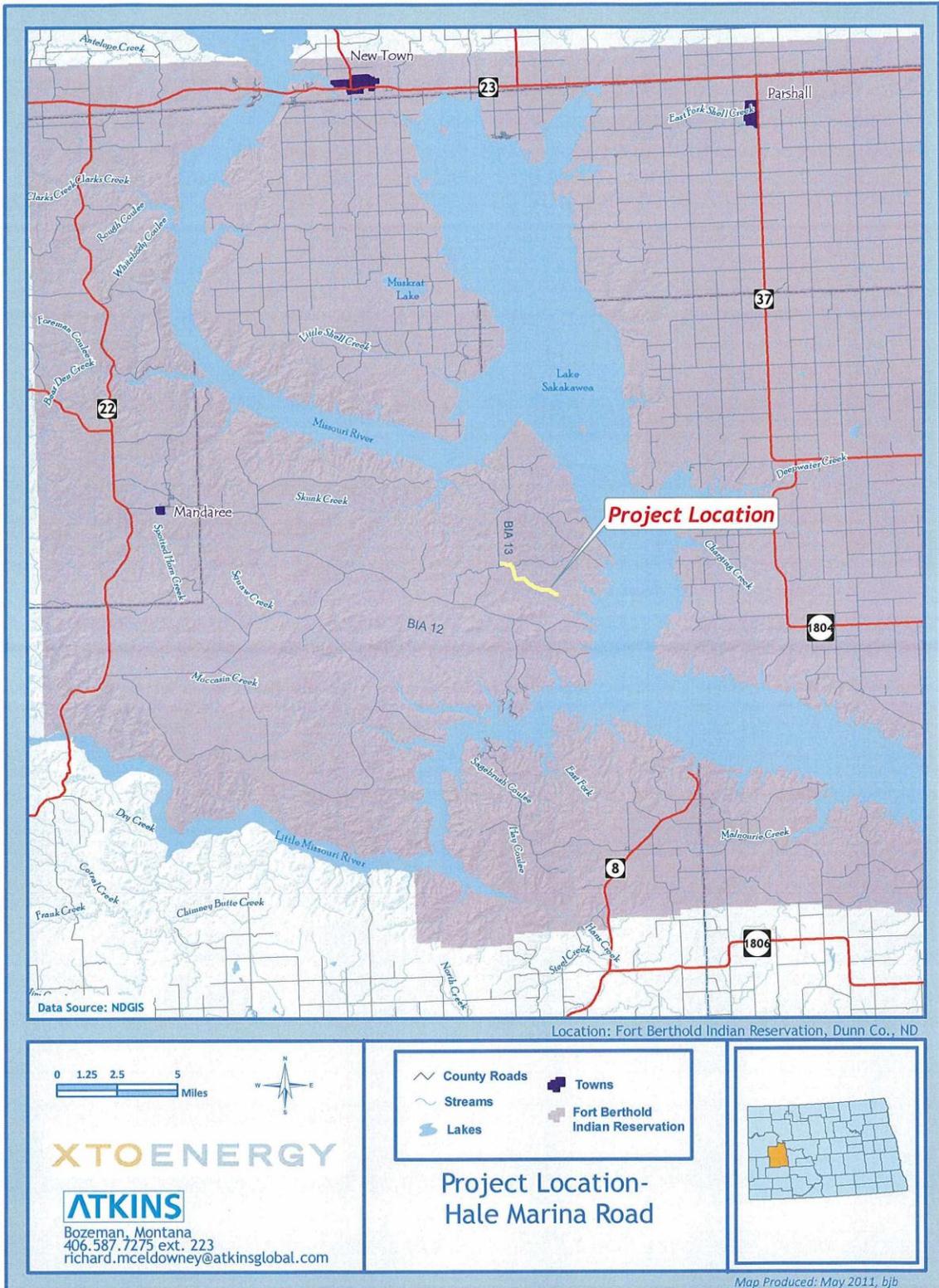




Photo 1: Hale Marina Road near the intersection with BIA 13. View is east.



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Photo 3: Hale Marina Road and a seasonal pond. View is south.



Photo 4: Hale Maria Road. View is east.



Photo 5: View is northwest towards hill.



Photo 6: View is southeast near end of proposed improvement.



IN REPLY REFER TO
DK-5000
ENV-6.00

United States Department of the Interior

BUREAU OF RECLAMATION

Dakotas Area Office

P.O. Box 1017

Bismarck, North Dakota 58502

JUN 24 2011



Mr. Rich McEldowney
Assistant Project Manager
Atkins
3810 Valley Commons Drive, Suite 4
Bozeman, MT 59718

Subject: Solicitation for an Environmental Assessment for Improvement of 3.1 Miles of the Existing Hale Marina Road to Serve at Least Five Oil and Gas Well Pads on the Fort Berthold Indian Reservation in Dunn County, North Dakota

Dear Mr. McEldowney:

This letter is written to inform you that we received your letter on June 20, 2011, and the information and map of Hale Marina Road has been reviewed by Bureau of Reclamation staff.

The proposed road improvement well pad located in Dunn County appears to be in the vicinity of Reclamation facilities, in this case the rural water pipelines of the Fort Berthold Rural Water System. Commonly, rural water lines follow roads. We have provided a map of the general area of your proposed project:

Hale Marina Road: SE $\frac{1}{2}$ S30, SW $\frac{1}{4}$ S29, SW $\frac{1}{4}$ S $\frac{1}{2}$ S32, SW $\frac{1}{4}$ S33, T149N, R91W, and SW $\frac{1}{4}$ S6, T148N, R91W Dunn County North Dakota

The map is provided to aid you in identification of potential for adverse effect to or crossings of Federal facilities. In addition, should you have need to cross a Fort Berthold Rural Water System pipeline while accessing your proposed project, 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.

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 for engineering questions Colin Nygaard, Civil Engineer, at 701-221-1260.

Sincerely,

Kelly B. McPhillips
Environmental Specialist

Enclosures - 2

cc: See next page.

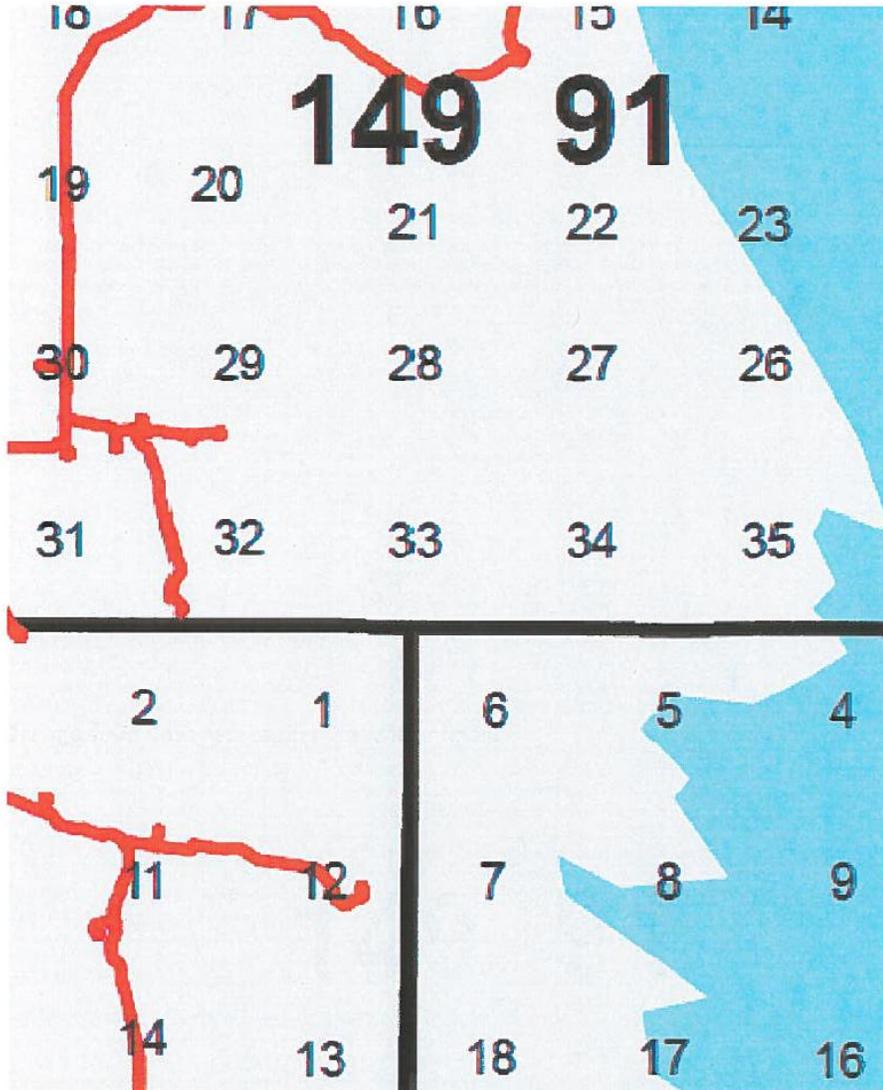
Subject: Solicitation for an Environmental Assessment for Improvement of 3.1 Miles of the Existing Hale Marina Road to Serve at Least Five Oil and Gas Well Pads on the Fort Berthold Indian Reservation in Dunn County, North Dakota 2

cc: Bureau of Indian Affairs
Great Plains Regional Office
Attention: Ms. Marilyn Bercier
Regional Environmental Scientist
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)

Subject: Solicitation for an Environmental Assessment for Improvement of 3.1 Miles of the Existing Hale Marina Road to Serve at Least Five Oil and Gas Well Pads on the Fort Berthold Indian Reservation in Dunn County, North Dakota

Orange solid lines represent rural water lines.



Hale Marina Road: SE $\frac{1}{4}$ S30, SW $\frac{1}{4}$ S29, SW $\frac{1}{4}$ S $\frac{1}{2}$ S32, SW $\frac{1}{4}$ S33, T149N, R91W,
and SW $\frac{1}{4}$ S6, T148N, R91W PM5 Dunn County North Dakota



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

June 20, 2011

North Dakota Regulatory Office

Atkins North America, Inc.
Attn: Richard McEldowney, Assistant Project Manager
3810 Valley Commons Drive, Suite 4
Bozeman, Montana 59718

Dear Mr. McEldowney:

This is in response to your solicitation letter on behalf of **XTO Energy**, received on June 20th, 2011 requesting Department of the Army (DA), United States Army Corps of Engineers (Corps) comments for five exploratory oil and gas well pads within the Fort Berthold Indian Reservation. The proposed wells include; [examples: **The Hale Marina Road is located in SE1/2 of Section 30, SW1/4 of Section 29, SW1/4 S1/2 of Section 32, SW1/4 of Section 33, Township 149 North, Range 91 West, Dunn County, North Dakota.**

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.

Printed on  Recycled Paper

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 ½ 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)

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT <i>(33 CFR 325)</i>		OMB APPROVAL NO. 0710-0003 EXPIRES: 31 August 2012	
Public reporting burden for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.			
PRIVACY ACT STATEMENT			
Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.			
(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)			
1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
(ITEMS BELOW TO BE FILLED BY APPLICANT)			
5. APPLICANT'S NAME: First - Middle - Last - Company - E-mail Address -		8. AUTHORIZED AGENT'S NAME AND TITLE (an agent is not required) First - Middle - Last - Company - E-mail Address -	
6. APPLICANT'S ADDRESS. Address - City - State - Zip - Country -		9. AGENT'S ADDRESS Address - City - State - Zip - Country -	
7. APPLICANT'S PHONE NOs. W/AREA CODE a. Residence b. Business c. Fax		10. AGENT'S PHONE NOs. W/AREA CODE a. Residence b. Business c. Fax	
STATEMENT OF AUTHORIZATION			
11. I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.			
_____ APPLICANT'S SIGNATURE		_____ DATE	
NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY			
12. PROJECT NAME OR TITLE (see instructions)			
13. NAME OF WATERBODY, IF KNOWN (if applicable)		14. PROJECT STREET ADDRESS (if applicable) Address City - State - Zip -	
15. LOCATION OF PROJECT Latitude: °N Longitude: °W			
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) State Tax Parcel ID Municipality Section - Township - Range -			
17. DIRECTIONS TO THE SITE			

18. Nature of Activity (Description of project, include all features)

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type	Type	Type
Amount in Cubic Yards	Amount in Cubic Yards	Amount in Cubic Yards

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)
 Acres
 Or
 Liner Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

24. Is Any Portion of the Work Already Complete? Yes No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (If more than can be entered here, please attach a supplemental list).
 Address –
 City – State – Zip –

26. List of Other Certifications or Approvals/Denials Received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT

DATE

SIGNATURE OF AGENT

DATE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

ENG FORM 4345, SEPT 2009

**Instructions for Preparing a
Department of the Army Permit Application**

Blocks 1 through 4. To be completed by Corps of Engineers.

Block 5. Applicant's Name. Enter the name and the E-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the application, please attach a sheet with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the application. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant Telephone Number(s). Please provide the number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by applicant, if an agent is to be employed.

Block 12. Proposed Project Name or Title. Please provide name identifying the proposed project, e.g., Landmark Plaza, Burned Hills Subdivision, or Edsall Commercial Center.

Block 13. Name of Waterbody. Please provide the name of any stream, lake, marsh, or other waterway to be directly impacted by the activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Project Street Address. If the proposed project is located at a site having a street address (not a box number), please enter it here.

Block 15. Location of Proposed Project. Enter the latitude and longitude of where the proposed project is located. If more space is required, please attach a sheet with the necessary information marked Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality that the site is located in.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide description of the proposed project location, such as lot numbers, tract numbers, or you may choose to locate the proposed project site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed project site if known.

Block 18. Nature of Activity. Describe the overall activity or project. Give appropriate dimensions of structures such as wing walls, dikes (identify the materials to be used in construction, as well as the methods by which the work is to be done), or excavations (length, width, and height). Indicate whether discharge of dredged or fill material is involved. Also, identify any structure to be constructed on a fill, piles, or float-supported platforms.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 18.

Block 19. Proposed Project Purpose. Describe the purpose and need for the proposed project. What will it be used for and why? Also include a brief description of any related activities to be developed as the result of the proposed project. Give the approximate dates you plan to both begin and complete all work.

Block 20. Reasons for Discharge. If the activity involves the discharge of dredged and/or fill material into a wetland or other waterbody, including the temporary placement of material, explain the specific purpose of the placement of the material (such as erosion control).

Block 21. Types of Material Being Discharged and the Amount of Each Type in Cubic Yards. Describe the material to be discharged and amount of each material to be discharged within Corps jurisdiction. Please be sure this description will agree with your illustrations. Discharge material includes: rock, sand, clay, concrete, etc.

Block 22. Surface Areas of Wetlands or Other Waters Filled. Describe the area to be filled at each location. Specifically identify the surface areas, or part thereof, to be filled. Also include the means by which the discharge is to be done (backhoe, dragline, etc.). If dredged material is to be discharged on an upland site, identify the site and the steps to be taken (if necessary) to prevent runoff from the dredged material back into a waterbody. If more space is needed, attach an extra sheet of paper marked Block 22.

Block 23. Description of Avoidance, Minimization, and Compensation. Provide a brief explanation describing how impacts to waters of the United States are being avoided and minimized on the project site. Also provide a brief description of how impacts to waters of the United States will be compensated for, or a brief statement explaining why compensatory mitigation should not be required for those impacts.

Block 24. Is Any Portion of the Work Already Complete? Provide any background on any part of the proposed project already completed. Describe the area already developed, structures completed, any dredged or fill material already discharged, the type of material, volume in cubic yards, acres filled, if a wetland or other waterbody (in acres or square feet). If the work was done under an existing Corps permit, identify the authorization, if possible.

Block 25. Names and Addresses of Adjoining Property Owners, Lessees, etc., Whose Property Adjoins the Project Site. List complete names and full mailing addresses of the adjacent property owners (public and private) lessees, etc., whose property adjoins the waterbody or aquatic site where the work is being proposed so that they may be notified of the proposed activity (usually by public notice). If more space is needed, attach an extra sheet of paper marked Block 24.

Information regarding adjacent landowners is usually available through the office of the tax assessor in the county or counties where the project is to be developed.

Block 26. Information about Approvals or Denials by Other Agencies. You may need the approval of other federal, state, or local agencies for your project. Identify any applications you have submitted and the status, if any (approved or denied) of each application. You need not have obtained all other permits before applying for a Corps permit.

Block 27. Signature of Applicant or Agent. The application must be signed by the owner or other authorized party (agent). This signature shall be an affirmation that the party applying for the permit possesses the requisite property rights to undertake the activity applied for (including compliance with special conditions, mitigation, etc.).

DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross-Section Map. Identify each illustration with a figure or attachment number.

Please submit one original, or good quality copy, of all drawings on 8½ x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations.

Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross-section). **While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.**

**FACT SHEET
NATIONWIDE PERMIT 12
(2007)**

UTILITY LINE ACTIVITIES. Activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2 acre of waters of the United States.

Utility lines: This NWP authorizes the construction, maintenance, or repair of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for the utility lines, in all waters of the United States, provided there is no change in pre-construction contours. A "utility line" is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term "utility line" does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

Utility line substations: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a power line or utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2 acre of waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

Foundations for overhead utility line towers, poles, and anchors: This NWP authorizes the construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

Access roads: This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in non-tidal waters of the United States, provided the total discharge from a single and complete project does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (See 33 CFR Part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or

under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP also authorizes temporary structures, fills, and work necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (Sections 10 and 404)

Note 1: Where the proposed utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters), copies of the pre-construction notification and NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

Note 2: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, accordance with the requirements for temporary fills.

Note 3: Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S. Coast Guard pursuant to Section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a section 404 permit (see NWP 15).

General Conditions: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

3. **Spawning Areas.** Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. **Migratory Bird Breeding Areas.** Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. **Shellfish Beds.** No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP's 4 and 48.

6. **Suitable Material.** No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. **Water Supply Intakes.** No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. **Adverse Effects From Impoundments.** If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. **Management of Water Flows.** To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. **Fills Within 100-Year Floodplains.** The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. **Equipment.** Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. **Soil Erosion and Sediment Controls.** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

15. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

16. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

17. Endangered Species. (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical

habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at <http://www.fws.gov/> and <http://www.noaa.gov/fisheries.html> respectively.

18. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

19. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWP 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWP 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

20. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address

documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

21. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality. *Specifically in North Dakota, the North Dakota Department of Health has denied certification for projects under this Nationwide Permit proposed to cross **all classified rivers, tributaries and lakes**; individual certification for project in these waterways must be obtained by the project proponent prior to authorization under this Nationwide Permit. For utility line crossings of all other waters, the Department of Health has issued water quality certification provided the attached Construction and Environmental Disturbance Requirements are followed.*

22. Coastal Zone Management. *Not Applicable.*

23. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

24. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

25. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:
"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

26. Compliance Certification. Each permittee who received a NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;
- (b) A statement that any required mitigation was completed in accordance with the permit conditions; and
- (c) The signature of the permittee certifying the completion of the work and mitigation.

27. Pre-Construction Notification. *See attached pages.*

28. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

Further Information

- 1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
- 2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
- 3. NWPs do not grant any property rights or exclusive privileges.
- 4. NWPs do not authorize any injury to the property or rights of others.
- 5. NWPs do not authorize interference with any existing or proposed Federal project.

General Condition 27. Pre-Construction Notification.

(a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) Forty five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);

(4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWP and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) District Engineer's Decision: In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

**2007 NATIONWIDE PERMITS
REGIONAL CONDITIONS
STATE OF NORTH DAKOTA
OMAHA DISTRICT – CORPS OF ENGINEERS**

The U.S. Army Corps of Engineers has adopted the following regional conditions for activities authorized by nationwide permits within the State of North Dakota. However, the pre-construction notification requirements defined below are not applicable to Nationwide Permit 47.

1. Wetlands Classified as Fens

All Nationwide Permits, with the exception of 3, 5, 20, 32, 38, 45, and 47, are revoked for use in fens in North Dakota. For nationwide permits 3, 5, 20, 32, 38, and 45 permittees must notify the Corps in accordance with General Condition 27 (Notification) prior to initiating any regulated activity impacting fens in North Dakota.

Fens are wetlands that develop where a relatively constant supply of ground water to the plant rooting zone maintains saturated conditions most of the time. The water chemistry of fens reflects the mineralogy of the surrounding and underlying soils and geological materials. The substrate is carbon-accumulating, ranging from muck to peat to carbonates. These wetlands may be acidic to alkaline, have pH ranging from 3.5 to 8.4 and support a range of vegetation types. Fens may occur on slopes, in depressions, or on flats (i.e., in different hydrogeomorphic classes; after: Brinson 1993).

2. Waters Adjacent to Natural Springs

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 27 (Notification) for regulated activities located within 100 feet of the water source in natural spring areas in North Dakota. For purposes of this condition, a spring source is defined as any location where there is artesian flow emanating from a distinct point at any time during the growing season. Springs do not include seeps and other groundwater discharge areas where there is no distinct point source.

3. Missouri River, including Lake Sakakawea and Lake Oahe within the State of North Dakota

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 27 (Notification) prior to initiating any regulated activity in the Missouri River, including Lake Sakakawea and Lake Oahe, within the State of North Dakota.

4. Historic Properties

That the permittee and/or the permittee's contractor, or any of the employees, subcontractors or other persons working in the performance of a contract(s) to complete the work authorized herein, shall cease work and report the discovery of any previously unknown historic or archeological remains to the North Dakota Regulatory Office. Notification shall be by telephone or fax within 24 hours of the discovery and in writing within 48 hours. Work shall not resume until the permittee is notified by the North Dakota Regulatory Office.

5. Spawning Condition

That no regulated activity within waters of the United States listed as Class III or higher on the 1978 Stream Evaluation Map for the State of North Dakota or on the North Dakota Game and Fish Department's website as a North Dakota Public Fishing Water shall occur between 15 April and 1 June. No regulated activity within the Red River of the North shall occur between 15 April and 1 July.

Additional Information

Permittees are reminded that General Condition No. 6 prohibits the use of unsuitable material. In addition, organic debris, some building waste, and materials excessive in fines are not suitable material.

Specific verbiage on prohibited materials and the 1978 Stream Evaluation Map for the State of North Dakota can be accessed on the North Dakota Regulatory Office's website at:
<https://www.nwo.usace.army.mil/html/od-rnd/ndhome.htm>

**FACT SHEET
NATIONWIDE PERMIT 14
(2007)**

LINEAR TRANSPORTATION PROJECTS. Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands. (Sections 10 and 404)

Note: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

General Conditions: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP's 4 and 48.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

15. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

16. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

17. Endangered Species. (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical

habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at <http://www.fws.gov/> and <http://www.noaa.gov/fisheries.html> respectively.

18. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

19. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

20. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address

documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

21. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality. *Specifically for North Dakota, the North Dakota Department of Health has issued water quality certification for projects under this Nationwide Permit provided the attached Construction and Environmental Disturbance Requirements are followed.*

22. Coastal Zone Management. *Not Applicable.*

23. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

24. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

25. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:
"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

26. Compliance Certification. Each permittee who received a NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;
- (b) A statement that any required mitigation was completed in accordance with the permit conditions; and
- (c) The signature of the permittee certifying the completion of the work and mitigation.

27. Pre-Construction Notification. *See attached pages.*

28. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

Further Information

- 1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
- 2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
- 3. NWPs do not grant any property rights or exclusive privileges.
- 4. NWPs do not authorize any injury to the property or rights of others.
- 5. NWPs do not authorize interference with any existing or proposed Federal project.

General Condition 27. Pre-Construction Notification.

(a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

- (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
- (2) Forty five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

- (1) Name, address and telephone numbers of the prospective permittee;
- (2) Location of the proposed project;
- (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);
- (4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWP's and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) District Engineer's Decision: In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

**2007 NATIONWIDE PERMITS
REGIONAL CONDITIONS
STATE OF NORTH DAKOTA
OMAHA DISTRICT – CORPS OF ENGINEERS**

The U.S. Army Corps of Engineers has adopted the following regional conditions for activities authorized by nationwide permits within the State of North Dakota. However, the pre-construction notification requirements defined below are not applicable to Nationwide Permit 47.

1. Wetlands Classified as Fens

All Nationwide Permits, with the exception of 3, 5, 20, 32, 38, 45, and 47, are revoked for use in fens in North Dakota. For nationwide permits 3, 5, 20, 32, 38, and 45 permittees must notify the Corps in accordance with General Condition 27 (Notification) prior to initiating any regulated activity impacting fens in North Dakota.

Fens are wetlands that develop where a relatively constant supply of ground water to the plant rooting zone maintains saturated conditions most of the time. The water chemistry of fens reflects the mineralogy of the surrounding and underlying soils and geological materials. The substrate is carbon-accumulating, ranging from muck to peat to carbonates. These wetlands may be acidic to alkaline, have pH ranging from 3.5 to 8.4 and support a range of vegetation types. Fens may occur on slopes, in depressions, or on flats (i.e., in different hydrogeomorphic classes; after: Brinson 1993).

2. Waters Adjacent to Natural Springs

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 27 (Notification) for regulated activities located within 100 feet of the water source in natural spring areas in North Dakota. For purposes of this condition, a spring source is defined as any location where there is artesian flow emanating from a distinct point at any time during the growing season. Springs do not include seeps and other groundwater discharge areas where there is no distinct point source.

3. Missouri River, including Lake Sakakawea and Lake Oahe within the State of North Dakota

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 27 (Notification) prior to initiating any regulated activity in the Missouri River, including Lake Sakakawea and Lake Oahe, within the State of North Dakota.

4. Historic Properties

That the permittee and/or the permittee's contractor, or any of the employees, subcontractors or other persons working in the performance of a contract(s) to complete the work authorized herein, shall cease work and report the discovery of any previously unknown historic or archeological remains to the North Dakota Regulatory Office. Notification shall be by telephone or fax within 24 hours of the discovery and in writing within 48 hours. Work shall not resume until the permittee is notified by the North Dakota Regulatory Office.

5. Spawning Condition

That no regulated activity within waters of the United States listed as Class III or higher on the 1978 Stream Evaluation Map for the State of North Dakota or on the North Dakota Game and Fish Department's website as a North Dakota Public Fishing Water shall occur between 15 April and 1 June. No regulated activity within the Red River of the North shall occur between 15 April and 1 July.

Additional Information

Permittees are reminded that General Condition No. 6 prohibits the use of unsuitable material. In addition, organic debris, some building waste, and materials excessive in fines are not suitable material.

Specific verbiage on prohibited materials and the 1978 Stream Evaluation Map for the State of North Dakota can be accessed on the North Dakota Regulatory Office's website at: <https://www.nwo.usace.army.mil/html/od-rnd/ndhome.htm>



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.

Environmental Health
Section Chief's Office
701.328.5150

Division of
Air Quality
701.328.5188

Division of
Municipal Facilities
701.328.5211

Division of
Waste Management
701.328.5166

Division of
Water Quality
701.328.5210

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Environmental Protection Agency, Region 8

**Water Quality Certification in Accordance with Section 401 of the Clean Water Act
for the 2007 Nationwide Permits in Indian Country**

May 11, 2007

These requirements apply to permitted activities occurring within "Indian country" as defined at 18 U.S.C. Section 1151, which includes lands located within formal Indian reservations as well as lands held in trust by the United States for Indian tribes and located outside the boundaries of formal Indian reservations. Please be aware that tribal trust lands located outside the boundaries of formal Indian reservations exist in Region 8.

A. SPECIFIC NATIONWIDE PERMITS CWA Section 401 CERTIFICATION DENIED
USEPA Region 8 is denying CWA Section 401 certification on all waters for the following NWP: # 16, # 17, # 21, # 33, # 34, # 44, # 45, # 46, # 47, # 49 and # 50. On NWPs that have been "denied" the EPA will review the proposed permit activity and issue a project-specific 401 Certification decision on each permit.

B. GENERAL CONDITIONS FOR ALL NATIONWIDE PERMITS

1. Project proponent/contractor must have the following on-site:
 - a copy of the appropriate USEPA Regional 401 certification general and specific conditions contained in this certification;

in addition, for NWP permits requiring a 401 certification application to USEPA:

 - the 401 certification application, and
 - EPA Region 8 CWA Section 401 certification document if applicable.
2. Certification is denied for any activity affecting fens and springs.
Note: EPA adopts the definitions of these aquatic resources as defined by the 2007 Regional Conditions, as defined by the published draft conditions.
3. This certification does not authorize the placement or construction of septic/leach systems or other sewage/waste treatment plants in wetlands.
4. This certification does not authorize the construction of dams, except for stream restoration projects.
5. This certification does not authorize the construction of any portion of a facility for confined animal feeding operations, including, but not limited to, the construction of buildings, holding/detention and sewage lagoons, and/or livestock holding areas.
6. Wetland mitigation under these nationwide permits shall be completed prior to, or concurrent with, the project impacts. Wetland mitigation should be in-kind and on-site replacing native wetland plant communities lost from all project impacts. If the USACE

recommends a mitigation bank or in-lieu fee program and the permittee chooses to utilize the option of a mitigation bank or in-lieu fee program, the applicant must submit the name of the bank or program, and the number and type of credits to be purchased prior to project impacts.

7. For any general or specific nationwide permit conditions requiring notification in accordance with the Preconstruction Notification general condition #27 (72 Fed. Reg. 11092, 11195 (March 12, 2007)), "Agency Coordination" for project activities should include coordination with Native American Tribe or Tribes affected by such project activities.

8. Based on experience with invasive species, infestations of invasive plant species may result in increased erosion and/or pesticide applications, have the potential to reduce water quality, impact aquatic habitat, and impact designated water quality uses. This certification requires the use of certified weed-free hay/straw with any revegetation of project areas for activities authorized under these nationwide permits. This certification requires the use of seed that contain no noxious weed seed and meets certified seed quality. All seed must have a valid seed test within one year of the use date, from a seed analysis lab by a registered seed analyst (Association of Official Seed Analysts). The seed lab results shall show no more than 0.5 percent by weight of other weed seeds; and the seed lot shall contain no noxious, prohibited, or restricted weed seeds according to State seed laws in the respective State(s).

9. This certification requires monitoring for and control of invasive species during project construction if areas are disturbed and not immediately revegetated. This certificate requires monitoring for and immediate control of invasive species after project completion through at least one growing season. A maximum goal of less than 5% weed-species plants should be set, unless local, State, Tribal, or USACE rules, ordinances or permit conditions require more stringent monitoring and response.

10. Vegetation should be protected except where its removal is absolutely necessary for completion of the work. Applicant should revegetate disturbed soil in a manner that optimizes plant establishment for that specific site. Revegetation may include topsoil replacement, planting, seeding, fertilization, liming, and weed-free mulching as necessary. Applicant should use native material where appropriate and feasible. Where practical, stockpile weed-seed-free topsoil and replace it on disturbed areas. All cut and fill slopes that will not be protected with riprap should be revegetated with appropriate species to prevent erosion.

11. The following conditions apply when operating equipment or otherwise undertaking construction in a water of the U.S.

A. This certification requires all equipment to be inspected for oil, gas, diesel, anti-freeze, hydraulic fluid and other petroleum leaks. All such leaks will be properly repaired and equipment cleaned prior to being allowed on the project.

Leaks that occur after the equipment is moved to the project site will be fixed that same day or the next day or removed from the project area. The equipment is not allowed to continue operating once the leak is discovered.

B. Construction equipment should not be operated below the existing water surface except as follows:

a) Forging at one location is acceptable; however, vehicles should not push or pull material along bed or bank below the existing water level. Impacts from forging should be minimized.

b) Work below the waterline which is essential should be done in a manner to minimize impacts to the aquatic system and water quality.

C. All equipment that has been operated in waters of the US, with known invasive species infestation(s) is to be inspected and cleaned before entering waters of the U.S. for this permit. All equipment is to be inspected and cleaned after use.

12. Any temporary crossings, bridge supports, cofferdams or other structures that are necessary during the permit activity should be designed to handle high flows that can be anticipated during permit activity. All temporary structures should be completely removed from the waterbody at the conclusion of the permitted activity and the area restored to a natural appearance.

13. This certification does not authorize any unconfined discharge of liquid cement in waters of the United States. Grouting riprap must occur under dry conditions with no exposure of wet concrete to the waterbody.

14. All discharges must occur during the low flow or no flow period of the season.

C. ADDITIONAL CONDITIONS FOR SPECIFIC NATIONWIDE PERMITS

In addition to the general conditions for all Nationwide Permits, the following conditions are specific to each listed nationwide permit.

Nationwide Permit 3. Maintenance Activities

A. For the repair of low water crossings, this certification is denied for discharges of any fill or dredged material that would result in an increase in land contour height beyond the original dimensions.

B. Silt and sediment removal associated with low water crossings shall be limited to a maximum of 50 linear feet.

C. Silt and sediment removal associated with bridge crossings shall be limited to a maximum of 100 linear feet.

Nationwide Permit 4. Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities

This certification does not allow for the introduction of non-native flora or fauna.

Nationwide Permit 7. Outfall Structures and Associated Intake Structures

For construction and maintenance activities:

A. Construction of the outfall structure shall be placed at the streambed elevation and, at a minimum; the pipeline should be oversized to prevent high-pressure discharge of stormwater.

B. Certification is denied for construction of the outfall structure in wetlands.

C. Controls shall be put in place to stabilize all areas of the bed and bank around and adjacent to the outfall structure and associated intake structures that may be affected by outfall or stream flows, respectively.

D. This certification does not authorize structures for drainage activities that result in a loss of waters of the U.S., such as tile systems.

Nationwide Permit 11. Temporary Recreational Structures

This certification does not allow for the introduction of non-native flora or fauna.

Nationwide Permit 12. Utility Line Activities

A. Project proponent/contractor must have a copy of the 401 certification application and the EPA 2007 water-quality-certification-document on-site.

B. Certification is denied for activities in perennial drainages and wetlands.

C. Certification is denied for all water intake structures.

D. Activities in ephemeral and intermittent drainages are certified with the following conditions:

a) Crossings must be placed as close to perpendicular to the watercourse as possible.

b) Affected streambanks must be sloped such that the stream bottom width is not reduced and bottom elevations are restored to original elevations.

c) Disturbed stream banks must be reconfigured to mimic a stable naturally vegetated portion of the same stream within ½ mile in either direction of the project and not reduce the bottom width of the stream. If a natural/native stream reach is not available within the adjacent reach, other natural portions of the drainage can serve as a reference condition.

E. USACE General Condition 20. Mitigation, (72 Fed. Reg. 11092, 11193-11194 (March 12, 2007)) requires permittees to avoid and minimize adverse effects to the maximum extent practicable on the project site. A statement or other evidence that General Condition 20 has been met should be submitted.

F. Applications for this NWP water quality 401 certification must include the following detailed information at a minimum and will serve as baseline certification conditions for the project.

a) Location and Wetland Map:

- Narrative describing both the location (i.e., Section, Township Range, and decimal Latitude/Longitude) of the proposed construction project, the affected waters/wetlands, and the type of utility line.
- An aerial photograph with wetland overlays must be provided with Ordinary High Water Mark delineated.

b) Waters of the U.S. Description:

- A description of the waterbody/wetlands including the dominant plant communities present in the wetlands or riparian areas.
- On-site photographs of the site must be taken during the growing season to include a colored overlay line indicating the alignment of the pipeline across the waterbody/wetlands or other construction features.

c) Construction Description:

- A description of the methods by which the utility will be constructed on the site including (but not limited to) the trench size and depth, backfill materials (specifications), construction machinery to be used, cofferdam or road crossing specifications, and best

management practices to be implemented on-site (including invasives controls).

- Access roads must be constructed outside of waters /wetlands where alternatives are available.
- Proposed under drains (tile, french drains, etc.) must be described if proposed with the project.
- Details on pipeline corrosion protection methods must be provided.
- Where a positive gradient exists the wetlands such that drainage along the pipeline may occur, clay blocks, or another suitable method that will protect aquatic resources from inadvertent drainage, are required to prevent said wetland drainage.
- Site-specific cross-sectional drawings should be provided, including a drawing of the clay block or other method used to stop drainage.

d) Description of Impacts to Waters of the U.S.:

- A description of the amount (acreage and square feet) of disturbance/loss to waters of the U.S. (including wetlands) must be provided. Loss of waters includes both temporary and permanent impacts to wetlands resources from the construction project, including access roads.
- The length and width of the crossing and amount of impacts to the dominant plant communities must be provided.
- All unavoidable temporary sidecasting of materials (dredge or fill material) in wetlands must be placed on landscaping fabric or a weed-free hay/straw layer to mark the existing wetlands elevation.

e) Mitigation and Restoration Plan:

- Where proposed construction of the utility results in the conversion of a wetland type (i.e., forested/shrub willow type) to an herbaceous wetland type (i.e., wet meadow type), mitigation of the shrub community must be accomplished on-site to restore designated uses.
- The top six to 12 inches must be backfilled with topsoil from the trench.
- Mitigation plans (including road design specifications to minimize adverse impacts to adjacent wetlands) for unavoidable impacts resulting from access roads must be provided.

Nationwide Permit 13. Bank Stabilization

A. For this certification to be valid, the use of root wads, tree trunks, planting of live vegetation, proper bank sloping or a combination thereof will be used as bank stabilization structures. Native plants shall be planted in all disturbed areas and artificial soil stabilizing material (e.g. mulch, matting, netting etc) shall be used to reduce soil erosion. These materials, to include all plants and plant seed

shall be on site or scheduled for delivery prior to or upon completion of the earth moving activities. Sediment control measures shall be maintained in good working order at all times.

For the purpose of this condition, "proper sloping" is defined as configuring the disturbed bank to mimic a stable portion of the same stream within ½ mile in either direction of the project and not reduce the bottom width of the stream.

B. If flow conditions dictate the use of hardened structures, only appropriately sized angular rock may be used. The use of soil cement, concrete, grouted riprap, etc. is NOT certified.

Nationwide Permit 14. Linear Transportation Projects

A. Stormwater resulting from both the construction and operation of these authorized projects (including runoff from bridge decks) must be routed into constructed runoff water quality control systems (e.g. sediment basins, wet ponds, etc.) in order to eliminate sediment and other pollutants prior to entry of stormwater into waters of the United States.

B. Affected streambanks must be sloped such that the stream bottom width is not reduced and bottom elevations are restored to original elevations.

C. Crossings must be placed as close to perpendicular to the watercourse as possible.

D. The upland and riparian areas adjacent to all sides of the crossing must be revegetated in all directions from the banks of the tributary with native vegetation that is common to the geographical area. Native plants shall be planted in all disturbed areas and artificial soil stabilizing material (e.g. mulch, matting, netting etc) shall be used to reduce soil erosion. These materials, to include all plants and plant seed shall be on site or scheduled for delivery prior to or upon completion of the earth moving activities.

Nationwide Permit 15. U.S. Coast Guard Approved Bridges

A. Stormwater resulting from both the construction and operation of these authorized projects (including runoff from bridge decks) must be routed into constructed runoff water quality control systems (e.g. sediment basins, wet ponds, etc.) in order to eliminate sediment and other pollutants prior to entry of stormwater into waters of the United States.

B. Affected streambanks must be sloped such that the stream bottom width is not reduced and bottom elevations are restored to original elevations.

C. Crossings must be placed as close to perpendicular to the watercourse as possible.

D. The upland and riparian areas adjacent to all sides of the crossing must be revegetated in all directions from the banks of the tributary with native vegetation that is common to the geographical area. Native plants shall be planted in all disturbed areas and artificial soil stabilizing material (e.g. mulch, matting, netting etc) shall be used to reduce soil erosion. These materials, to include all plants and plant seed shall be on site or scheduled for delivery prior to or upon completion of the earth moving activities.

E. Bridge decks should be designed such that they do not drain directly into the waterbody.

Nationwide Permit 16. Return Water From Upland Contained Disposal Areas.

Certification is denied.

Nationwide Permit 17. Hydropower Projects.

Certification is denied.

Nationwide Permit 19. Minor Dredging

A. Dredge or fill may **not** be placed on temporary islet, islands, sandbars, landmass or other area of sediment accumulation, within the banks of a stream, shore of lake, edge of wetland or other type of waterbody; unless the vegetation and geomorphology signify a long term stable configuration. (e.g. Areas of accumulation are not formed from temporary situations such as drought conditions or temporary upstream reservoir release conditions).

B. Dredge materials must be placed in an upland and controlled such that it cannot return to waters of the U.S.

Nationwide Permit 21. Surface Coal Mining Operations. Nationwide Permit 21. Surface Coal Mining Activities

Certification is denied.

Nationwide Permit 23. Approved Categorical Exclusions

This certification is valid only for Categorical Exclusions listed in RGL 05-07.

Nationwide Permit 27. Aquatic Habitat Restoration, Establishment, and Enhancement Activities

A. This certification does not allow conversion of one habitat type to another (e.g. wetlands to open water, woody vegetation to herbaceous).

B. This certification does not allow for the introduction of non-native flora or fauna.

Nationwide Permit 28. Modifications of Existing Marinas

This certification does not allow for expansion.

Nationwide Permit 29. Residential Developments

A. Certification is denied for discharges into wetlands, intermittent or perennial drainages.

B. Subdivisions not authorized under this certification.

C. USACE General Condition 20. Mitigation (72 Fed. Reg. 11092, 11193-11194 (March 12, 2007)) requires permittees to avoid and minimize adverse effects to the maximum extent practicable on the project site. Statement or other evidence that General Condition 20 has been met should be submitted.

Nationwide Permit 30. Moist Soil Management for Wildlife

This certification does not allow for the introduction of non-native flora or fauna.

Nationwide Permit 33. Temporary Construction, Access and Dewatering

Certification is denied.

Nationwide Permit 34. Cranberry Production Activities

Certification is denied.

Nationwide Permit 37. Emergency Watershed Protection and Rehabilitation

A. In addition to the information specified in USACE General Condition 27 Preconstruction Notification (72 Fed. Reg. 11092, 11188 (March 12, 2007)), the notification to USEPA must include documentation that the work qualifies as an "emergency" situation and that immediate action will be taken if nationwide authorization is verified. In addition, notification must include:

a) A delineation of special aquatic sites;

b) Any spoil must be placed in an upland and controlled such that it cannot return to waters of the U.S.; and

c) A delineation of riparian areas to be cleared and an analysis of alternatives to such clearing.

B. Certification is denied for discharges for which notification is submitted more than one year after the official conclusion of the emergency that caused the situation.

C. Certification is denied for channelization of streams or sloughs or for removal of silt beyond what was deposited by the emergency.

Channelization is defined, for this purpose, as the placement of excess material in a manner that modifies the bank alignment, and subsequently the channel alignment, from its present condition.

D. Certification is denied for a discharge of fill or dredged material into special aquatic sites if a practicable alternative that does not involve discharge into a special aquatic site is available. If discharge into a special aquatic site is unavoidable, discharge must be minimized.

E. The disturbing or clearing of riparian areas shall be minimized to enough space to provide equipment access.

F. Construction of temporary structures or drains for the purpose of reducing or preventing flood damage is certified if the site is returned to pre-flood condition within 60 days following the emergency.

G. Repair of permanent structures damaged by floodwaters is certified to the extent that it returns the structure to pre-flood condition.

Nationwide Permit 38. Cleanup of Hazardous and Toxic Waste

For this certification to be valid, notification to USEPA and the Tribe is required.

Nationwide Permit 39. Commercial and Institutional Developments

A. Certification is denied for discharges into wetlands, intermittent or perennial drainages.

B. Certification is denied for subdivisions

C. USACE General Condition 20. Mitigation, (72 Fed. Reg. 11092, 11193-11194 (March 12, 2007)) requires permittees to avoid and minimize adverse effects to the maximum extent practicable on the project site. Statement or other evidence that general condition 20 has been met should be submitted.

Nationwide Permit 40. Agricultural Activities

A. Certification is denied for the construction of new levees, ditches, or drainage activities.

B. Certification is denied for the construction of building pads causing the loss of greater than 1/10 acre of wetlands for both USDA program participants and non-participants.

C. Certification is denied for activities related to tile construction.

Nationwide Permit 41. Reshaping Existing Drainage Ditches

A. Clearing of riparian corridors must be limited to the minimum necessary for project construction. Clearing limits must be specified in the construction contract.

B. This certification does not authorize stream relocation projects.

Nationwide Permit 42. Recreation Facilities

A. Certification is denied for the construction of parking lots, golf course, golf course buildings, ponds and reservoirs, ski areas and ski infrastructures, race tracks, and amusement parks.

B. Certification is denied for discharges resulting in the loss of more than 100 linear feet of channel, streambank, and/or wetlands for a single and complete project.

C. Clearing of riparian corridors and wooded and scrub shrub areas must be limited to the minimum necessary for project construction. Clearing limits must be specified in the construction contract on a drawing and/or map, and in narrative format.

Nationwide Permit 43. Stormwater Management Facilities

Certification is denied for the construction of new stormwater management facilities.

Nationwide Permit 44. Mining Activities. Nationwide Permit 44. Mining Activities

Certification is denied.

Nationwide Permit 45. Repair of Uplands Damaged by Discrete Events.

Certification is denied.

Nationwide Permit 46. Discharges in Ditches

Certification is denied.

Nationwide Permit 47. Pipeline Safety Program Designated Time Sensitive Inspections and Repairs

A. Certification is denied, unless there is imminent danger to human health or the health of the environment.

B. Notification and restoration should begin immediately after inspections and repairs are completed. After the fact, notification should be done as soon as possible and include documentation that the work done qualifies as an "emergency" situation and that immediate action was necessary.

Nationwide Permit 49. Coal Remining Activities.

Certification is denied.

Nationwide Permit 50. Underground Coal Mining Activities

Certification is denied.

**APPLICATION CHECKLIST FOR COMPLETENESS
401 CERTIFICATIONS for USACE NWP's**

1. Application date.
2. Applicant's full identity whether individual or corporate.
3. Applicant's full mailing address or addresses.
4. Signature of the legal applicant is required.
5. Telephone number and e-mail address (and FAX, if available) at which the applicant may be reached during normal business hours.
6. If the applicant is utilizing the services of a legal agent to apply for certification, items 2, 3, 4 and 5 will be also needed for this agent.
7. Full names and addresses of all property owners of the project.
8. Full names and addresses of all adjoining property owners to the project.
9. Overall project description and range of project. (This includes all phases of work.)
10. Purpose of the project (flood control, drainage improvement, erosion control, road construction, etc.).
11. Project dimensions (length, width, height) expressed in standard, commonly-used, units of measurement.
12. Site maps and engineering drawings for more complex projects are recommended, sketches may suffice for smaller or less complex projects. Maps or aerial photographs should be clear and readable. Aerial photographs should be marked with wetlands, waterbodies or high water mark and areas of activity marked.
13. Legal description of the project location (appropriate breakdown into Section(s), Township, Range and County sufficient to locate and define on topographic maps). The notification should also include locational information in decimal degree latitude and longitude.
14. General travel directions to the site.
15. Name or identity of the water body(s) that the project is expected to impact. If the stream is not permanent flow, the applicant will need to include an evaluation by the Corps of Engineers that the water body is jurisdictional.
16. Specifically, state which NWP(s) the applicant is applying for from the USACE. Include measures of impact to waterbody (for example: acreage for surface water impacts, linear feet of bank, shoreline linear feet and acreage) for each NWP.
17. A statement of the cubic yards of material or fill proposed to be placed below the ordinary high water mark within the watercourse, in a wetland, or other waterbody and a complete description as to the source and type of material or fill to be used.
18. A complete description of all work initiated or completed prior to the application submission at this site and within the vicinity. If there has been recent work done by others, this should be noted also.
19. As unavoidable losses to the aquatic resources (including streams and wetlands) must be mitigated, a detailed mitigation plan must be submitted where such losses will be incurred.
20. Statement discussing the avoidance and minimization, a presumption of NWP's and required for individual permits.
21. Monitoring of site, including photograph of site from marked sites, photograph of site after work is complete.
22. Complete copy of USACE application or Checklist (such as the PCN Checklist available from Southern Pacific Division), with supporting material.



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
1616 CAPITOL AVENUE
OMAHA NE 68102-4901

June 29, 2011

Planning, Programs, and Project Management Division

Rich McEldowney
Atkins North America, Inc.
3810 Valley Commons Drive, Suite 4
Bozeman, Montana 59718

Dear Mr. McEldowney:

The U.S. Army Corps of Engineers, Omaha District (Corps) has reviewed your letter dated June 15, 2011 regarding the proposed road improvement project on approximately 3.1 miles of the existing Hale Marina Road on the Fort Berthold Reservation in Dunn County, North Dakota. The Corps offers the following comments:

Since the proposed project does not appear to be located within Corps owned or operated lands, we are providing no floodplain or flood risk information. To determine if the proposed project may impact areas designated as a Federal Emergency Management Agency special flood hazard area, please consult the following floodplain management office:

North Dakota State Water Commission
Attention: Jeff Klein
900 East Boulevard Avenue
Bismarck, North Dakota 58505-0850
jjkein@nd.gov
T-701-328-4898
F-701-328-3747

Your plans should be coordinated with the U.S. Environmental Protection Agency, which is currently involved in a program to protect groundwater resources. If you have not already done so, it is recommended you consult with the U.S. Fish and Wildlife Service and the North Dakota Game and Fish Department regarding fish and wildlife resources. In addition, the North Dakota State Historic Preservation Office should be contacted for information and recommendations on potential cultural resources in the project area.

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Any proposed placement of dredged or fill material into waters of the United States (including jurisdictional wetlands) requires Department of the Army authorization under Section 404 of the Clean Water Act. You can visit the Corp's Regulatory website for permit applications and related information. Please review the information on the provided website (<https://www.nwo.usace.army.mil/html/od-r/district.htm>) to determine if this project requires a 404 permit. For a detailed review of permit requirements, preliminary and final project plans should be sent to:

U.S. Army Corps of Engineers
Bismarck Regulatory Office
Attention: CENWO-OD-R-ND/Cimarosti
1513 South 12th Street
Bismarck, North Dakota 58504

If you have any questions, please contact Mr. John Shelman of my staff at (402) 995-2708 or by email at Johnathan.A.Shelman@usace.army.mil.

Sincerely,

A handwritten signature in black ink that reads "Eric Laux". The signature is written in a cursive style with a large, stylized "L" at the end.

Eric Laux
Acting Chief, Environmental Resources and Missouri
River Recovery Program Plan Formulation Section



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



June 22, 2011

Mr. Rich McEldowney
 Assistant Project Manager
 Atkins North America, Inc.
 3810 Valley Commons Drive, Suite 4
 Bozeman, MT 59718

Re: Improvements to Hale Marina Road
 Fort Berthold Reservation, Dunn County, North Dakota

Dear Mr. McEldowney:

This department has reviewed the information concerning the above-referenced project submitted under date of June 15, 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. Aggregate to be used for road construction should not contain any erionite. Aggregate sources should be tested for erionite following guidelines found at www.ndhealth.gov/EHS/Erionite. For questions regarding erionite testing, please call Mark Dihle at 701-328-5188.
3. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.
4. Projects disturbing one or more acres are required to have a permit to discharge storm water runoff until the site is stabilized by the reestablishment of vegetation or other permanent cover. Further information on the storm water permit may be obtained from the Department's website or by calling the Division of Water Quality (701-328-5210). Also, cities may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system.

Environmental Health
 Section Chief's Office
 701.328.5150

Division of
 Air Quality
 701.328.5188

Division of
 Municipal Facilities
 701.328.5211

Division of
 Waste Management
 701.328.5166

Division of
 Water Quality
 701.328.5210

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Check with the local officials to be sure any local storm water management considerations are addressed.

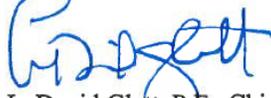
5. Noise from construction activities may have adverse effects on persons who live near the construction area. Noise levels can be minimized by ensuring that construction equipment is equipped with a recommended muffler in good working order. Noise effects can also be minimized by ensuring that construction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

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

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

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

Sincerely,



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

LDG:cc

Attach.

cc: Mark Dihle, Division of Air Quality



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.

Environmental Health
Section Chief's Office
701.328.5150

Division of
Air Quality
701.328.5188

Division of
Municipal Facilities
701.328.5211

Division of
Waste Management
701.328.5166

Division of
Water Quality
701.328.5210

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North Dakota Department of Transportation

Francis G. Ziegler, P.E.
Director

Jack Dalrymple
Governor

July 6, 2011

Richard McEldowney
Assistant Project Manager
Atkins North America, Inc.
3810 Valley Commons Drive – Suite 4
Bozeman, MT 59718

EA IMPROVEMENTS ON WIDENING AND RESURFACING WITH GRAVEL, ADDING
TURN-OUTS AND ADJUSTING TURNING RADII OF CURVES TO ACCOMMODATE
TRUCKS TRAVELING TO AND FROM WELL PADS ON HALE MARINA ROAD,
WILLIAMS COUNTY, WILLISTON, NORTH DAKOTA

We have reviewed your June 15, 2011, letter.

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

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

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

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

57rjhjs

c: Walter A. Peterson, Williston District



Atkins North America, Inc.
3810 Valley Commons Drive, Suite 4
Bozeman, Montana 59718

Telephone: +1.406.587.7275
Fax: +1.406.587.7278

www.atkinsglobal.com/northamerica

June 15, 2011

Dear Interested Party:

The Bureau of Indian Affairs (BIA) is preparing an Environmental Assessment (EA) under the *National Environmental Policy Act* (NEPA), in cooperation with the Bureau of Land Management (BLM). The proposed action includes approval by the BIA and BLM for the use and improvements of the existing Hale Marina Road which will service at least 5 exploratory oil and gas well pads on the Fort Berthold Indian Reservation by XTO Energy and other operators. The Hale Marina Road begins at the intersection with BIA 13 and extends east and south through Sections 6, 29, 30, 32 and 33 (a more detailed description is provided below). A project location map is also enclosed.

- Hale Marina Road: SE½ of Section 30, SW¼ of Section 29, SW¼ S½ of Section 32, SW¼ of Section 33, Township 149N, Range 91W and the SW¼ of Section 6, Township 148N, Range 91W

The proposed action would improve approximately 3.1 miles of the existing Hale Marina Road by widening, resurfacing with gravel, adding turn-outs and adjusting the turning radii of curves to accommodate trucks traveling to and from well pads. No major realignments of the existing road are expected. The road improvements are proposed to begin as early as the summer of 2011.

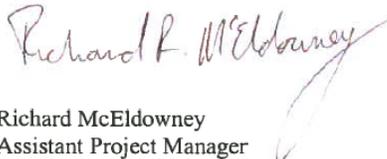
To ensure that social, economic, and environmental effects are analyzed accurately, we are requesting your views and comments on the proposed action, pursuant to Section 102(2) (D) (IV) of NEPA, as amended. We are interested in developments, proposed or underway, that should be considered in connection with this proposed project. We also ask your assistance in identifying any property or resources that you own, manage, oversee, or otherwise value that might be adversely impacted. Please send your replies and requests for additional project information to:

Rich McEldowney, Assistant Project Manager
Atkins
3810 Valley Commons Drive, Suite 4
Bozeman, Montana 59718
406-587-7275 (phone)
406-587-7278 (fax)
rich.mceldowney@atkinsglobal.com

If we do not hear from you by **July 18, 2011** we will assume that you have no comment on this project. Questions can be directed to me using the contact information above.

Thank you for your attention and input.

Sincerely,


Richard McEldowney
Assistant Project Manager



Date 6/21/11

No objection provided the Federal Aviation Administration is notified of construction or alterations as required by Federal Aviation Regulations, Part 77, Objects Affecting Navigable Airspace, Paragraph 77.9. Notice may be filed on-line at <https://oeaaa.faa.gov>.


Patricia L. Dressler, Environmental Protection Specialist
FAA/Bismarck Airports District Office
2301 University Drive, Building 23B
Bismarck, ND 58504

United States Department of Agriculture



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

June 28, 2011

Richard McEldowney
Atkins North America, Inc.
3801 Valley Commons Drive, Suite 4
Bozeman, MT 59718

RE: Hale Marina Road: SE1/2 of Section 30, SW1/4 of Section 29, SW1/4S1/2 of Section 32,
SW1/4 of Section 33, Township 149N, Range 91 W and the SW1/4 of Section 6,
Township 148N, Range 91 W

Dear Mr. McEldoeney:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated June 15, 2011, regarding a road improvement of Hale Marina Road.

Important Farmlands - NRCS has a major responsibility with Farmland Policy Protection Act (FPPA) in documenting conversion of farmland (i.e., prime, statewide, and local importance) to non-agricultural use. It appears your proposed project is not supported by Federal funding or actions; therefore, no further action is required.

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. NRCS has developed the following guidelines for the installation of buried utilities. 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

An Equal Opportunity Provider and Employer



Mr. McEldowney

Page 2

NRCS would recommend that impacts to wetlands be avoided. If the project requires passage through or disturbance of 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, at (701) 530-2019.

Sincerely,



JEROME SCHAAR
State Soil Scientist/MO Leader



**STATE
HISTORICAL
SOCIETY
OF NORTH DAKOTA**

Jack Dalrymple
Governor of North Dakota

North Dakota
State Historical Board

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Bismarck - President

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Valley City - Vice President

Richard Kloubee
Fargo - Secretary

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Grand Forks

Calvin Grinnell
New Town

Diane K. Larson
Bismarck

A. Ruric Todd III
Jamestown

Sara Otte Coleman
Director
Tourism Division

Kelly Schmidt
State Treasurer

Alvin A. Jaeger
Secretary of State

Mark A. Zimmerman
Director
Parks and Recreation Department

Francis Ziegler
Director
Department of Transportation

Merlan E. Paaverud, Jr.
Director

Accredited by the
American Association
of Museums since 1986

June 20, 2011

Mr. Rich McEldowney
Assistant Project Manager
Atkins
3810 Valley Commons Drive, Suite 4
Bozeman MT 59718

**NDSHPO REF. 11-1749 BIA/Mandan Hidatsa Arikara Nation
Environmental Assessment of existing Hale Marina Road upgrades in portion
so f[T149N R91W Sections 29, 30, 32, 33 and T148N R91W Section 6]
Dunn County, North Dakota**

Dear Mr. McEldowney,

We received your correspondence regarding NDSHPO REF. 11-1749
BIA/Mandan Hidatsa Arikara Nation Environmental Assessment of existing
Hale Marina Road upgrades in portion so f[T149N R91W Sections 29, 30, 32,
33 and T148N R91W Section 6] Dunn 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



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501



JUL 20 2011

Ms. Andrea K. Pipp, Botanist
Atkins North America, Inc.
820 North Montana Avenue, Suite A
Helena, Montana 59601

Re: XTO Energy Exploration on the Fort Berthold
Indian Reservation – Hale Marina Road

Dear Ms. Pipp:

The U.S. Fish and Wildlife Service (Service) has reviewed the request in a letter dated May 31, 2011, for comments regarding XTO Energy Inc. (XTO)'s proposed improvement of the existing Hale Marina Road in order to facilitate and conduct oil exploration on the Fort Berthold Reservation in Dunn County, ND. The proposed project would be approximately 3.1 miles long, and would widen, resurface with gravel, add turnouts, and adjust the turning radii of curves to accommodate truck traffic. The route follows an existing dirt road in the following location:

T. 149N., R. 91 W., Sec. 29, 30, 32, 33

T. 148N., R. 92 W., Sec. 1

T. 148N., R. 91 W., Sec. 6

We offer the following comments under the authority of and in accordance with the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds", the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.), Fish and Wildlife Coordination Act (FWCA), the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d, 54 Stat. 250), and the National Environmental Policy Act (NEPA) (Pub. L. 91-190, 42 U.S.C. 4321-4347, January 1, 1970, as amended).

Threatened, Endangered and Candidate Species

The Bureau of Indian Affairs (BIA) has designated Atkins North America, Inc. to represent the BIA for informal Section 7 consultation under the ESA in an e-mail dated July 13, 2011. Therefore, the Service is responding to you as the designated non-Federal representative for the purposes of ESA.

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

The Aransas Wood Buffalo Population (AWBP) of the endangered whooping crane is the only self-sustaining migratory population of whooping cranes remaining in the wild. These birds breed in the wetlands of Wood Buffalo National Park in Alberta and the Northwest Territories of northern Canada, and overwinter on the Texas coast. Whooping cranes in the AWBP annually migrate through North Dakota during their spring and fall migrations (enclosure). They make numerous stops along their migration route to feed and roost before moving on.

Whooping cranes use migration stopover habitat opportunistically and may not use the same stopovers annually. Whooping cranes often stop wherever they happen to be late in the day when they find conditions no longer suitable for migration. This tendency can make for a very unpredictable pattern of stopover use, depending on daily weather conditions. Whooping cranes are unlikely to spend more than a few days in any one spot during migration. We recommend that XTO make a commitment to stop all work within 1 mile of that portion of the proposed project if a whooping crane is sighted while construction is ongoing. In coordination with the Service, work may resume after the bird(s) leave the area. XTO should inform us of your commitments for the whooping crane and determination of effects in writing.

Bald and Golden Eagles

The BGEPA prohibits anyone without a permit issued by the Secretary of the Interior from taking bald or golden eagles, including their parts, nests, or eggs. The Act provides criminal and civil penalties for persons who take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof. The Act defines take as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present; if, upon the eagles return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

Bald and/or golden eagles may use the project area where the proposed project will be located. Golden eagles inhabit a wide variety of habitat types, including open grassland areas. They are known to nest on cliffs, in trees, manmade structures, and on the ground (Kochert et al. 2002). Bald eagles are more closely associated with forested areas near water (Buehler 2000), although

they may nest several miles from water. Especially early in the nesting season, eagles can be very sensitive to disturbance near the nest site and may abandon their nest as a result of low disturbance levels, even from foot traffic. A buffer of at least 1/2 mile should be maintained for golden and bald eagle nests. A permit is required for any take of bald or golden eagles or their nests. Permits to take golden eagles or their nests are available only for legitimate emergencies and as part of a program to protect golden eagles. Golden eagle nests have been documented within approximately 5 miles of the proposed pipeline. The Service is not aware of any recent surveys within 1/2 mile of the proposed project route, so there may be new eagle nests nearby.

The Service has a program for limited issuance of permits for the non-purposeful take of bald and golden eagles, only when the take is compatible with the preservation of each species, defined as consistent with the goal of increasing or stable populations. Given the limited circumstances when a take permit can be legally issued for eagles, the Service recommends that the pipeline be sited to avoid all take of bald and golden eagles, including take that results from disturbance.

The Service recommends that a survey be conducted for eagle nests prior to ground disturbance. If an eagle nest is detected within 1/2 mile the proposed project route, the Service should be contacted regarding how to proceed.

Migratory Birds

The MBTA prohibits the taking, killing, possession, and transportation (among other actions), of migratory birds, their eggs, parts, and nests, except when specifically permitted by regulations. While the MBTA has no provision for allowing unauthorized take, the Service realizes that some birds may be killed during project construction and operation even if all known reasonable and effective measures to protect birds are used. The Service Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, as well as by fostering relationships with individuals, companies, and agencies that have taken effective steps to avoid take of migratory birds, and by encouraging others to implement measures to avoid take of migratory birds. It is not possible to absolve individuals, companies, or agencies from liability even if they implement bird mortality avoidance or other similar protective measures. However, the Office of Law Enforcement focuses its resources on investigating those who take migratory birds without identifying and implementing all reasonable, prudent, and effective measures to avoid that take. Individuals, companies, and agencies are encouraged to work closely with Service biologists to identify available protective measures when developing project plans and/or avian protection plans, and to implement those measures prior to/during construction or similar activities.

The Service recommends that to the extent practicable, schedule construction for late summer or fall/early winter so as not to disrupt migratory birds during the breeding season (February 1 to July 15). If work is proposed to take place during the breeding season or at any other time which may result in the take of migratory birds, their eggs, or active nests, the Service recommends that

XTO take other steps, such as clearing and grubbing the proposed route prior to spring nesting, and having a qualified biologist survey the proposed project route for nesting migratory birds within 5 days of any ground disturbing activity. If nesting birds are found, the Service recommends that the project proponent implement all practicable measures to avoid take, such as delaying or suspending construction where necessary, and/or maintaining adequate buffers to protect birds and their active nests until the young have fledged. The Service further recommends that if you choose to conduct field surveys for nesting birds with the intent of avoiding take, that you maintain any documentation of the presence of migratory birds, eggs, and active nests, along with information regarding the qualifications of the biologist(s) performing the survey(s), and any avoidance measures implemented at the project site. Should surveys or other available information indicate a potential for take of migratory birds, their eggs, or active nests, the Service requests that you suspend activities and contact this office for further coordination on the extent of the impact and the long-term implications of the intended use of the project on migratory bird populations.

High-Value Habitat Avoidance

To further reduce environmental impacts, we recommend that the following measures be implemented during construction:

1. Develop and implement a project erosion control plan to minimize soil loss. Silt fences should be installed in areas where the existing vegetative cover will be stripped to prevent sediment from accumulating in shallow water wetlands. Floating turbidity barriers should be installed in open water locations to isolate the construction site from the main body of the wetland.
2. Promptly seed all uplands areas that are disturbed during construction with a native grass mixture suited for the soils in the project area. Coconut matting or other effective erosion material should be installed on steep slopes to help ensure the initial planting is successful.
3. Obtain the needed riprap material from upland sites in a manner that will not impact important wildlife habitats, including wetlands, woodlands, or native prairie.
4. Make no changes in drainage patterns.
5. Locate construction to avoid placement of fill in wetlands along the route.
6. Replace unavoidable loss of wetland habitat with functionally-equivalent wetlands.
7. Install and maintain appropriate erosion control measures to reduce sediment transport to adjacent wetlands and stream channels, including the Missouri River.

8. Keep the disturbed area along the proposed project as narrow as possible, especially in or near sensitive resources such as streams, wetlands, or native prairie.

Thank you for the opportunity to comment on this project. If additional information is required, please contact Carol Aron of my staff, or contact me directly at (701) 250-4481 or at the letterhead address.

Sincerely,



Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

Enclosures

cc: Bureau of Indian Affairs, Aberdeen
(Attn: M. Bercier)

FEDERAL THREATENED, ENDANGERED, AND CANDIDATE SPECIES
AND DESIGNATED CRITICAL HABITAT FOUND IN
DUNN COUNTY, NORTH DAKOTA

ENDANGERED SPECIES

Birds

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

Whooping crane (*Grus Americana*): Aransas-Wood Buffalo Population (264 birds) occurs in North Dakota counties during spring and fall migration between breeding and wintering areas. Whooping cranes prefer to roost overnight in shallow open water wetland habitat with good visibility during migration stopovers.

Fish

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

Mammals

Black-footed ferret (*Mustela nigripes*): Exclusively associated with prairie dog towns. No records of occurrence in recent years, although there is potential for reintroduction in the future.

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

THREATENED SPECIES

Birds

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

CANDIDATE SPECIES

Birds

Sprague's Pipit (Anthus spragueii): Nests in native and planted grassland. Prefers patches of grassland at least 72 acres (29 hectares).

Invertebrates

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

DESIGNATED CRITICAL HABITAT

Birds

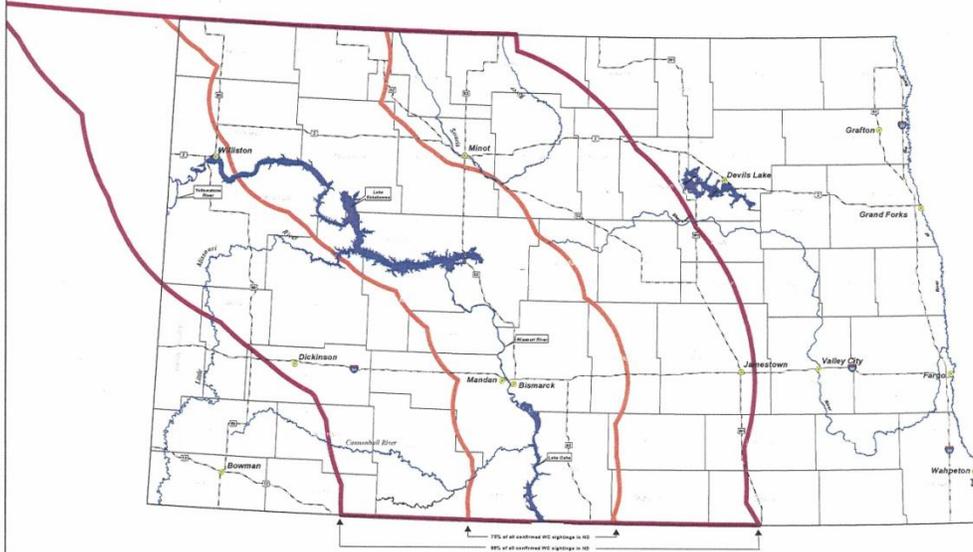
Piping Plover - Alkali Lakes and Wetlands - Critical habitat includes: (1) shallow, seasonally to permanently flooded, mixosaline to hypersaline wetlands with sandy to gravelly, sparsely vegetated beaches, salt-encrusted mud flats, and/or gravelly salt flats; (2) springs and fens along edges of alkali lakes and wetlands; and (3) adjacent uplands 200 feet (61 meters) above the high water mark of the alkali lake or wetland.

Piping Plover - Missouri River - Critical habitat includes sparsely vegetated channel sandbars, sand and gravel beaches on islands, temporary pools on sandbars and islands, and the interface with the river.

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



North Dakota Whooping Crane Migration Corridor



DISCLAIMER:
 The USFWS makes no claim as to the accuracy or completeness of the displayed information. Species occurrence and habitat information is provided for illustrative purposes only. Federal action agencies and project proponents should contact the USFWS North Dakota Field Office for more detailed species information and technical assistance in evaluating potential project impacts to fish and wildlife resources.
 Map produced 04/21/2010 by USFWS Ecological Services, Bismarck, ND.

- 75% Whooping Crane Migration Corridor
- 95% Whooping Crane Migration Corridor



Notice of Availability and Appeal Rights

XTO Energy: Hale Marina Road Improvement Project

The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals related to an Environmental Assessment to Authorize Land Use the Hale Marina Road Improvement Project on the Fort Berthold Reservation as shown on the attached map. Construction by XTO Energy is expected to begin in 2011.

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 December 3, 2011, 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.

