TAB 4 – Route Application Exhibits

Alexander Station Pipeline: A Class III Intensive Cultural Resources Inventory in McKenzie County, North Dakota

Prepared for: Keitu Engineers and Consultants, Inc.
On Behalf of Hiland Crude, LLC

Prepared by: Wade Burns, RPA

Beaver Creek Archaeology, Inc.
Bismarck, North Dakota

BCA Project #: 2014 – 1044

July, 2014

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8. Acres – Class 3 inventory only; project description specified only in report: **81**
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COUNTY	TWP	R	SEC	SU
McKenzie	**152**	**101**	**31**	**GA**
McKenzie	**152**	**102**	**24,25,36**	**GA**
McKenzie	**151**	**101**	**6,7**	**GA**

Abstract

The purpose of this investigation was to survey for cultural resources within the 81 acre survey area of the proposed Alexander Station Pipeline in McKenzie County, North Dakota. The pipeline APE is approximately 131 acres in total; however due to landowner permission BCA was only granted access to 81 acres of the proposed project.

This project is proposed on private property. Due to a state agency's involvement in the project, the applicant must comply with Section 106 of the National Historic Preservation Act (NHPA). The NHPA requires the applicant to consider what effects the undertaking will have on historic properties within the survey area.

Keitu Engineers and Consultants, Inc. on behalf of Highland Crude, LLC contracted Beaver Creek Archaeology, Inc. (BCA) to conduct this study to fulfill the Section 106 obligations for this project. On July 8, 2014, Wade Burns (Principal Investigator),Lindsey Reiners (Field Director), Aaron Kidwell and Cody Kiker (Staff Archaeologists) conducted the Class III Cultural Resource Inventory. During the inventory no cultural material was encountered. Beaver Creek Archaeology, Inc. recommends a finding of *No Historic Properties Affected* for this project.

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Introduction

Keitu Engineers and Consultants, Inc. on behalf of Highland Crude, LLC contracted Beaver Creek Archaeology, Inc. (BCA) to perform a Class III Cultural Resource Inventory of the Alexander Station Pipeline in McKenzie County, North Dakota. The entire project corridor is approximately 131 acres (250ft wide corridor by 4.44 miles long). However due to land access issues, the survey area only covers 81 acres (see map in Appendix B). The land status for the project is private property. The legal locations for the survey area are presented below in a tabular format as depicted on the USGS 7.5' Camp Creek West quadrangle map:

Table 1. Project Location:

Township	Range	Sections	Legal Location	USGS Quad. Map
151	101	6	E ½ W ½ W ½ (As measured from NE corner)	Camp Creek West
151	101	7	N ½ NW ¼ NW ¼ & SW ¼ NW ¼ NW ¼ & NW ¼ SW ¼ NW ¼	
152	101	31	W ½ W ½ W ½ (As measured from the NW corner)	
152	102	24	W ½ NE ¼ & N ½ NW ¼ SE ¼ & SE ¼ NW ¼ SE ¼ & S ½ NE ¼ SE ¼ & NW ¼ SE ¼ SE ¼ & E ½ SE ¼ SE ¼	
152	102	25	E ½ E ½ E ½	
152	102	36	NE ¼ NE ¼ NE ¼	

On May 15, 2014, Mary Mortensen of Beaver Creek Archaeology, Inc. conducted the file search at the State Historical Society of North Dakota (SHSND). On July 8, 2014, Wade Burns (Principal Investigator), Lindsey Reiners (Field Director), Aaron Kidwell and Cody Kiker (Staff Archaeologists) performed the pedestrian survey of the project area. This report will detail the result of that inventory.

Project Overview

The proposed project consists of the construction of an oil pipeline for Highland Crude, LLC. The pipeline project area is in total approximately 131 acres, however due to landowner access permission issues, BCA was only granted access to 81 acres of the proposed project. An 81 acre area (250 foot wide by 2.66 miles long corridor) surrounding the proposed pipeline corridor was inventoried to Class III Standards for cultural resources within the survey area (see map Appendix B).

Objective

Due to a state agency's participation in the project, the applicant must comply with Section 106 of the National Historic Preservation Act (NHPA). The NHPA requires the

applicant to consider what effects the undertaking will have on historic properties within the survey area. The three central objectives of this study are to assist the proponent with their Section 106 compliance obligations, identify and assess project impacts to cultural resources located within the survey area, and to provide NRHP recommendations for historic properties encountered within the survey area. Cultural resources consist of any historic and prehistoric district, site, building, structure, or object (usually) over 50 years of age.

Environmental Setting

The project lies within the Garrison Study Unit (GSU), which is located in the northwestern part of North Dakota. The study unit is situated within the Glaciated Missouri Plateau Subsection, of the Great Plains Physiographic Province (SHSND 2008b:6.1). Knob-and-kettle glaciated terrain and other glacial features are common on the Coteau du Missouri. Named streams include the Big Muddy Creek, Painted Woods Creek, Douglas Creek, Shell Creek and Deepwater Creek. Named rivers include Little Muddy River, Little Knife River and White Earth River (SHSND 2008b:6.1-6.6).

Temperatures vary immensely by season with warm summers and cold winters. Precipitation averages around 16 inches annually, most of which falls as rain during the spring and summer months. Prevailing winds throughout the year average around 16 mph from the west-northwest (SHSND 2008b:6.6).

Landforms in this area consist of glaciated uplands, breaks terrain, valley wall side slopes and foot slopes, draws, alluvial terraces, and floodplains. This area of North Dakota is situated in the Northern Temperate Grasslands biome. The mixed grass prairie is dominated by western wheatgrass, blue grama, and needle-and-thread. This grassland provided good habitat for large game animals, such as bison and antelope. Gallery forests grew along the Missouri River and other tributaries and provided a suitable environment for white-tailed deer and small mammals such as muskrat and porcupine. Hardwood draws of bur oak, green ash, and juniper are part of transition zones between the grasslands and floodplain forests. Food plants in the area include chokecherry, buffaloberry, and gooseberry (SHSND 2008b:6.7).

In general, the faunal diversity in the area at contact time was as great as or greater than anywhere in the state (SHSND 2008b:6.8). Animals that could be hunted for meat, hides, feathers, teeth, bones, etc., included bison, elk, antelope, white-tailed deer, mule deer, bighorn sheep, mountain lion, coyote, foxes, eagles, hawks, owls, and a variety of waterfowl, fish, turtles, and mussels (SHSND 2008b:6.8).

Today the area contains an agricultural-based economy. Wheat, corn, sunflowers and grasslands comprise the project area. Tree cover is limited to wind blocks surrounding farmsteads and along riparian areas.

This biotic diversity along with the availability of water makes this setting favorable for human settlement, both during prehistoric and historic time-periods. One prominent natural resource in this area is Knife River Flint (KRF), which is abundant and has been quarried for centuries by native peoples. Also, good quality Tongue River Silicified sediment, chalcedonies, and silicified wood attracted people to the area. These stones are capable of conchoidal fracturing and are ideal for stone tool production.

Native American Cultural Background

The majority of archaeological sites found within the Garrison Study Unit are stone circle sites, followed by cultural material scatters and cairn sites. These types of sites are most often found on ridge and hill settings (SHSND 2008b:6.9). The project is located north of Alexander on the west side of Highwy 85, and the site distribution is moderate within a one mile radius of the APE. The archaeological horizons encountered in North Dakota are as follows:

Paleo-Indian Period (9500-5500 B.C.)

Due to the amount of sediment erosion and deposition that has taken place across the landscape since early Holocene times, it is difficult to locate intact Paleo components in the GSU. However, areas near tributaries on ridgetop and terrace settings have yielded plant and animal remains and shed light on Paleo-Indian subsistence patterns and lithic technologies. The Beacon Island site (32MN243A), for example, is an Agate Basin site that contains intact, unmixed, and datable remains of *Bison antiquus* and the Moe site (32MN101), which contains Folsom and later Paleo remnants, was found above today's reservoir water level. The most significant areas to discover Paleo-Indian remnants have been in the Knife River flint (KRF) principal source area and in or near the Missouri River valley. Knife River flint was the flint of choice to early groups producing lithics in this region (SHSND 2008b:6.63-6.65). "Two lithic technological procedures prominently represented at sites in the GSU are Folsom fluting and blade production" (SHSND 2008b:6.64). The Moe site yielded Folsom, Plainview (or Goshen), Agate Basin, Parallel-Oblique Flakes, and Scottsbluff points.

Plains Archaic Period (5500-400 B.C.)

Middle and Late Plains Archaic deposits are found in quickly deposited sedimentary context, which correlate with erosion in the uplands from subsequent drought. Plains

Archaic remnants have frequently been discovered in upland settings as well as in terrace and riverbank locations. The Middle and Late Archaic components at the Mondrian Tree site (32MZ58) yielded bone remains of bison, antelope, elk, deer, beaver, and canids. This site also has evidence of summertime collecting and processing of plant foods, such as goosefoot, marsh elder, knotweed, dogbane, wild grape, hedge nettle, and mallow, with a sandstone grinding slab and quartzite mano (SHSND 2008b:6.66-6.67).

Early Plains Archaic components are indicated by finds of Simonsen points. Middle Plains Archaic components are represented by Oxbow, McKean, Duncan, and Hanna points. Late Plains Archaic components are indicated by finds of Yonkee and Sandy Creek points. Numerous Early, Middle, and Late Plains Archaic projectile point styles have proven to be reliable cultural/temporal indicators for relative dating in the GSU (SHSND 2008b:6.67-6.68).

Plains Woodland Period (400 B.C.–A.D. 1200)

Environmentally favorable conditions, the development of biomass, peaked twice during the Plains Woodland period, which coincide with the peak of the Besant/Sonota culture of the Middle Plains Woodland period and Late Plains Woodland period to early Plains Village period. Besant/Sonota components are rather common. Mortuary sites, such as the Boeckel-Renner site (32ME799), along with a large number of sites in the area indicate that people with the Middle Plains Woodland Besant/Sonota material culture had permanent occupation within the GSU. Site 32ME947 is a stratified, multi-component bison kill and processing site with a Middle and Late Plains Woodland components, which is associated with the Old Women's complex. Other Late Plains Woodland cultures in the GSU are represented by Avonlea and Mortlach (SHSND 2008b:6.69-6.70). "Subsistence remains from the Mortlach component at the Evans site (32MN301) include bison, swift fox, coyote, deer, duck, and charred plum seed. Bison scapula digging tools were found, but not any remains of garden crops" (SHSND 2008b:6.71).

Ceramic technologies in the area show up around the Middle Plains Woodland period at sites such as the Nightwalker's Butte (32ML39), the Evans site, and the Mondrian Tree site (32MZ58). Mortlach ceramics display substantial variability in decoration and vessel form. Lithic technologies also show stylistic variation in the Late Plains Woodland period with Prairie Side-Notched points, Avonlea points, and other variations of side- and corner-notched points. Obsidian, from southeastern Idaho, of possible Besant/Sonota cultural affiliation was recovered from the Boeckel-Renner site (SHSND 2008b:6.71-6.73).

Plains Village Period (A.D. 1200-1780)

Prior to 1780, the GSU was mainly an area of hunting camps and temporary settlements. "Field camps were established in a sheltered tributary stream valley setting at the Mondrian Tree site (32MZ58)" and specialized activities went on in an adjacent open upland rim setting at the Edna Mae site (32MZ369) (SHSND 2008b:6.74-6.75). Sometime within the middle of the Plains Village period, there was a drought episode, during which time the subsistence base was diminished and conflict arose. As a result, settlements, such as the White Earth Creek site (32MN101), had fortification ditches and palisade walls with bastions to protect their people (SHSND 2008b:6.73-6.75).

Besides hunting, the Plains Villagers grew corn, melons, pumpkins, and beans. Several ceramic temporal trends occurred during the Plains Village period via vessel forms and types of decoration. These are associated with the Knife River phase and Scattered Village complex. Exotic nonlocal shell, such as dentalium and abalone shell, and other trade goods have been found at the Mondrian Tree site (SHSND 2008b:6.75-6.76).

Equestrian/Fur Trade Period (A.D. 1780-1880)

The advent of the Fur Trade and increased Euro-American contact in the 19th century brought about many changes in the traditional culture of groups such as the Mandan, Hidatsa, and Arikara. The Fort Berthold Reservation was established in 1870 for the Mandan, Hidatsa, and Arikara to protect them from hostile Equestrian Nomads (SHSND 2008b:6.76). Metal tools and implements obtained via trade replaced traditional items of stone, bone, wood, shell, and clay. The gun ascended to a place alongside the bow and arrow in basic weaponry. Temporary tipi camps were set up by hunting parties during different seasons of the year, and these settlements functioned as the field camps of pedestrian hunter-gatherers. Many of these locations, unless repeatedly reoccupied or marked by stone circles, probably contain little in the way of identifiable material traces in the archaeological record. The horse-mounted hunting and gathering peoples subsisted on bison; however, wild plant foods, other wild animal foods, and garden produce received in exchange with settled Village gardeners also were significant components of the diet (SHSND 2008b:6.76-6.78).

Intertribal trade that occurred during the Equestrian period has its beginning in prehistoric times. The Hidatsa traded with the Crow, Dakotas, Cheyenne, and others to the south and southwest (SHSND 2008b:6.78). Fur trade between Indians and non-Indians within the GSU, such as between the Assiniboine and Fort Kipp, began around 1826. Besides trading, there are a number of written and ethnographic accounts of horse-mounted Indian groups using this area, such as the Crow, Dakota, Cheyenne, Assiniboine, and Hidatsa. The Crows traveled through here going between their Big Horn Mountain

territory and their Missouri River village homeland. There may have been territorial continuity between the Crow and the Hidatsa from the time the two split in the 1500s until the Hidatsa were drastically weakened by the plagues in the late 1700s (SHSND 2008b:6.77-6.79).

Reservation Era (A.D. 1880-present)

Between 1850 and 1870, the United States government created reservations to separate the Native Americans and the influx of settlers. Where they were once able to move freely, Native Americans were now restricted to a designated area. In 1887, the Dawes Act divided tribal land into individual land allotments as a means of assimilating Native Americans into Euro-American society. By using individual land allotments as a means of breaking tribal culture, the United States government sought to cease their way of life and force conversion to Christianity, farming, and education of children at boarding schools. Children were taken from their family and placed in boarding schools (Indian schools), such as the Fort Stevenson Indian School, Bismarck Indian School, and the Carlisle Indian School in Pennsylvania, and were prohibited from using their language, practices, and culture and emphasized Euro-American culture. Today, the Dawes Act is considered the most destructive policy dealing with Native peoples (MHA Nation 2012a and 2012b; SHSND 2008c).

In 1934, in an effort to rectify some of the damage done, the Indian Reorganization Act was established that secured certain rights to Native Americans. This included the reversal of the Dawes Act and a return to local self-government on a tribal basis. However, in the late 1940s and early 1950s the Indian Reorganization Act was disassembled. The plan was to establish a policy that would eliminate tribal status all together. In 1975, the Indian Self-Determination and Education Assistance Act was enabled. This policy meant to allow tribal autonomy while still benefitting from government treaty obligations. American Indian Religious Freedom Act of 1978 was created to protect and preserve the traditional religious rights and cultural practices of Native Americans. In addition to Self-Determination, other laws were passed such as the Indian Civil Rights Act, the Indian Financing Act, and the Indian Child Welfare Act (SHSND 2008c).

Today, reservations have tribal government, which administers many governmental, economic, health, welfare, and educational programs. There are still problems on Indian Reservation, such as poverty, crime, and alcoholism; however, there is also economic growth because of small independent business, farming, and gaming (MHA Nation 2012c).

Euro-American Cultural Background

The majority of historic sites within North Dakota are farmsteads/homesteads from the late 19th century and early 20th century.

Dakota Territory (1858-1889)

The Dakota Territory consisted of the northernmost part of the land acquired from France in the 1803 Louisiana Purchase and in 1818, the United States acquired the northeastern portion of the Dakota Territory in a treaty with Great Britain. The Dakota Territory included North Dakota, South Dakota and much of present-day Montana and Wyoming. After becoming an incorporated territory in 1861, the population was slow to increase due to Indian attacks. Eventually, the population increased during the "Dakota Boom," from 1870 to 1880, because of the railroad growth and the Homestead Act of 1862. Many of the settlers came from Germany and the Scandinavian countries of Norway and Sweden. The economic base was organized around agriculture, mining, and cattle ranching (FWP 1938).

Fur Trade – Before and after the Lewis and Clark 1803 expedition, explorers such as Sieur de la Vérendrye, David Thompson, Charles Chaboillez, Alexander Henry, and Manuel Lisa ventured into the area either looking for trade routes or to establish fur trading posts. Consequently, "between 1806 and 1850 Spaniards from St. Louis, Frenchmen from Quebec, Scots and Britons from Hudson's Bay and Montreal, and Americans working either as free traders or engages for a dozen fur companies" headed into the region (FWP 1938; Lamar 1996:27).

Forts – The majority of the forts in the region were constructed in the 19th century. Their purpose included trading outposts, primarily fur trade and military posts for the protection of supply routes, trails, trade, and settlers. These forts, prior to the introduction of the railroad were along rivers such as the Missouri, Yellowstone, Heart, and Red rivers. Some of the more notable forts include Fort Mandan, Fort Lisa, Fort Henry, Fort Clark, Fort Union, Fort Abercrombie, Fort Berthold, Fort Buford, Fort Rice, Fort Totten, and Fort Abraham Lincoln (FWP 1938; SHSND 2008a).

Trails – Two major trails, the River Trail and the Ridge Trail, branches of the network of Red River Trails in the Red River Valley, originally were Native American trails that were later used by Euro-American fur traders. The Red River Trails connected fur trading posts, where they hauled furs and goods by ox cart. Later, the trails also connected military posts, where military supplies and men were sent. These military posts (e.g., Fort Abercrombie, Fort Totten, and Fort Ransom) also protected the trails as well as the

people traveling up and down the trails. Eventually the trails and ox carts were replaced by the railroad (Gilman *et al*. 1979).

A notable trail in the western part of the region is the Bismarck-Deadwood Stage Trail (1887-1880). This trail was a stagecoach and supply line that ran between Bismarck, the western terminus of the Northern Pacific Railroad and the Black Hills gold town of Deadwood in Dakota Territory. There was transportation and economic booms associated with this trail and that boom ended when the railroad reached Pierre and an alternate line opened (SHSND 2008a).

Riverboats – The Missouri and Red rivers were important to the settlement and expansion of the Dakota Territory and were used the most for river transportation. Riverboats such as rafts, sailboats, rowboats, Mackinaws, keelboats, and steamboats brought explorers and fur traders into the Dakota Territory; however, the keelboat and steamboat were probably used more often due to their carrying capacity. "Keelboats were used primarily from 1800 to 1840, when they were replaced by steamboats" (Miller 2012). This type of boat floated high in the water allowing it to travel on shallow rivers and was able to carry 15 to 30 tons of cargo. River transportation becomes increasingly important for transporting goods to outposts and return furs downstream.

Steamboats eventually replaced the keelboats and were used for cargo and passenger transportation. The riverboat industry became a popular mode of transportation as it was much easier to deliver goods to remote areas by boat than overland routes. In addition, "settlers and visitors could also travel much more safely by taking steamboats" (Burns 2004:14). The demise of riverboat transportation occurred for several reasons: (1) less shipping of passengers and cargo, (2) scarcity of wood yards, (3) inconvenient climate, (4) labor unrest, and (5) the railroad. Shipping on the Red River continued until 1912 and until the 1930s on the Missouri River (Burns 2004).

Railroad - Major development of the railroad in the Dakota Territory occurred in the 1870s and 1880s between the Northern Pacific Railroad and the Great Northern Railroad. And the success of the railroad was primarily because of agriculture and increasing settlement. Federal land grants were given to the Northern Pacific Railroad, who in turn sold the land, while the Great Northern Railroad bought its lands from the federal government and promoted settlement along its lines (FWP 1938).

Agriculture – The Federal Homestead Act of 1862 offered free land to anyone over 21 years-old who would cultivate and improve his 160 acres of land and live on it for 5 years. An additional 160 acres could be obtained for a tree claim and a third track of land

could be acquired before or after the land was surveyed. Crops planted and harvested included spring wheat, durum, flaxseed, barley, oats, sugar beets, corn, hay, red clover, alfalfa, sweet clover, and seed potato. Ranching of cattle and sheep, poultry raising, and bee keeping was also done on farms (FWP 1938).

Bonanza farms or large farms so-called because of their almost fabulous yields of wheat open to settlement in 1863. The main purpose of Bonanza farms was to demonstrate the potential wealth of the Red River Valley. Most of these farms were owned by companies in the east, with resident managers and were run like factories with hundreds of men and used advanced farming methods. Bonanza farms thrived in the Red River Valley during the last two decades of the 19th century; however, they were eventually subdivided into smaller farms (FWP 1938).

North Dakota (1889-Present)

North Dakota became the 39th state to enter the Union on November 2, 1889. After statehood, industrial development increased. The railroad industry expanded and peaked in 1905 through competition between the Great Northern Railway and the Soo Line. Large lignite mines opened and local brickworks and flour mills flourished in the state. Entrepreneurs built store, shops, and offices along Main Street and town squares. While rural areas still relied on small local general stores, city consumers had more choice with locally owned department retail stores. In 1919, the Bank of North Dakota at Bismarck opened and has become a large and powerful economic force. "The State Mill and Elevator at Grand Forks, completed in 1922, provided a market for grain and a source of feed and seed [and] the state hail insurance program benefitted many farmers until its elimination in the 1960s" (SHSND 2012).

Farm homes in the eastern part of the state were small, close together with well-painted modernized buildings surrounded by neat lawns and tree groves. They had modern convinces like electricity, telephones, radios, and cars. In the central part of the state, farms were not as modernized as eastern North Dakota but were well kept. In western North Dakota, the shacks erected to establish residence under the Federal Homestead Act were still in use in the early 20th century (FWP 1928).

For North Dakota, the 1920s and 1930s were an economic depression, starting with the 1920 collapse of wartime prices for grain. In 1921, more banks closed than in any other year, resulting in farm foreclosures. At the same time, farm size increased and many farmers mechanized their operations. A dramatic shift to motorized transportation put a greater emphasis on better roads and bridges (SHSND 2012).

The Great Depression of the 1930s slowed progress and spurred change. Rural population decreased while the city population grew. Because of the price decline of farm produce, cooperatives enjoyed a renewed popularity as farmers banded together to market their produce and reduce the cost of farming. Farmers Unions built local elevators and organized oil cooperatives that served the needs of the rural community. Despite economic problems, crop failures, dust storms, and extreme weather, North Dakota visibly modernized during the 1930s. Federal relief programs improved highways, state parks, and city services throughout the state. State departments undertook public health and safety problems, and a movement for consolidated law enforcement was started with the formation of a State Highway Patrol in 1935. "Rural schools consolidated at an increasing rate. Public utilities extended their reach through development or rural electric cooperatives; the first, Baker Electric of Cando, energized its lines in 1938" (SHSND 2012).

Immediately, after Franklin Roosevelt took the oath of office he began passing a series of laws aimed at putting people back to work, restore faith in the banking system, and shore up the economy (SHSND 2012). Among these laws included the Works Progress Administration (WPA) and the Civilian Conservation Corps (CCC). In North Dakota between 1935 and 1942, the WPA built 20,373 miles of highways and streets, 821 new bridges and viaducts, 166 miles of sidewalks, 15,012 culverts, 503 new public buildings, 61 building additions, 680 outdoor recreation facilities, 809 water wells, two irrigation projects, 39 sewage treatment plants, and nine water treatment plants, as well as other reconstructions and repairs (Robinson 1966:408). In June of 1933, some 235,000 men were enrolled in the CCC to work on federal and state public improvement projects. They built national forest trails, campsites, and visitor centers in state and national parks as well as roads and dams (SHSND 2012).

In the 1940s, with more favorable weather and improved crop yields, farmers benefitted by the higher prices stimulated by America's entry into World War II. And by the end of the war, farm debt had dropped noticeably. After the war, the industrial economy continued to prosper. "In 1946, the demand for Missouri River flood control and diversion of the river's waters for irrigation and industrial development were rewarded with initiation of construction on the Garrison Dam" (SHSND 2012). The development of natural resources expanded in 1951 when oil was discovered within the Bakken near Tioga. Communication and interstate transportation systems improved and expanded in the 1950s. By the 1960s, two large Air Force Bases, one in Minot and the other in Grand Forks, had been built as a modern continuation of an historic role in Federal military strategy that began in the 1860s. And in the 1950s, as private auto transportation

increased, the use of passenger rail service declined, railroads had increasingly become a means of hauling freight (SHSND 2012).

The 1960s signified the start of large scale energy development because of high demand, which lead to the development of power plants and coal strip mines. An oil boom occurred in 1978 as a result of high international crude oil prices, causing increase in the population of towns such as Dickinson, Williston, and Watford City. This oil boom and subsequent population increase did not last as world-wide oil prices declined in 1981 and oil workers moved away (SHSND 2012). Another oil boom started in 2008, is still ongoing, and resulted in enough oil and gas jobs to give North Dakota the lowest unemployment rate in the United States. In addition, the oil boom as supplied economic growth in other areas such as the service industry (Rocco 2013).

Inventory Methodology

The survey area was inventoried by the BCA archaeologists walking parallel linear pedestrian transects between 10-20 meters apart based upon terrain probability for cultural resources. Shovel probes were implemented if the Ground Surface Visibility (GSV) dropped below 30%.

If a cultural resource is encountered, the location is marked with pin-flags and the surrounding area is intensely scrutinized to determine the nature and extent of the resource. The resource is then plotted on a USGS 7.5' Quadrangle map and a sketch-map utilizing a Trimble GPS unit is made. Cultural Resources consists of any historic or prehistoric district, site, structure, or object (usually) over 50 years of age.

Project Results

To be eligible for inclusion on the National Register of Historic Places (NRHP), a site must usually be more than fifty years old, retain its integrity of location, design, setting, materials, workmanship, feeling, and association and it must meet one of the following criteria:

(a) Associated with events that have made a significant contribution to the broad patterns of our history; or
(b) Associated with the lives of persons significant in our past; or
(c) Embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinctions; or

(d) Have yielded, or may be likely to yield, information important in prehistory or history.

Throughout the survey, field notes and overview pictures of the survey area were taken (see photos in Appendix A). Copies of maps, field notes, and photographs are located at the BCA main office in Bismarck, North Dakota.

Survey Conditions

Weather conditions consisted of clear skies, and the temperature was approximately 64°F. The project area is located on rolling plains within the Missouri River drainage system. The survey area is located in rangeland and a plowed field. Vegetation in the area consists of wheat, native and non-native grasses, plants and forbs. The elevation of the survey area is approximately 2,100 feet. During the course of the inventory the GSV was approximately 40% on average. As a result, no shovel probes were implemented as the GSV never dropped below 30%. Areas of higher visibility, such as erosion features, areas of sparse vegetation and rodent burrows were also closely examined for cultural material.

File Search

On May 15, 2014, Mary Mortensen of Beaver Creek Archaeology, Inc. conducted the file search at the State Historical Society of North Dakota (SHSND). The purpose of the file search is primarily to identify previously recorded archaeological and historical sites, and also to identify previous inventories in the area. The file search revealed 15 sites, no site leads, and no isolated finds in a one-mile radius of the survey area (see Appendix C for table). There are 12 manuscripts on file for the sections in which the survey area is located (see Appendix C for table).

Intensive Pedestrian Survey

BCA cultural resource staff conducted the Class III Cultural Resource Inventory within the survey area on July 8, 2014 The Secretary of the Interior (SOI) qualified archaeologist Wade Burns (Principal Investigator), Lindsey Reiners (Field Director), Aaron Kidwell and Cody Kiker (Staff Archaeologists) performed the pedestrian survey. Navin Thapa (GIS Coordinator) created the project map. During the inventory no cultural resources were found within the survey area.

Summary and Recommendations

On July 8, 2014, BCA conducted a Class III Cultural Resource Inventory of the proposed project area. The Class III Inventory covered approximately 81 acres of the 131 acre project. BCA was unable to receive access authorization for approximately 50 acres of the proposed project due to land owner access denial. The location of the survey area can

be seen on the map located in Appendix B. The file search revealed 15 sites, no site leads, and no isolated finds in a one-mile radius of the survey area. During the course of the inventory no cultural resources were found. Beaver Creek Archaeology, Inc. recommends that the project proceed under a *No Historic Properties Affected* as surveyed, mapped and described herein.

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Mandan, Hidatsa, and Arikara Nation

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Appendix A: Survey Area Photographs

Figure 1. Overview of the survey area. View to the north.

Figure 2. Overview of the survey area (old pipeline scar within APE). View to the south.

Figure 3. Junction where project ends.

Appendix B: Maps

Alexander Station

For: Keitu Engineers & Consultants, Inc
On Behalf of: Hiland Crude, LLC

T152N R102W, Sec. 24, 25 & 36
T152N R101W, Sec. 31
T151N R101W, Sec. 6 & 7

Camp Creek West Quad. Map

Missouri River Drainage
McKenzie County, North Dakota

Legend

Survey Area

- Surveyed (81 acres) (2.66 Miles)
- Not Surveyed (50 acres) (1.78 Miles)
- Centerline

0 200 400 800 1,200 1,600 Meters

0 0.125 0.25 0.5 0.75 1 Miles

Beaver Creek ARCHAEOLOGY

N W E S

Base Map: USGS 7.5'
Scale: 1:24,000
UTM NAD83 Zone 13
NT

Appendix C: Literature Search

Information Removed due to ND SHPO Regulations for Public Dispersal of Documents

APPENDIX 4.B

Maps of Exclusion and Avoidance Areas

CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABITY SINCE 1998

Alexander Tank Farm
Crude Oil Pipeline

Figure 4.B.1a - Route Map

Legend

Project Centerline

McKenzie County

0 750 1,500 3,000
Feet

Williams

McKenzie

CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABITY SINCE 1998

Alexander Tank Farm
Crude Oil Pipeline

Figure 4.B.1b - Route Map

N

14 13 18 17

23 24 19 20

26 25 30 29

35 36 31 32

1 6 5

2

11 12 7 8

Lark Bunting

Bobolink

Northern Pintail

Northern Pintail

152-102

152-101

McKenzie County

152-102

151-102

152-101

151-101

Occupied Residence, 350ft from centerline

Sharp-tailed Grouse

Sharp-tailed Grouse

151-102

151-101

Northern Harrier

Legend

- Project Centerline
- Residence
- Survey Corridor
- Township
- Section
- Bobolink
- Northern Pintail
- Sharp-tailed Grouse
- Lark Bunting
- Northern Harrier

0 0.25 0.5 1
Miles

Williams

McKenzie

APPENDIX 4.C LANDOWNER LIST

Section	Twp	Range	Owner	Address	City, State, ZIP
7	151N	101W	ARTHUR M GAJEWSKI		
6,7	151N	101W	CRAIG & DENISE E WAHLSTROM	3521 144TH AVE NW	ALEXANDER, ND 58831
6	151N	101W	KEITH GREEN	P.O. BOX 101	ALEXANDER, ND 58831
31	152N	101W	KEITH GREEN	P.O. BOX 101	ALEXANDER, ND 58831
31	152N	101W	LARRY G NOVAK	14461 37TH ST NW	ALEXANDER, ND 58831
36	152N	102W	STATE OF NORTH DAKOTA		
25	152N	102W	LARRY G NOVAK	14461 37TH ST NW	ALEXANDER, ND 58831
24	152N	102W	SHIRLEY C GREEN	10 20TH ST W APT 117	WILLISTON, ND 58801
24	152N	102W	CONTINENTAL RESOURCES INC	P.O. BOX 269000	OKLAHOMA CITY, OK 73126

APPENDIX 4.D.1

North Dakota Federal and State Plant Species of Concern

TABLE 4.D.1.A

NORTH DAKOTA'S PLANT SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	Habitat
Acorus americanus	Sweetflag	G5	S4			Peatlands, fens, seeps
Agrostis exarata	Spike Bentgrass	G5	S1		W	Moist habitats
Allium canadense	Meadow Onion	G5	S1			Prairies, open woods
Allium tricoccum	Wild Garlic	G5	S3			Rich undisturbed woods
Apios americana	American Groundnut	G5	SH			Moist woods, thickets banks
Arabis canadensis	Sicklepod	G5	S1			Mesic woodlands
Arnica cordifolia	Heart-leaved Arnica	G5	S3			Open woodlands
Asclepias lanuginosa	Wooly Milkweed	G4?	S1			Sandy or rocky calcareous prairie
Asclepias sullivantii	Sullivant's Milkweed	G5	S2			Mesic tallgrass prairies
Astragalus australis	Indian Milkvetch	G5	S2S3		W	Open wooded hillsides, bluffs, limestone
Astragalus drummondii	Drummond's Milkvetch	G5	S1		W	Prairies to open wooded/brushy hillsides/ravines, all soil
Astragalus neglectus	Cooper's Milkvetch	G4	S1			Sandy, gravelly shores, mesic gravelly prairie
Astragalus vexilliflexus	Bent-flowered Milkvetch	G4	S3		W	Rocky knolls and open wooded hillsides
Athyrium filix-femina	Northern Lady-fern	G5	S3			Moist woods, thickets, bogs, along streams
Botrychium campestre	Prarie Grapefern	G3G4	S1			Dry, gravelly or sandy prairies
Botrychium matricariifolium	Chamomile Grapefern	G5	S1			Moist woodlands
Botrychium minganense	Moonwort	G4	S1			Wooded, often north-facing slopes, meadows
Botrychium multifidum	Leathery Grapefern	G5	S1			Wet meadows, rich woodlands
Botrychium simplex	Least Grapefern	G5	S2			Meadows, barrens, woods, subacid soils
Bromus carinatus	Mountain Brome	G5	S1		W	Disturbed, moist woods, dry meadows, sagebrush
Bromus kalmii	Kalm's Brome	G5	S3			Open oak woods, sandy soils
Calla palustris	Water Arum	G5	S2			Northern marshes and swamps

TABLE 4.D.1.A

NORTH DAKOTA'S PLANT SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	Habitat
Campanula aparinoides	Marsh Bellflower	G5	S2S3			Wetland thickets, seepage, peatlands
Cardamine bulbosa	Spring Cress	G5	S1			Wet meadows, wood springs
Carex alopecoidea	Foxtail Sedge	G5	S2			Damp, rich, wooded areas
Carex athrostachya	Jointed-spike Sedge	G5	S3			Low prairie, marsh margins
Carex backii	Back's Sedge	G4	S3			Damp, wooded areas
Carex brunnescens	Brown Sedge	G5	S1			Fens, wet wooded areas
Carex buxbaumii	Buxbaum's Sedge	G5	S2			Wet meadows, fens
Carex capillaris	Hair-like Sedge	G5	S2			Wet meadows, fens
Carex chordorrhiza	Creeping Sedge	G5	S1			Sphagnum bogs, poor fens
Carex convoluta	Spiral Sedge	G5	S2			Rich, deciduous woodlands
Carex diandra	Lesser-panicled Sedge	G5	S3			Swamps, meadows, shores
Carex echinata ssp. echinata	Spiny Sedge	G5T5	S1			Sphagnum bogs
Carex festucacea	Fescue Sedge	G5	S2			Wooded areas
Carex foenea (Carex siccata)	Dry-spiked Sedge	G5	S3		W	Dry open soil in wooded areas
Carex formosa	Handsome Sedge	G4	S1			Low, moist, eastern woodlands
Carex garberi	Elk Sedge	G5	S1			Fens, swamps, pond margins
Carex gracillima	Graceful Sedge	G5	S1			Moist swampy woods
Carex gynocrates	Pistillate Sedge	G5	S1			Peaty fens
Carex haydenii	Hayden's Sedge	G5	S1			Wet meadows, sloughs
Carex lasiocarpa	Wiregrass Sedge	G5	S3			Sphagnum bogs, seepage-fed peatlands, lake borders
Carex leptalea	Delicate Sedge	G5	S3			Shrubby peatland fens, swampy woods and thickets
Carex limosa	Mud Sedge	G5	S2			Sphagnum bogs, fens
Carex nebrascensis	Nebraska Sedge	G5	S2			Wet meadows, stream margins
Carex pedunculata	Peduncled Sedge	G5	S2			Moist oak or birch woodlands

TABLE 4.D.1.A

NORTH DAKOTA'S PLANT SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	Habitat
Carex richardsonii	Richardson's Sedge	G5	S1			Low, usually sandy, prairie
Carex scirpoidea	Spikerush Sedge	G5	S2		W	Rocky slopes, wet meadows
Carex scoparia	Pointed Broom Sedge	G5	SH			Damp woods, low prairie, lakeshores
Carex simulata	Copycat Sedge	G5	S2			Calcareous fens, wet meadows
Carex sterilis	Sterile Sedge	G4	S1			Seepage peatland fens, wet meadows
Caulophyllum thalictroides	Blue Cohosh	G4G5	S1			Moist rich woods
Chaenactis douglasii	Douglas' Dusty-maiden	G5	S2			Scoria slopes and buttes
Cheilanthes feei	Slender Lip fern	G5	S1			Dry rocky slopes, sandstone, limestone
Chenopodium subglabrum	Smooth Goosefoot	G3G4	S1		S	Sandy river terraces, sand colluviums, sand blowouts, sand dunes
Clematis columbiana var. tenuiloba	Slender-lobed Clematis	G5? T4?	S1		W	Rocky slopes, limestone soils
Collinsia parviflora	Blue lips	G5	S2		S	Mesic slopes of buttes
Crataegus mollis	Downy Hawthorn	G5	S1			Open mesic woods
Cryptantha torreyana	Torrey's Cryptantha	G5	S1		S	Dry plains, pine slopes, on scoria
Cyperus bipartitus	Brook Flatsedge	G5	S2			Cool, spring-fed streams
Cyperus diandrus	Low Flatsedge	G5	S2			Sandy or muddy shores, stream margins
Cypripedium candidum	White Lady's Slipper	G4	S2			Low prairie, wet meadows
Cypripedium parviflorum	Small Yellow Lady's-slipper orchid	G5	S2			Damp woods, fens, streambanks
Cypripedium parviflorum var. pubescens	Large Yellow Lady's-slipper	G5T5	S2			Boggy areas, wet prairies
Cypripedium reginae	Showy Lady's-slipper	G4	S2			Swampy woodlands, thickets, fens
Dalea enneandra	Nine-anthered Dalea	G5	S3			Sandy or gravelly slopes, dry mixed grass prairies
Desmanthus illinoensis	Prairie Mimosa	G5	S1			Prairies with rocky or sandy soils

TABLE 4.D.1.A

NORTH DAKOTA'S PLANT SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	Habitat
Dicentra cucullaria	Dutchman's Breeches	G5	S1			Rich eastern woodlands
Diervilla lonicera	Dwarf Honeysuckle	G5	S3			Shady woodlands, usually aspen
Dirca palustris	Leatherwood	G4	S1			Shady, damp woodland slopes
Drosera rotundifolia	Round-leaved Sundew	G5	S1			Acid bogs, swamps
Dryopteris carthusiana	Spinulose Woodfern	G5	S3			Rich, moist woods, ravines, boggy areas, alder thickets
Dryopteris cristata	Crested Woodfern	G5	S3			Swampy woods and thickets, seeps
Eleocharis parvula	Dwarf Spikerush	G5	S2			Brackish, alkaline shores
Eleocharis pauciflora	Few-flowered Spikerush	G5	S3			Calcareous fens, seeps
Eleocharis wolfii	Wolf's Spikerush	G3?	SH			Shores, low, wet prairie
Elymus glaucus	Blue Wildrye	G5	S2			Open woods, prairie slopes
Epilobium coloratum	Purple-leaved Willowherb	G5	S3			Marshes, seeps, shores
Epilobium pygmaeum (Boisduvalia glabella)	Smooth-spike Primrose	G5	S2		W	Small streams, vernal pools
Equisetum palustre	Marsh Horsetail	G5	S2			Willow/alder thickets, swampy woods, streambanks
Equisetum pratense	Meadow Horsetail	G5	S2			Moist woodlands, shady streamsbanks
Equisetum sylvaticum	Wood Horsetail	G5	S2			Moist aspen or lowland woods, seeps
Equisetum variegatum	Variegated Horsetail	G5	S1			Marl pools of calcareous fens
Erigeron divergens	Spreading Fleabane	G5	S1		W	Dry, open, rocky, sandy, loose soils
Erigeron radicatus	Cushion Fleabane	G3G4	S1		W	Exposed hills, slopes, ridges
Eriogonum cernuum	Nodding Buckwheat	G5	S1		S	Erosional breaks in sandy grasslands, sandstone colluvium
Eriogonum visheri	Dakota Buckwheat	G3	S2		S	Barren, erodible, rock outcrops in badland habitat
Eriophorum chamissonis	Chamisson's Cottongrass	G5	S2			Bogs, marshes, peaty fens

TABLE 4.D.1.A

NORTH DAKOTA'S PLANT SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	Habitat
Eriophorum gracile	Slender Cottongrass	G5	S1			Seepage fens
Eriophorum viridicarinatum	Green Keeled Cottongrass	G5	S2			Sphagnum bogs, peaty fens
Escobaria missouriensis	Missouri Foxtail Cactus	G5	SNR		S	Plains, hills, desert edge, grasslands, lower mountains
Euonymus atropurpureus	Wahoo	G5	S3			Rich deciduous woods, woodland edges, river banks
Euphorbia robusta	Rocky Mountain Spurge	G5	S3			Dry, sandy or gravelly prairie slopes
Fraxinus nigra	Black Ash	G5	S2			Swampy or wet lowlands
Fritillaria pudica	Yellow Fritillary	G5	S3			Ephemerally moist areas of buttes
Galium labradoricum	Bog Bedstraw	G5	S3			Wetland thickets, fens, swampy woods
Gentianopsis crinita	Fringed Gentian	G5	S2			Low wet prairies, stream banks
Geranium maculatum	Wild Geranium	G5	SH			Rich, eastern deciduous woods
Geum rivale	Water Avens	G5	S2			Marshes, wet meadows, riverbanks
Gymnocarpium dryopteris	Oakfern	G5	S2			North-facing or shady wooded slopes
Halenia deflexa	Spurred Gentian	G5	S3			Wetland thickets, damp shady woods
Helianthemum bicknellii	Bicknell's Sunrose	G5	S1			Open woods, prairies, usually dry sandy soil
Hudsonia tomentosa	Wooly Beach-heather	G5	S1			Sand prairies, dunes
Iris missouriensis	Rocky Mountain Iris	G5	S2			Mesic areas within mixed grass prairie
Juncus brevicaudatus	Short-tailed Rush	G5	S2			Wet meadows, fens, marshes
Juncus vaseyi	Vasey's Rush	G5?	S2			Wet meadows, shores
Lappula cenchrusoides	Stickseed	G4	S1			Dry soils in open areas
Lechea stricta	Upright Pinweed	G4?	S2			Dry, sandy woods and prairies
Leersia virginica	Whitegrass	G5	S3			Moist woods, stream banks
Leucocrinum montanum	Sand Lily	G5	S2		S	Grass/sagebrush prairies, open conifer woodlands, sandy soils
Linnaea borealis	Twinflower	G5	S4			Moist, wooded, north-facing slopes

TABLE 4.D.1.A

NORTH DAKOTA'S PLANT SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	Habitat
Liparis loeselii	Loesel's Twayblade	G5	S2			Damp woods, prairie swales, fens
Lipocarpha micrantha	Small-flowered Lipocarpha	G5	S1			Wet sandy areas, sandbars
Mahonia repens	Creeping Barberry	G5	S2			Coulees, slopes of high plains
Mentzelia pumila	Dwarf Mentzelia	G4	S1		S	Dry sandy or clayey soils
Menyanthes trifoliata	Buckbean	G5	S2			Sphagnum bogs, fen peat lands
Mimulus guttatus	Yellow Monkeyflower	G5	S1			Marshes, along streams and lake shores
Minuartia dawsonensis	Stiff Sandwart	G5	S1			Open rocky or gravelly areas on shale
Mitella nuda	Naked Mitrewort	G5	S3			Swampy lowland woods and thickets
Monotropa uniflora	Indianpipe	G5	S3			Rich shady woods
Muhlenbergia filiformis	Pull-up Muhly	G5	S1			Marl pools of calcareous fens
Myosurus apetalus var. montanus	Bristly Mousetail	G5T3 T5	S1		W	Moist areas, vernal pools, lowlands
Myosurus aristatus	Sedge Mousetail	G5	S2			Moist areas, vernal wetlands of mixed grass prairies
Myriophyllum pinnatum	Cutleaf Watermilfoil	G5	S2			Shallows of marshes and shores
Najas guadalupensis	Southern Naiad	G5	S1			Lakes or streams
Najas marina	Spiny Naiad	G5	S1			Alkaline lakes, ponds
Oenothera laciniata	Cutleaf Evening Primrose	G5	SA?		W	Sandy prairie, disturbed pastures, roadsides, stream valleys
Oenothera rhombipetala	Rhombic Evening Primrose	G4G5	S2			Sandy prairies
Onoclea sensibilis	Sensitive Fern	G5	S2			Wetland thickets, fen peat lands, damp, shady woodlands
Ophioglossum pusillum	Adder's-Tongue Fern	G5	S2			Low prairie swales
Orobanche ludoviciana,ssp. multiflora	Manyflowered Broomrape	G5	S1		W	Dry sandy soils, dunes, gypsum ridges
Orobanche uniflora	One-flowered Broomrape	G5	SH			Damp woods, thickets

TABLE 4.D.1.A

NORTH DAKOTA'S PLANT SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	Habitat
Oxytropis deflexa	Drooping Locoweed	G5	S2			Sandy lake shores, low meadows, aspen woodland clearings
Oxytropis sericea	White Locoweed	G5	S1		W	Mixed grass prairie on slopes or buttes
Parnassia palustris var. parviflora	Small-flowered Grass-of-Parnassus	G4	S3			Calcareous fens, bogs
Pellaea glabella	Smooth Cliffbrake	G5	S3			Sandstone caprock of buttes and ledges
Penstemon procerus	Small-flowered Penstemon	G5	S1			Northern prairie slopes
Petasites frigidus	Sweet Coltsfoot	G5	S2			Damp meadows, woods
Phlox alyssifolia	Alyssum-leaved Phlox	G5	S2		S	Sandy/gravelly soil of open prairies, clay banks, limestone ridges
Phlox pilosa	Downy Phlox	G5	S1			Mesic prairies of open woodlands
Pinus flexilis	Limber Pine	G5	S1		S	Arid, exposed rocky ridges, foothills
Piptatherum pungens	Slender Mountain-Ricegrass	G5	S2			Xeric slopes, usually shale
Platanthera clavellata	Green Woodland Orchid	G5	SH			Swampy woods, bogs
Platanthera praeclara	Western Prairie Fringed Orchid	G3	S2	T		Moist prairie swales of sand hills
Pogonia ophioglossoides	Rose pogonia	G5	S1			Swampy woods, bogs
Polygonum hydropiperoides	Swamp Smartweed	G5	S1			Rooted in or near water
Polygonum leptocarpum	Thin-fruited Knotweed	G2G4Q	S1			Damp, dry soils on clay
Polygonum punctatum	Dotted Smartweed	G5	S3			Swampy thickets, wet meadows, riverbanks
Polygonum sagittatum	Arrow-leaved Tearthumb	G5	S2			Marshes, wet meadows
Populus x acuminata	Lanceleaf Cottonwood	GNA	S2		S	Floodplains, stream banks
Populus x jackii	Balm-of-Gilead	GNA	SNR		W	Uplands and bottomlands
Potamogeton diversifolius	Water-thread Pondweed	G5	S3		W	Shallow ponds, marshes
Potamogeton filiformis	Slender Pondweed	G5	S3			Shallow lakes, ponds, streams

TABLE 4.D.1.A

NORTH DAKOTA'S PLANT SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	Habitat
Potamogeton natans	Floating Pondweed	G5	S2			Cold, shallow to deep lakes and streams
Potamogeton praelongus	White-stemmed Pondweed	G5	S1			Usually cool, deep water of lakes
Potamogeton strictifolius	Narrow-leaved Pondweed	G5	S1			Shallow lakes, streams
Potamogeton vaginatus (Stuckenia vaginata)	Sheathed Pondweed	G5	S3			Usually deep cold lakes, ponds
Potentilla diversifolia	Mountain meadow cinquefoil (Varileaf Potentilla)	G5	S1		W	Drainages, meadows
Potentilla palustris	Purple Cinquefoil	G5	S2			Fens, wet meadows, bogs
Potentilla tridentata (Sibbaldiopsis tridentata)	Three-toothed Cinquefoil (Shrubby Fivefingers)	G5	S1		W	Gravel shores, dry shale outcrops of prairie hillsides, scoria
Primula incana	American Primrose	G4G5	S2			Alkali wet meadows, fens
Psoralea tenuiflora	Slim-flowered Scurfpea	G5	SH			Dry prairie, high plains
Ranunculus cardiophyllus	Heart-leaved Buttercup	G4G5	S1		W	Mountain meadows along streams, seeps
Ranunculus flammula	Acrid Spearwort	G5	S1			Marshes, damp shores
Ranunculus recurvatus	Hooked crowfoot	G5	S1			Wooded ravines, swampy woods
Rhynchospora capillacea	Hair Beakrush	G4	S2			Moist calcareous fens, marsh meadows, seeps, limestone
Ribes cynosbati	Prickly Gooseberry	G5	S3			Moist rich woods
Rorippa calycina	Hayden's Yellowcress	G3	SH		W	Sandy shores of rivers and streams
Salix maccalliana	Swamp Willow	G5?	S1			Bogs, swamps
Salix pedicellaris	Bog Willow	G5	S3			Sphagnum bogs, fens
Sanicula gregaria	Cluster Sanicle	G4Q	SH			Rich, moist woodlands
Scheuchzeria palustris	Scheuchzeria	G5	S1			Sphagnum bogs,
Scirpus cyperinus	Cottongrass Bulrush	GNR	SNR			Wet meadows, fresh marshes, boggy areas, fen wetlands

TABLE 4.D.1.A

NORTH DAKOTA'S PLANT SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	Habitat
Selaginella rupestris	Ledge Spike-moss	G5	S1			Sandy soils near oak woodlands
Senecio eremophilus	Northern Ragwort	G5	S2			Open sites in aspen woodlands
Smilax ecirrhata	Upright Greenbrier (Upright Carrionflower)	G5?	S2		W	Rich deciduous woods and thickets
Solidago flexicaulis	Zigzag Goldenrod	G5	S2			Rich deciduous woodlands
Solidago riddellii	Riddell's Goldenrod	G5	SH			Low prairies, wet meadows
Sphagnum recurvum	Recurved Sphagnum	G5	S1			Bogs, fens, forests, near wetlands
Sphagnum teres	Round-leaved Sphagnum	G5	S1			Bogs, fens, forests, near wetlands
Spiranthes cernua	Nodding Ladies' Tresses	G5	S1			Fens, low prairies
Spiranthes romanzoffiana	Hooded Ladies' Tresses	G5	S1			Fens, wet meadows
Sporobolus airoides	Alkali Sacaton	G5	S3		S	Sandy/gravelly soil, clay outwash, saline conditions
Stephanomeria minor (tenuifolia)	Narrow-leaved Wirelettuce	G5	S3			Dry, clay outcrops
Talinum parviflorum (Phemeranthus parviflorus)	Prairie Fameflower	G5	S2		W	Sandy acidic soil, overlying bedrock
Thelesperma subnudum var. marginatum	Greenthread	G5T5	S2			Sandy prairie, open plains
Thelypteris palustris	Marsh Fern	G5	S3			Wetland thickets, shrubby fens
Townsendia exscapa	Easter Daisy	G5	SNR		S	Dry barren plain, hillsides on gravelly exposures, weathered bedrock
Townsendia hookeri	Hooker's Townsendia	G5	S1		S	Butte summits
Triantha glutinosa	Sticky False-asphodel	G5	S1			Fens, wet meadows
Triplasis purpurea	Purple Sandgrass	G4G5	S1			Sandy prairies, blowouts
Utricularia intermedia	Flat-leaved Bladderwort	G5	S2			Calcareous fens, seepage peatlands

TABLE 4.D.1.A

NORTH DAKOTA'S PLANT SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	Habitat
Utricularia minor	Lesser Bladderwort	G5	S2			Calcareous fens, seeps
Uvularia sessilifolia	Sessile-leaved Bellwort	G5	S2			Rich deciduous woods
Veronicastrum virginicum	Culver's Root	G4	SH			Low prairie, rich woods
Viola conspersa (Viola labradorica)	Bog Violet	G5	S2			Moist woods, streambanks
Viola incognita (Viola blanda)	Large-leaved White Violet	G4G5T 4T5	SH			Moist woods
Wolffia columbiana	Southern Watermeal	G5	S2			Aquatic in quiet waters

*** Data provided by the USFWS, USFS, ND Game & Fish Dept., North Dakota Natural Heritage Program, and NatureServe.**

TABLE 4.D.1.B

USDA FOREST SERVICE SENSITIVE PLANTS
LITTLE MISSOURI NATIONAL GRASSLAND

Common Name	Scientific Name
Smooth Goosefoot	Chenopodium *subglabrum*
Blue Lips	Collinsia *parviflora*
Torrey's Cryptantha	Cryptantha *torreyana*
Nodding Buckwheat	Eriogonum *cernuum*
Dakota Buckwheat	Eriogonum *visheri*
Missouri Foxtail Cactus	Escobaria *missouriensis*
Sand Lily	Leucocrinum *montanum*
dwarf mentzelia	Mentzelia *pumila*
alyssumleaf phlox	Phlox *alyssifolia*
limber pine	Pinus *flexilis*
lanceleaf cottonwood	Populus *x acuminata*
alkali sacaton	Sporobolus *airoides*
Easter Daisy	Townsendia *exscapa*
Hooker's Townsend daisy	Townsendia *hookeri*

TABLE 4.D.1.C BLM SENSITIVE SPECIES – PLANTS	
Common Name	**Scientific Name**
Cusick's horse-mint	*Agastache cusickii*
Western boneset	*Ageratina occidentalis =Eupatorium occidentale*
Tapertip onion	*Allium acuminatum*
Sitka columbine	*Aquilegia formosa*
Daggett rock cress	*Arabis demissa var. languida*
sapphire rockcress	*Arabis fecunda*
narrowleaf milkweed	*Asclepias stenophylla*
Sweetwater milkvetch	*Astragalus aretioides =Orophaca aretioides*
Barr's milkvetch	*Astragalus barrii*
painted milkvetch	*Astragalus ceramicus var. apus*
lesser rushy milkvetch	*Astragalus convallarius var.convallarius = A. junciformis*
Geyer's milkvetch	*Astragalus geyeri*
Gray's milkvetch	*Astragalus grayi*
Wind River milkvetch	*Astragalus oreganus*
Bitterroot milkvetch	*Astragalus scaphoides*
railhead milkvetch	*Astragalus terminalis*
large-leafed balsamroot	*Balsamorhiza macrophylla*
Peculiar moonwort	*Botrychium paradoxum*
low northern-rockcress	*Braya humilis*
Mohave brickellbush	*Brickellia oblongifolia*
Idaho sedge	*C. idahoa = C. parryana ssp.idahoa*
Small-winged sedge	*Carex stenoptila*
obscure evening-primrose	*Camissonia andina= Oenotheraandina*
small camissonia	*Camissonia parvula = Oenotheraparvula*
Crawe's sedge	*Carex crawei*

TABLE 4.D.1.C BLM SENSITIVE SPECIES – PLANTS	
Common Name	**Scientific Name**
annual Indian paintbrush	*Castilleja exilis*
yellow bee plant	*Cleome lutea*
Fendler cat's-eye	*Cryptantha fendleri*
miner's candle	*Cryptantha scoparia*
Schweinitz' flatsedge	*Cyperus schweinitzii*
Scribner's panic grass	*Dichanthelium oligosanthes var.scribnerianum*
beavertip draba	*Draba globosa = D. apiculata*
Wind River draba	*Draba ventosa*
long sheath waterweed	*Elodea bifoliata = E.longivaginata*
beaked spikerush	*Eleocharis rostellata*
Idaho fleabane	*Erigeron asperugineus*
linearleaf fleabane	*Erigeron linearis*
buff fleabane	*Erigeron ochroleucus var.*
matted buckwheat	*Eriogonum caespitosum*
Railroad Canyon wild buckwheat	*Eriogonum soliceps*
Visher's buckwheat	*Eriogonum visheri*
hiker's gentian	*Gentianopsis simplex*
spiny hopsage	*Grayia spinosa*
Howell's gumweed	*Grindelia howellii*
showy goldeneye	*Heliomeris multiflora var.multiflora = Viguiera multiflora*
prostrate hutchensia	*Hutchinsia procumbens*
ballhead ipomopsis	*Ipomopsis congesta ssp.crebrifolia*
simple bog sedge	*Kobresia simpliciuscula*
green molly	*Kochia americana*
mat prickly phlox	*Leptodactylon caespitosum*

TABLE 4.D.1.C BLM SENSITIVE SPECIES – PLANTS	
Common Name	**Scientific Name**
Idaho bladderpod (same as keeled)	*Lesquerella carinata var.languida*
Pryor Mountain bladderpod	*Lesquerella lesicii*
beautiful bladderpod	*Lesquerella pulchella*
sand wildrye	*Leymus flavescens = Elymusflavescens*
Pale-spiked lobelia	*Lobelia spicata*
taper-tip desert-parsley	*Lomatium attenuatum*
Nuttall desert-parsley	*Lomatium nuttallii*
marsh felwort	*Lomatogonium rotatum*
Torrey's desert dandelion	*Malacothrix torreyi = M.sonchoides v. torreyi*
bractless mentzelia	*Mentzelia nuda*
dwarf mentzelia	*Mentzelia pumila*
dwarf purple monkeyflower	*Mimulus nanus*
primrose monkeyflower	*Mimulus primuloides*
square-stem monkeyflower	*Mimulus ringens*
leafy nama	*Nama densum*
Blue toadflax	*Nuttallanthus texanus*
meadow lousewort	*Pedicularis crenulata*
narrowleaf penstemon	*Penstemon angustifolius*
Lemhi beardtongue	*Penstemon lemhiensis*
Whipple's beardtongue	*Penstemon whippleanus*
hoary phacelia	*Phacelia incana*
Hot Spring phacelia	*Phacelia thermalis*
plains phlox	*Phlox andicola*
Missoula phlox	*Phlox missoulensis*
double bladderpod	*Physaria brassicoides*

TABLE 4.D.1.C BLM SENSITIVE SPECIES – PLANTS	
Common Name	**Scientific Name**
common twinpod	*Physaria didymocarpa v. lanata*
slender-branched popcorn flower	*Plagiobothrys leptocladus*
short-leavedbluegrass	*Poa arnowiae = P. curta*
Austin's knotweed	*Polygonum douglasii sp.Austinae*
Platte cinquefoil	*Potentilla plattensis*
alkali primrose	*Primula alcalina*
mealy primrose	*Primula incana*
James stitchwort	*Pseudostellaria jamesiana =Stellaria jamesiana*
dwarf wooly-heads	*Psilocarphus brevissimus*
Indian breadroot	*Pediomelum hypogaeum*
Lemmon's alkaligrass	*Puccinellia lemmonii*
white-veined wintergreen	*Pyrola picta*
Beartooth large-flowered goldenweed	*Pyrrocoma carthamoides var.subsquarrosa = Haplopappuscarthamoides v. subsquarrosus*
bur oak	*Quercus macrocarpa*
Northern buttercup	*Ranunculus pedatifidus*
persistent-sepal yellow-cress	*Rorippa calycina*
slender bulrush	*Schoenoplectus heterochaetus =Scirpus heterochaetus*
shoshonea	*Shoshonea pulvinata*
few-flowered goldenrod	*Solidago velutina = S. sparsifolia*
white-stemmed globe-mallow	*Sphaeralcea munroana*
silver chicken sage	*Sphaeromeria argentea*
smooth buckwheat	*Stenogonum salsuginosum =Eriogonum salsuginosum*
thorn skeletonweed	*Stephanomeria spinosa =Lygodesmia spinosa*

TABLE 4.D.1.C BLM SENSITIVE SPECIES – PLANTS	
Common Name	**Scientific Name**
Poison suckleya	*Suckleya suckleyana*
Rocky Mountain dandelion	*Taraxacum eriophorum*
alpinemeadowrue	*Thalictrum alpinum*
arrow thelypody	*Thelypodium sagittatum ssp.sagittatum*
meadow pennycress	*Thlaspi parviflorum*
showy townsendia	*Townsendia florifera*
Nannyberry	*Viburnum lentago*

APPENDIX 4.D.2

North Dakota Federal and State Wildlife Species of Concern

TABLE 4.D.2.A

NORTH DAKOTA'S BIRD SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	CWCS	Habitat
Ammodramus bairdii	Baird's Sparrow	G4	SU		S	I	Native prairies & grasslands
Ammodramus leconteii	Le Conte's Sparrow	G4	SU			II	Fens, wet meadows, marshes, sedges
Ammodramus nelsoni	Nelson's Sharp-tailed Sparrow	G5	SU			I	Fens, shallow marshes, lakes
Ammodramus savannarum	Grasshopper Sparrow	G5	S?B			I	Mixed-grass prairie, meadows, hayfields
Anas acuta	Northern Pintail	G5	S?B			II	Aquatic/wetland habitat
Anthus spragueii	Sprague's Pipit	G4	S3		S	I	Grazed prairie
Asio flammeus	Short-eared Owl	G5	S?B, S?N			II	Prairie, hayfields, stubble fields
Athene cunicularia	Burrowing Owl	G4	SU		S	II	Grasslands with abandoned burrows
Aythya americana	Redhead	G5	S?B			II	Aquatic/wetland habitat
Aythya valisineria	Canvasback	G5	S?B			II	Aquatic/wetland habitat
Bartramia longicauda	Upland Sandpiper	G5	S?B			I	Dry, open mixed-grass prairie
Botaurus lentiginosus	American Bittern	G4	S?B			I	Aquatic/wetland habitat
Buteo regalis	Ferruginous Hawk	G4	SU			I	Native prairie, trees, cliffs
Buteo swainsoni	Swainson's Hawk	G5	SU			I	Open plains and prairies
Calamospiza melanocorys	Lark Bunting	G5	S?B			I	Sagebrush, sage prairie
Calcarius mccownii	McCown's Longspur	G4	S2			III	Arid, grazed, mix-grass prairie,
Calcarius ornatus	Chestnut-collared Longspur	G5	S?B			I	Grazed/hayed mixed-grass prairie
Catoptrophorus semipalmatus	Willet	G5	SU			I	Aquatic/wetland habitat
Centrocercus urophasianus	Greater Sage Grouse	G4	SU		S	II	Sagebrush
Charadrius montanus	Mountain Plover	G2	SX	PT			Dry short grass prairie, sagebrush
Chlidonias niger	Black Tern	G4	S?B			I	Aquatic/wetland habitat

TABLE 4.D.2.A

NORTH DAKOTA'S BIRD SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	CWCS	Habitat
Circus cyaneus	Northern Harrier	G5	S?B, S?N			II	Upland grasses near water
Cistothorus platensis	Sedge Wren	G5	S?B			II	Wet meadows, tall grasses & sedges
Coccyzus erythropthalmus	Black-billed Cuckoo	G5	S?B			I	Woodlands, thickets, prairie shrub, shelterbelt
Coturnicops noveboracensis	Yellow Rail	G4	S2			I	Aquatic/wetland habitats
Dolichonyx oryzivorus	Bobolink	G5	S?B			II	Tall-grass prairie, hayland, cropland
Falco mexicanus	Prairie Falcon	G5	S3			II	Badlands, cliffs, buttes in west ND
Falco peregrinus	Peregrine Falcon	G4T4	S1		S	III	Undisturbed areas with cliffs and prey
Grus americana	Whooping Crane	G1	SX	E, XN		III	Aquatic/wetland habitats
Haliaeetus leucocephalus	Bald Eagle	G5	S1			II	Forested areas near water
Lanius ludovicianus	Loggerhead Shrike	G4	SU		S	II	Open country, wooded coulees, shelterbelts
Larus pipixcan	Franklin's Gull	G4G5	S?B			I	Aquatic/wetland habitats
Limosa fedoa	Marbled Godwit	G5	SU			I	Aquatic/wetland habitat
Melanerpes erythrocephalus	Red-Headed Woodpecker	G5	S?B			II	Trees by rivers, shelterbelts, wooded areas
Numenius americanus	Long-billed Curlew	G5	S2		S	I	Aquatic/wetland habitats, extreme SW counties
Numenius borealis	Eskimo Curlew	GH	S?	E			Wetlands, grasslands, pastures
Pelecanus erythrorhynchos	American White Pelican	G4	S?B			I	Aquatic/wetland habitat
Phalaropus tricolor	Wilson's Phalarope	G5	S?B			I	Aquatic/wetland habitat
Podiceps auritus	Horned Grebe	G5	S?B			I	Aquatic/wetland habitat
Recurvirostra americana	American Avocet	G5	S?B			II	Aquatic/wetland habitat
Spiza americana	Dickcissel	G5	S?B			II	Alfalfa, sweet clover, brushy grasslands

TABLE 4.D.2.A

NORTH DAKOTA'S BIRD SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	CWCS	Habitat
Spizella breweri	Brewer's Sparrow	G5	S3			III	Dense sagebrush, short-grass prairie
Sterna antillarum	Interior Least Tern	G4	S1	E		II	Sparsely vegetated sand bars
Tympanuchus cupido pinnatus	Greater Prairie Chicken	G4T4	S2		S	II	Native tall-grass prairie
Tympanuchus phasianellus	Sharp-tailed Grouse	G4	S?			II	Mixed-grass prairie, patches of woody vegetation
Zonotrichia albicollis	White-throated Sparrow	G5	S3				Mature quaking aspen, dense understory

*** Data provided by the USFWS, USFS, ND Game & Fish Dept., North Dakota Natural Heritage Program, and NatureServe.**

TABLE 4.D.2.B

NORTH DAKOTA'S MAMMAL SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	CWCS	Habitat
Canis lupus	Gray Wolf	G4	SX	E		III	Forested areas
Chaetodipus hispidus	Hispid Pocket Mouse	G5	S4			III	Short and mixed-grass prairie
Cynomys ludovicianus	Black-tailed Prairie Dog	G3G4	SU		S	I	Short grass of grazed rangeland in SW North Dakota
Lemmiscus curtatus	Sagebrush Vole	G5	S4			III	Extreme western North Dakota
Lutra canadensis	Northern River Otter	G5	S1			II	Rivers, streams near wooded areas
Mustela nigripes	Black-footed Ferret	G1	S1	E		II	Short grass prairie where prairie dog towns occur.
Myotis ciliolabrum	Western Small-footed Myotis	G5	SU			III	Extreme western North Dakota
Myotis evotis	Long-eared Myotis	G5	SU			III	Western North Dakota
Myotis volans	Long-legged Myotis	G5	SU			III	Western North Dakota
Ovis canadensis	Bighorn Sheep	G4T4	S2		S		Rugged terrain, rocky slopes, badlands
Perognathus flavescens	Plains Pocket Mouse	G5	SU			III	Sandy areas covered with grass in SE North Dakota
Sorex arcticus	Arctic Shrew	G5	S?			III	Moist, grassy openings in forested areas
Sorex hoyi	Pygmy Shrew	G5	SU			II	Forested areas in drift prairie & Red River Valley
Spermophilus richardsonii	Richardson's Ground Squirrel	G5	S?			II	Open grasslands, cultivated fields, pastures
Spilogale putoris	Eastern Spotted Skunk	G5	S1			III	Riparian woodlands, densely vegetated
Vulpes velox	Swift Fox	G3	S1			II	Short mixed-grass prairie tracts

*** Data provided by the USFWS, USFS, ND Game & Fish Dept., North Dakota Natural Heritage Program, and NatureServe.**

TABLE 4.D.2.C

NORTH DAKOTA'S REPTILE SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	CWCS	Habitat
Apalone mutica	Smooth Softshell Turtle	G5	SU			III	Lower Missouri River System
Chelydra serpentina	Common Snapping Turtle	G5	S?			II	Warm water lakes/rivers, muddy bottoms
Eumeces septentrionalis	Northern Prairie Skink	G5	S2S3			III	Sandy areas in grasslands
Graptemys pseudogeographica	False Map Turtle	G5	SU			III	Lower Missouri River System
Heterodon nasicus	Western Hognose Snake	G5	S?			I	Sand/gravel habitats near rivers
Liochlorophis vernalis	Smooth Green Snake	G5	S?			I	Grasslands, uplands of hills
Phrynosoma hernandesi	Short-Horned Lizard	G5	S?			II	Badlands
Sceloporus graciosus	Northern Sagebrush Lizard	G5	S4			III	Sagebrush, open flats, forested slopes near water
Storeria occipitomaculata	Redbelly Snake	G5	S?			II	Woodlands in drift prairie, Red River Valley

*** Data provided by the USFWS, USFS, ND Game & Fish Dept., North Dakota Natural Heritage Program, and NatureServe.**

TABLE 4.D.2.D

NORTH DAKOTA'S AMPHIBIAN SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	CWCS	Habitat
Bufo hemiophrys	Canadian Toad	G4	S?			I	Aquatic/wetland habitat
Rana pipiens	Northern Leopard Frog	G5	S?				Aquatic/wetland habitat
Spea bombifrons	Plains Spadefoot Toad	G5	S?			I	Dry grasslands, loose soils, shallow pools

*** Data provided by the USFWS, USFS, ND Game & Fish Dept., North Dakota Natural Heritage Program, and NatureServe.**

TABLE 4.D.2.E

NORTH DAKOTA'S FISH SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	CWCS	Habitat
Ameiurus natalis	Yellow Bullhead	G5	SX			III	Backwater, slow-moving sections of rivers, soft bottoms
Campostoma anomalum	Central Stoneroller	G5	S3			III	Forest River in NE North Dakota
Cycleptus elongatus	Blue Sucker	G3G4	S3			I	Large rivers, strong current, high turbidity
Ichthyomyzon castaneus	Chestnut Lamprey	G4	S?			III	Red River
Ichthyomyzon unicuspis	Silver Lamprey	G5	S?			III	Red River
Macrhybopsis gelida	Sturgeon Chub	G3	S2		S2	I	Rocky rapids, high turbidity, swift currents
Macrhybopsis meeki	Sicklefin Chub	G3	S2			I	Deep rivers, swift current, muddy waters
Macrhybopsis storeriana	Silver Chub	G5	S?			II	Deeper pools, sandy backwater, large rivers
Margariscus margarita	Pearl Dace	G5	S3			I	Missouri & Red River systems
Nocomis biguttatus	Hornyhead Chub	G5	S3			III	Forest River in NE North Dakota
Notropis anogenus	Pugnose Shiner	G3	S1			III	Clear water with vegetation
Notropis heterolepis	Blacknose Shiner	G4	S3			III	Pools with vegetation
Notropis rubellus	Rosyface Shiner	G5	S3			III	Pools with current
Percina caprodes	Logperch	G5	S3			III	Red River
Percina shumardi	River Darter	G5	SU			III	Red River
Percopsis omiscomaycus	Trout-Perch	G5	S?			II	Deep pools, rivers, streams, sandy bottoms
Phoxinus eos	Northern Redbelly Dace	G5	S4		S2	II	Slower rivers with some vegetation
Phoxinus neogaeus	Finescale Dace	G5	SU			III	Pools, slow moving waters
Platygobio gracilis	Flathead Chub	G5	S?			II	Turbid waters, swift current, sand/gravel bottoms
Polyodon spathula	Paddlefish	G4	S?			II	Large free flowing rivers with zooplankton
Pylodictis olivaris	Flathead Catfish	G5	S4			III	Pools, lakes, slower waters,
Scaphirhynchus albus	Pallid Sturgeon	G2	S1	E		II	Large, turbid rivers with sand/gravel bottom

*** Data provided by the USFWS, USFS, ND Game & Fish Dept., North Dakota Natural Heritage Program, and NatureServe.**

TABLE 4.D.2.F

NORTH DAKOTA'S INSECT SPECIES OF CONCERN

Scientific Name	Common Name	Global	State	USFWS	USFS	CWCS	Habitat
Atrytone arogos iowa	Arogos Skipper	G3G4T3T4	S?		S		Native prairie with purple vetch, Canada thistle, purple coneflower
Euphyes dion	Dion Skipper	G4	S1		S		Sedge marshes, cattails, swamp milkweed
Hesperia dacotae	Dakota Skipper	G2	S2	C	S		Native tall grass prairie with white camass
Hesperia ottoe	Ottoe Skipper	G3G4	S?		S		Native prairie hilltops with coneflower
Oarisma powesheik	Powesheik Skipper	G2G3	S?		S		Undisturbed, tall grass meadows
Phyciodes batesii	Tawny Crescent	G4	S3		S		Woodlands, native prairie with dogbane, leafy spurge
Poanes massasoit	Mulberry Wing	G4	S2		S		Sedge meadows with upright sedge, dogwood
Poanes viator	Broad-Winged Skipper	G5	S2		S		Tall marsh grass with hairy sedge, swamp milkweed
Speyeria idalia	Regal Fritillary	G3	S2		S		Tall grass areas, damp meadows with blazing star, milkweed, thistle

*** Data provided by the USFWS, USFS, ND Game & Fish Dept., North Dakota Natural Heritage Program, and NatureServe.**

TABLE 4.D.2.G

NORTH DAKOTA'S BIVALVE AND GASTROPOD SPECIES OF CONCERN

Common Name	Scientific Name	Global	State	USFWS	USFS	CWCS	Habitat
Amblema plicata	Threeridge	G5	S?			II	Mud, sand, gravel bottoms
Fusconaia flava	Wabash Pigtoe	G5	S4			II	Mud, sand, gravel bottoms
Lasmigona compressa	Creek Heelsplitter	G5	S?			II	Sandy-bottomed headwaters
Ligumia recta	Black Sandshell	G5	S4			II	Swift current, gravel/sand bottoms
Potamilus alatus	Pink Heelsplitter	G5	S4			II	Mud, gravel bottoms
Potamilus ohiensis	Pink Papershell	G5	SU			III	Sandy bottom of Bois de Sioux River
Quadrula quadrula	Mapleleaf	G5	S3			II	Mud, sand, gravel bottoms

*** Data provided by the USFWS, USFS, ND Game & Fish Dept., North Dakota Natural Heritage Program, and NatureServe.**

TABLE 4.D.2.H **BLM SENSITIVE SPECIES – MAMMALS**	
Common Name	**Scientific Name**
Black-tailed prairie dog	*Cynomys ludovicianus*
Fisher	*Martes pennanti*
Fringed myotis	*Myotis thysanodes*
Fringe-tailed myotis	*Myotis thysanodes pahasapensis*
Gray Wolf	*Canis lupus*
Great Basin pocket mouse	*Perognathus parvus*
Grizzly Bear	*Ursus arctos horribilis*
Long-eared myotis	*Myotis evotis*
Long-legged myotis	*Myotis volans*
Meadow jumping mouse	*Zapus hudsonius*
North American wolverine	*Gulo gulo luscus*
Northern myotis	*Myotis septentrionalis*
Pallid bat	*Antrozous pallidus*
Pygmy rabbit	*Brachylagus idahoensis*
Swift fox	*Vulpes velox*
Townsend's big-eared bat	*Corynorhinus townsendii*
White-tailed prairie dog	*Cynomys leucurus*

TABLE 4.D.2.I

BLM SENSITIVE SPECIES – BIRDS

Common Name	Scientific Name
Baird's sparrow	*Ammodramus bairdii*
Bald Eagle	*Haliaeetus leucocephalus*
Black tern	*Chilodonias niger*
Black-backed woodpecker	*Picoides arcticus*
Black-crowned night heron	*Nycticorax nycticorax*
Blue-gray gnatcatcher	*Polioptila caerulea*
Bobolink	*Dolichonyx orysivorus*
Brewer's sparrow	*Spizella breweri*
Burrowing owl	*Athene cunicularia*
Chestnut-collared longspur	*Calcarius ornatus*
Common loon	*Gavia immer*
Dickcissel	*Spiza americana*
Ferruginous hawk	*Buteo regalis*
Flammulated owl	*Otus flammeolus*
Franklin's gull	*Larus pipixcan*
Golden eagle	*Aquila chrysaetos*
Great gray owl	*Strix nebulosa*
Greater sage-grouse	*Centrocercus urophasianus*
Harlequin duck	*Histrionicus histrionicus*
LeConte's sparrow	*Ammodramus leconteii*
Loggerhead shrike	*Lanius ludovicianus*
Long-billed curlew	*Numenius americanus*
Marbled godwit	*Limosa fedoa*
McCown's longspur	*Calcarius mccownii*
Mountain plover	*Charadrius montanus*

TABLE 4.D.2.I BLM SENSITIVE SPECIES – BIRDS	
Common Name	**Scientific Name**
Nelson's sharp-tailed sparrow	*Ammodramus nelsoni*
Northern goshawk	*Accipiter gentiles*
Peregrine falcon	*Falco peregrinus*
Red-headed woodpecker	*Melanerpes erythrocephalus*
Sage sparrow	*Amphispiza belli*
Sage thrasher	*Oreoscoptes montanus*
Sedge wren	*Cistothorus platensis*
Sprague's pipit	*Anthus spragueii*
Swainson's hawk	*Buteo swainsoni*
Three-toed woodpecker	*Picoides tridactylus*
Trumpeter swan	*Cygnus buccinator*
White-faced ibis	*Plegadis chihi*
Yellow rail	*Coturnicops noveboracensis*
Yellow-billed cuckoo	*Coccyzus americanus*

TABLE 4.D.2.J BLM SENSITIVE SPECIES – FISH	
Common Name	**Scientific Name**
Arctic grayling (fluvial population)	*Thymallus arcticus montanus*
Northern redbelly X Finescale dace	*Phoxinus eos x Phoxinus neogaeus*
Paddlefish	*Polyodon spathula*
Pearl dace	*Margariscus margarita*
Sauger	*Stizostedion canadense*
Sturgeon chub	*Macrhybopsis gelida*
Westslope cutthroat trout	*Oncorhynchus clarki lewisi*
Yellowstone cutthroat trout	*Oncorhynchus clarki bouvieri*

TABLE 4.D.2.K BLM SENSITIVE SPECIES – REPTILES	
Common Name	**Scientific Name**
Greater short-horned lizard	*Phrynosoma hernandesi*
Milk snake	*Lampropeltis triangulum*
Snapping turtle	*Chelydra serpentine*
Spiny softshell	*Apalone spinifera*
Western hog-nosed snake	*Heterodon nasicus*

TABLE 4.D.2.L BLM SENSITIVE SPECIES – AMPHIBIANS	
Common Name	**Scientific Name**
Coeur d'Alene salamander	*Plethodon idahoensis*
Great Plains toad	*Bufo cognatus*
Northern leopard frog	*Rana pipiens*
Plains spadefoot	*Spea bombifrons*
Western toad	*Bufo boreas*

TABLE 4.D.2.M BLM SENSITIVE SPECIES – INSECTS	
Common Name	**Scientific Name**
Dakota skipper	*Hesperia dacotae*

APPENDIX 4.D.3

North Dakota Federal and State Threatened and Endangered Botany and Wildlife Species Rank Definitions

TABLE 4.D.3.A NATURAL HERITAGE RANK DEFINITIONS	
G1	**Critically Imperiled** – Critically imperiled globally because of extreme rarity or because of some factor of its biology making it especially vulnerable to extinction. Typically 5 or fewer occurrences or very few remaining individuals (<1,000) or acres (<2,000) or stream miles (<10). [Critically endangered throughout its range.]
G2	**Imperiled** - Imperiled globally because of rarity or because of other factors demonstrably making it very vulnerable to extinction or elimination throughout its range. Typically 6 to 20 occurrences or few remaining individuals (1,000 to 3,000) or acres (2,000 to 10,000) or stream miles (10 to 50). [Endangered throughout its range.]
G3	**Vulnerable** – Vulnerable globally either because very rare and local throughout its range, found only in a restricted range (even if abundant at some locations) or because of other factors making it vulnerable to extinction or elimination throughout its range. Typically of 21 to 100 occurrences or between 3,000 and 10,000 individuals. [Threatened throughout its range.]
G4	**Apparently Secure** – Uncommon but not rare (although it may be quite rare in parts of its range, especially at the periphery), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern. Typically more than 100 occurrences and more than 10,000 individuals.
G5	**Secure** – Common, widespread, and abundant (although it may be quite rare in parts of its range, especially on the periphery). Not vulnerable in most of its range. Typically with considerably more than 100 occurrences and more than 10,000 individuals.
GX	**Presumed Extinct** (species elements) - Believed to be extinct throughout its range (e.g., passenger pigeon), virtually no likelihood that it will be rediscovered.
GH	**Possibly Extinct** (species elements) - Of historical occurrence throughout its range, i.e., formerly part of the established biota, with the expectation that it may be rediscovered (e.g. Ivory-billed woodpecker).
G#G#	**Range Rank** - A numeric range rank (e.g., G2G3) is used to indicate uncertainty about the exact status of a taxon. Ranges cannot skip more than one rank (e.g., GU should be used rather than G1G4).
GU	**Unrankable** - Currently unrankable due to lack of information or due to substantially conflicting information about status or trends
G?	**Unranked** - Global rank not yet assessed.
HYB	**Hybrid** - Element not ranked because it represents and interspecific hybrid and not a species.
?	**Inexact Numeric Rank** - Denotes inexact numeric rank.
Q	**Questionable Taxonomy** - Taxonomic status is questionable; numeric rank may change with taxonomy.
C	**Captive or Cultivated Only** - Taxon at present is extant only in captivity or cultivation, or as a reintroduced population not yet established
T	**Infraspecific Taxon** (trinomial) – The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' basic global rank. A T subrank cannot imply the subspecies or variety is more abundant than the species' basic global rank (i.e., a G1T2 subrank should not occur).
S1	**Critically Imperiled** – Critically imperiled in the state because of extreme rarity or because of some factor of its biology making it especially vulnerable to extirpation from the state. Typically 5 or fewer occurrences or very few remaining individuals (<1,000). [Critically endangered in state.]
S2	**Imperiled** – Imperiled in the state because of rarity or because of other factors making it very vulnerable to extirpation from the state. Typically 6 to 20 occurrences or few remaining individuals (1,000 to 3,000). [Endangered in the state.]
S3	**Vulnerable** – Vulnerable in the state either because rare and uncommon, or found only in a restricted range (even if abundant at some locations), or because of other factors making it vulnerable to extirpation. Typically 21 to 100 occurrences or between 3,000 to 10,000 individuals. [Threatened in the state.]
S4	**Apparently Secure** – Uncommon but not rare, and usually widespread in the state. Possible cause of long-term concern. Usually more than 100 occurrences and more than 10,000 individuals

TABLE 4.D.3.A NATURAL HERITAGE RANK DEFINITIONS	
S5	**Secure** – Common, widespread, and abundant in the state. Essentially ineradicable under present conditions. Typically with considerably more than 100 occurrences and more than 10,000 individuals.
SX	**Presumed Extirpated** – Element is believed to be extirpated from the state. Virtually no likelihood that it will be rediscovered.
SH	**Possibly Extirpated** (Historical) – Elements occurred historically in the state, and there is some expectation that it may be rediscovered. Its presence may not have been verified in the past 20 years.
S#S#	**Range Rank** – A numeric range rank (e.g., S2S3) is used to indicate the range of uncertainty about the exact status of the element. Ranges cannot skip more than one rank (e.g., SU should be used rather than S1S4).
SU	**Unrankable** – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
S?	**Unranked** - State rank not yet assessed.
HYB	**Hybrid** - Element not ranked because it represents and interspecific hybrid and not a species.
SE	**Exotic** - An exotic species established in the state; may be native in nearby regions.
SE#	**Exotic Numeric** – An exotic established in the state that has been assigned a numeric rank to indicate its status, as defined for S1 through S5.
SZ	**Zero Occurrences** – Present but lacking practical conservation concern in the state because there are no definable occurrences, although the taxon is native and appears regularly in the state. An SZ rank will generally be used for long distance migrants whose occurrences during their migrations have little or no conservation value for the migrant, as they are typically too irregular (in terms of repeated visitation to the same locations), transitory, and dispersed to be reliably identified, mapped, and protected.
SP	**Potential** – Potential that element occurs in the state but no extant or historic occurrences are accepted.
SR	**Reported** – Element reported in the state but without a basis for either accepting or rejecting the report, or the report not yet reviewed. Some of these are very recent discoveries for which the program hasn't yet received first-hand information; others are old, obscure reports.
SRF	**Reported Falsely** – Element erroneously reported in the state and the error has persisted in the literature.
SSYN	Synonym – Element reported as occurring in the state, but state does not recognize the taxon; therefore the Element is not ranked by the state.
*****	S rank has been assigned and is under review. Contact the individual state Natural Heritage Program for assigned rank.
B	Breeding – Basic rank refers to the breeding population of the Element in the state.
N	Non-breeding – Basic rank refers to the non-breeding population of the Element in the state.
?	Inexact Numeric Rank – Denotes inexact numeric rank.
C	Captive or Cultivated - Native element presently extant in the state only in captivity or cultivation or as a reintroduced population not yet established

TABLE 4.D.3.B FEDERAL STATUS DESIGNATIONS	
U.S. Fish and Wildlife Service (USFWS) *This value indicates status under the federal Endangered Species Act of 1973 based on categories defined by the U.S. Fish and Wildlife Service(16 U.S.C.S §1531-1543 (Supp.1996)).	
E	Endangered
T	Threatened
PE	Proposed Endangered
PT	Proposed Threatened
PC	Proposed Candidate
XE	Essential Experimental Population – An experimental population whose loss would be likely to appreciably reduce the likelihood of the survival of the species in the wild.
XN	Experimental Nonessential Population – An experimental population of a listed species reintroduced into a specific area that receives more flexible management under the Act.
C	Candidate (species for which the U.S. Fish and Wildlife Service has sufficient information on biological status and threats to propose listing as threatened or endangered).
CH	Critical Habitat – The specific areas within the geographic area occupied by a species, at the time it is listed, on which are found those physical or biological features essential to conserve the species and that may require special management considerations or protection; and specific areas outside the geographic area occupied by the species at the time it is listed upon determination that such area essential to conserve the species.
PDL	Proposed of delisting – Any species for which a final rule has been published in the Federal Register to delist the species.
DM	Recovered, delisted, and being monitored – Any previously listed species that is now recovered, has been delisted, and is being monitored.
S1	Critically imperiled: at high risk because of extreme rarity (often 5 or fewer occurrences), rapidly declining numbers, or other factors that make it particularly vulnerable to rangewide extinction or extirpation.
S2	Imperiled: at risk because of restricted range, few populations (often 20 or fewer), rapidly declining numbers, or other factors that make it vulnerable to rangewide extinction or extirpation.
S3	Vulnerable: at moderate risk because of restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors that make it vulnerable to rangewide extinction or extirpation.
S	Sensitive: animal and plant species identified by the Regional Forester for which population viability is a concern as evidenced by significant downward trend in population or a significant downward trend in habitat capacity.
W	Watch Plants:
Level I	Species having a high level of conservation priority because of declining status either in North Dakota or across their range; or a high rate of occurrence in North Dakota constituting the core of the species' breeding range, but are at-risk range wide, and non-State Wildlife Grants (SWG) funding is not readily available to them.
Level II	Species having a moderate level of conservation priority; or a high level of conservation priority, but a substantial amount of non-State Wildlife Grant funding is available to them.
Level III	North Dakota's species having a moderate level of conservation priority, but are believed to be peripheral or do not breed in North Dakota.

APPENDIX 4.E

Agency Notifications and Responses

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

REPLY TO
ATTENTION OF

June 25, 2014

North Dakota Regulatory Office

Ms. Karine Becker
Keitu Engineers and Consultants Inc
1403 27th Street NW
Mandan, North Dakota 58554-0098

Dear Ms. Becker:

This is in response to your letter dated June 23, 2014, on behalf of Hiland Crude, LLC, requesting Department of the Army (DA), US Army Corps of Engineers (Corps) comments regarding a proposed project to expand capacity of the Alexander Station Lateral Crude Oil Pipeline, a 4.5-mile-long crude oil pipeline, that may include a truck terminal, 50,0000 gallon tank, and pump equipment located in McKenzie County, North Dakota.

Corps regulatory offices administer Section 10 of the Rivers and Harbors Act (Section 10) and Section 404 of the Clean Water Act (Section 404). Section 10 regulates work in or affecting navigable waters. Section 404 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 the waters of the United States.

Nationwide Permit 12 authorizes activities for the construction of utility lines. A copy of this nationwide permit and conditions is enclosed. **The nationwide permit and conditions are submitted only for informational purposes and in no way is it, or this letter, to confirm that your activity complies with the nationwide permit and conditions.** As explained within Nationwide Permit 12, the permittee is required to submit a pre-construction notification to the Corps of Engineers prior to construction if any of seven criteria are met.

If your proposal would require a Section 10 and/or Section 404 permit, please complete and submit the enclosed Corps of Engineers permit application to the US 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, or, a letter requesting a jurisdictional determination. Include a project location map, description of work, and construction methodology when submitting either.

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,

for Daniel E. Cimarosti
Regulatory Program Manager
North Dakota

Enclosure

FACT SHEET
NATIONWIDE PERMIT 12
(2012)

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 for each single and complete project.

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 activity, in combination with all other activities included in one 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. (Sections 10 and 404)

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 or along 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. (See general condition 31.)

Note 1: Where the proposed utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters) within the coastal United States, the Great Lakes, and United States territories, 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, in 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).

Note 4: For overhead utility lines authorized by this NWP, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, 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. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.

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 NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

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 and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. 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.

16. 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 responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

17. 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.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly 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 directly or indirectly 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. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to 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 might be affected by the proposed work or that utilize the designated critical habitat that might 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. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(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, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) 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/ or http://www.fws.gov/ipac and http://www.noaa.gov/fisheries.html respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for obtaining any "take" permits required under the U.S. Fish and Wildlife Service's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such "take" permits are required for a particular activity.

20. 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. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.

(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 on, 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)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. 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 on 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. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(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, 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.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public 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, 50, 51, and 52 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 31, 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.

23. 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 for resource losses) 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 either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, 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. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.

(2) 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.

(3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) – (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, 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 restoration or 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. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. 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 programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or

parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(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.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. 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 for North Dakota, the North Dakota Department of Health has denied water quality certification for all projects proposed to affect Class 1 and 1a rivers or classified lakes, individual certification must be obtained. For project proposed to affect any other waters, the North Dakota Department of Health has issued water quality certification provided the attached Construction and Environmental Disturbance Requirements are followed.*

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. 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.

28. 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.

29. 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)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the work and mitigation.

31. 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, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers 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) 45 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 18 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
20 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 there 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)) has been 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 may not 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, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; 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 results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans); (4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, 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 to delineate the special aquatic sites and other waters on the project site, 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, as 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, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. 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 NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level. (2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete 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 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. The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the preconstruction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer 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 of 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 with either electronic files or multiple copies of preconstruction notifications to expedite agency coordination.

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.

2012 Nationwide Permits
Regional Conditions
Omaha District
State of North Dakota

The following Nationwide Permit regional conditions will be used in the State of North Dakota. Regional conditions are placed on Nationwide Permits to ensure projects result in less than minimal adverse impacts to the aquatic environment and to address local resources concerns.

Wetlands Classified as Peatlands – Revoked for Use

All Nationwide Permits, with the exception of 3, 5, 20, 32, 38 and 45, are revoked for use in peatlands in North Dakota.

Peatlands are saturated and inundated wetlands where conditions inhibit organic matter decomposition and allow for the accumulation of peat. Under cool, anaerobic, and acidic conditions, the rate of organic matter accumulation exceeds organic decay. Peatlands can be primarily classified into ombrotrophic bogs and minerotrophic fens; the latter subdivided into poor, moderate-rich, and extreme-rich fens, each with distinctive indicator species, community physiognomy, acidity, alkalinity, and base cation content.

Wetlands Classified as Peatlands – Pre-construction Notification Requirement

For Nationwide Permits 3, 5, 20, 32, 38, and 45 permittees must notify the Corps in accordance with General Condition 31 (Notification) prior to initiating any regulated activity impacting peatlands in North Dakota.

Waters Adjacent to Natural Springs – Pre-construction Notification Requirement

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 31 (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.

Missouri River, including Lake Sakakawea and Lake Oahe within the State of North Dakota – Pre-construction Notification Requirement

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 31 (Notification) prior to initiating any regulated activity in the Missouri River, including Lake Sakakawea and Lake Oahe, within the State of North Dakota.

Borrow Site Identification – All Nationwide Permits

The permittee is responsible for ensuring that the Corps is notified of the location of any borrow site that will be used in conjunction with the construction of the authorized activity so that the Corps may evaluate the site for potential impacts to aquatic resources, historic properties, and endangered species. For projects where there is another lead Federal agency, the permittee shall provide the Corps documentation indicating that the lead Federal agency has complied with the National Historic Preservation Act and Endangered Species Act for the borrow site. The permittee shall not initiate work at the borrow site in conjunction with the authorized activity until approval is received from the Corps.

Counter-sinking Culverts and Associated Riprap – All Nationwide Permits

That culverts and riprap proposed to be installed within waters of the United States listed as Class III or higher on the 1978 Stream Evaluation Map for the State of North Dakota shall be installed one foot below the natural streambed. The 1978 Stream Evaluation Map for the State of North Dakota can be accessed on the North Dakota Regulatory Office's website at: http://www.nwo.usace.army.mil/html/od-rnd/ndhome.htm.

REGIONAL CONDITIONS APPLICABLE TO SPECIFIC NATIONWIDE PERMITS

Nationwide Permit 7 – Outfall Structures and Associated Intake Structures and Nationwide Permit 12 – Utility Line Activities

Intake Structures - Intake screens with a maximum mesh opening of 1/4-inch must be provided, inspected annually, and maintained. Wire, Johnson-like, screens must have a maximum distance between wires of 1/8-inch. Water velocity at the intake screen shall not exceed ½-foot per second.

Pumping plant sound levels will not exceed 75 dB at 50 feet.

Intakes located in Lake Sakakawea, above river mile 1519, are subject to the following conditions:

- The intakes shall be floating.
- At the beginning of the pumping season, the intake shall be placed over water with a minimum depth of 20 feet.
- If the 20-foot depth is not attainable, then the intake shall be located over the deepest water available.
- If the water depth falls below six feet, the intake shall be moved to deeper water or the maximum intake velocity shall be limited to ¼ foot per second.

Intakes located in Lake Sakakawea, below river mile 1519, and in the Missouri River below Garrison Dam are subject to the following conditions:

- The intakes shall be submerged.
- At the beginning of the pumping season, the intake will be placed at least 20 vertical feet below the existing water level.
- The intake shall be elevated 2 to 4 feet off the bottom of the river or reservoir bed.
- If the 20-foot depth is not attainable, then the intake velocity shall be limited to ¼-foot per second with the intake placed at the maximum practicable attainable depth.

Nationwide Permit 11 – Temporary Recreational Structures - Boat Docks

a. 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.

b. No boat dock shall be located on a sandbar or barren sand feature located in or along the banks of the Missouri River.

c. The farthest point riverward on the dock located on the Missouri River proper shall not exceed a total length of 30 feet from the ordinary high water line found along the high bank out into the River. Information Note: Issuance of this permit does not supersede authorization required by the North Dakota State Engineer's Office.

d. Any boat dock located on the Missouri River shall be anchored to the top of the high bank.

e. Any boat dock located within an excavated bay or marina off the main river channel may be anchored to the bay or marina bottom with spuds.

Nationwide Permit 13 - Bank Stabilization

Permittees must notify the Corps in accordance with General Condition No. 31 (Notification) prior to initiating any regulated activity within the State of North Dakota.

Nationwide Permit 23 - Approved Categorical Exclusions

Permittees must notify the Corps in accordance with General Condition No. 31 (Notification) prior to initiating any regulated activity within the State of North Dakota. In addition to information required by General Condition 31, permittees must identify the approved categorical exclusion that applies and provide documentation that the project fits the categorical exclusion.

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

Permittees must notify the Corps in accordance with General Condition No. 31 (Notification) prior to initiating any regulated activity within the State of North Dakota.

GENERAL CONDITIONS (REGIONAL ADDITIONS)

General Condition 3- Spawning Areas

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. North Dakota Public Fishing Waters can be accessed at: http://gf.nd.gov/fishing/nd-fish-wat.html. The 1978 Stream Evaluation Map for the State of North Dakota can be accessed on the North Dakota Regulatory Office's website at: http://www.nwo.usace.army.mil/html/od-rnd/ndhome.htm.

General Condition 6 – Suitable Material

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 can be accessed on the North Dakota Regulatory Office's website at: http://www.nwo.usace.army.mil/html/od-rnd/ndhome.htm.

General Condition 9 - Management of Water Flows

Permittees are reminded that water flow management addressed in General Condition 9 is applicable to all aspects of a permitted project, including temporary features.

General Condition 31 – Pre-construction Notification

Prospective permittees should be aware that a **field delineation** may be required for applications where notification is required in accordance with General Condition 31 and/or mitigation may be required. The Corps 1987 Wetland Delineation Manual and applicable Regional Supplements to the Manual can be accessed on the North Dakota Regulatory Office's website at: http://www.nwo.usace.army.mil/html/od-rnd/ndhome.htm.

NORTH DAKOTA
DEPARTMENT of HEALTH

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

Construction and Environmental Disturbance Requirements

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

Soils

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

Surface Waters

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

Fill Material

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

Karine Becker

From: Jennifer Shelden <jshelden@co.mckenzie.nd.us>
Sent: Thursday, July 17, 2014 2:19 PM
To: kbecker@keitu.com
Subject: Alexander Station Lateral Curde Oil Pipeline

Ms. Becker,

We received your letter regarding Hiland's expansion of pipeline services. As you may, or may not know, pumping stations require a conditional use permit and this will need to be obtained prior to the expansion. Applications, as well as the development checklist can be found on our website www.mckenziecounty.net or you can come into our office and pick them up as well.

Best Regards,

Jennifer Shelden
Assistant Planner / Code Enforcement
McKenzie County
(701) 444-6494 ext. 1051

Jack Dalrymple, Governor
Mark A. Zimmerman, Director

1600 East Century Avenue, Suite 3
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July 14, 2014

Ms. Karine Becker
Keitu Engineers & Consultants, Inc.
2610 Old Red Trail , Suite C
Mandan, ND 58554-1447

Re: Alexander Station Lateral Crude Oil Pipeline – McKenzie County

Dear Ms. Becker,

The North Dakota Parks and Recreation Department (the Department) has reviewed the above referenced proposed Alexander Station Lateral Crude Oil Pipeline in McKenzie County.

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

The North Dakota Natural Heritage biological conservation database has been reviewed to determine if any plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, there are no documented occurrences in our database within or adjacent to project area. Because this information is not based on a comprehensive inventory, there may be species of concern or otherwise significant ecological communities in the area that are not represented in the database. The lack of data for any project area cannot be construed to mean that no significant features are present. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

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

We appreciate your commitment to rare plant, animal and ecological community conservation, management and inter-agency cooperation to date. For additional information please contact me at (701-328-5370 or kgduttenhefner@nd.gov). Thank you for the opportunity to comment on this proposed project.

Sincerely,

Kathy Duttenhefner, Coordinator
Natural Resources Division

R.USNDNHI*2014-126 KD7/14/2014DL7.15.2014

Play in our backyard!

United States Department of the Interior

FISH AND WILDLIFE SERVICE
North Dakota Ecological Services Field Office
3425 Miriam Avenue
Bismarck, North Dakota 58501
(701) 250-4481, ndfieldoffice@fws.gov

August 11, 2014

Karine Becker, Staff Specialist
Keitu Engineers and Consultants, Inc.
1403 27th Street NW
Mandan, North Dakota 58554-0098

Dear Ms. Becker:

This is in response to your letter dated June 23, 2014, regarding the existing Alexander Station Lateral, a 4.5-mile crude oil pipeline in McKenzie County, North Dakota, which was constructed by Hiland Crude, LLC (Hiland) between December 2013 and April 2014. Hiland is now proposing to expand the system's capacity by adding a pumping station, a truck terminal, a 50,000 gallon tank, and pump equipment.

The U.S. Fish and Wildlife Service (Service) offers the following comments under the authority of and in accordance with the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 *et seq.*), the Endangered Species Act (ESA) (16 U.S.C. 1531 *et seq.*), the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57), and the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d, 54 Stat. 250).

Threatened, Endangered and Candidate Species

To obtain information on Service trust resources including federally threatened, endangered and candidate species and designated critical habitat that may occur in the identified areas, or may be affected by the proposed activities, we recommend you access the North Dakota Ecological Services Field Office website at http://www.fws.gov/northdakotafieldoffice/. You may also access the Service's Information, Planning, and Conservation System (IPaC) website at http://ecos.fws.gov/ipac/.

If a non-federal entity receives federal funding for an activity, or if any federal permit or license is required, the federal agency may designate, in writing, the fund recipient or permit applicant as its agent for purposes of informal section 7 consultation. The funding, permitting, or licensing federal agency is responsible to ensure that its actions comply with the ESA, including obtaining concurrence from the Service for any action that may affect a threatened or endangered species, or result in the destruction or adverse modification of designated critical habitat.

Private individuals and companies are required to ensure that their actions do not result in "take" of federally listed animals. Take is broadly defined as "to harass, harm, pursue, hunt, shoot,

wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct". Section 10(a)(1)(B) of the ESA allows non-Federal parties planning activities that have no Federal nexus, but which could result in the incidental taking of listed animals, to apply for an incidental take permit. (A Federal nexus exists whenever an activity is conducted, funded, or licensed or permitted by a Federal agency). The application must include a habitat conservation plan (HCP) describing the proposed actions, determining the effects of those actions on Federally-listed plant and wildlife species and their habitats (and may include proposed or candidate species), and defining measures to minimize and mitigate adverse effects.

Whooping Crane

The Aransas Wood Buffalo Population (AWBP) of the endangered whooping crane (*Grus americana*) is the only self-sustaining migratory population of whooping cranes remaining in the wild. Whooping cranes 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.

The proposed project lies within a corridor that includes approximately 95 percent of all reported whooping crane sightings in the State. The presence of suitable roosting and feeding habitat for whooping cranes indicate the potential for whooping crane presence in the proposed project area. The Service recommends that if a whooping crane is sighted within one mile of project while it is under construction, that all work cease within one mile of that part of the project and the Service be contacted immediately. In coordination with the Service, work may resume after the bird(s) leave the area. Whooping cranes are unlikely to spend more than a few days in any one spot during migration.

Proposed Species

Northern Long-Eared Bat

The northern long-eared bat (*Myotis septentrionalis*) (NLEB) is currently proposed for listing as endangered under the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). The final listing decision for the NLEB is expected in April 2015. At this time, no critical habitat has been proposed for the NLEB. The state of North Dakota is within the known range of the NLEB. During the summer, NLEBs typically roost singly or in colonies in cavities, underneath bark, crevices, or hollows of both live and dead trees and/or snags (typically ≥3 inches dbh). Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat seems opportunistic in selecting roosts, using tree species based on presence of cavities or crevices or presence of peeling bark. It has also been occasionally found roosting in structures like barns and sheds (particularly when suitable tree roosts are unavailable). They forage for insects in upland and lowland woodlots and tree lined corridors. During the winter, NLEBs predominately hibernate in caves and abandoned mine portals. Additional habitat types may be identified as new information is obtained.

Species proposed for listing are not afforded protection under the ESA; however as soon as a listing becomes effective, the prohibition against jeopardizing its continued existence and "take"

applies regardless of an action's stage of completion. If the agency retains any discretionary involvement or control over on-the-ground actions that may affect the species after listing, section 7 applies. Therefore, if suitable NLEB habitat is present within the proposed project area, we recommend further coordination with our office to avoid potential project delays should the species be listed. Additional information regarding NLEB and conference procedures can be found at (http://www.fws.gov/midwest/endangered/mammals/nlba/index.html).

Candidate Species

Sprague's pipit (*Anthus spragueii*) was added to the candidate species list in 2010. Candidate species such as the Sprague's pipit are not protected under the ESA. However Sprague's pipit as a migratory bird is still protected under the MBTA. Sprague's pipits require large patches of grassland habitat for breeding, with preferred grass height between 4-12 inches (10-30 cm). The species prefers to breed in well-drained, open grasslands and avoids grasslands with excessive shrubs. They can be found in lightly to heavily grazed areas. They avoid intrusive human features on the landscape, so the impact of a development can be much larger than the actual footprint of the feature. If Sprague's pipit habitat is present within your proposed project area, the Service requests that you document any steps taken to avoid and minimize disturbance of this habitat, and that you share this information with our office.

No legal requirement exists to protect candidate species; however, it is within the spirit of the ESA to consider these species as having significant value and worth protecting. The Service's Candidate Conservation Program provides a means for conserving these species. Early conservation preserves management options, minimizes the cost of recovery, and reduces the potential for restrictive land use policies in the future. Through Candidate Conservation Agreements and Candidate Conservation Agreements with Assurances the Service can work with interested public and private parties to identify threats to candidate species or species at risk. If there is a federal nexus, a federal agency may also request a conference on any proposed action that may affect a proposed or candidate species.

Migratory Birds

The Migratory Bird Treaty Act (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 incidental 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's 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 and prosecuting individuals, companies, and agencies that take migratory birds without identifying and implementing all reasonable, prudent, and effective measures to avoid that take. Individuals, companies, or 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.

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, there may be take of migratory birds, their eggs, or active nests. If project construction cannot avoid the nesting season, the Service suggests that the vegetation within the proposed project area be mowed/cleared outside of the nesting season, in advance of the project initiation to remove potential breeding habitat for nesting migratory birds in the project area. Once cleared, the project area should be maintained in a state that is unsuitable for nesting until the end of the breeding season or until construction is complete. Alternatively, a qualified biologist could be hired to conduct bird/nest surveys within five days prior to the initiation of construction. If active nests are identified, the project proponent should cease construction, maintain a sufficient buffer around active nests to avoid disturbing breeding activities and contact the Service immediately. The Service recommends that Hiland implement all practicable measures to avoid all take, such as suspending construction where necessary, and/or maintaining adequate buffers to protect the birds 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 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.

Bald and Golden Eagles

Bald and Golden Eagles are federally-protected under both the BGEPA and the MBTA. The BGEPA prohibits anyone without a permit issued by the Secretary of the Interior from taking bald eagles (*Haliaeetus leucocephalus*) or golden eagles (*Aquila chrysaetos*), including their parts, nests, or eggs. The BGEPA 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 or golden eagle, alive or dead, or any part, nest, or egg thereof. The BGEPA 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.

The Service's overall management objective for golden eagle and bald eagle populations is to ensure no declines in breeding populations of either species. Numerous relatively minor disruptions to eagle behaviors from multiple activities, even if spatially or temporally distributed, may lead to disturbance that would not have resulted from fewer or more carefully sited activities. The accumulation of multiple land development projects or siting of multiple infrastructures that may be hazardous to eagles can cumulatively reduce the availability of alternative sites suitable for breeding, feeding, or sheltering, resulting in a greater than additive risk of take to eagles.

If your proposed activity is anticipated to result in take of bald or golden eagles, you must first apply for, and receive a permit to take prior to the taking. The determination of the likelihood of take will entail identifying the impacts of your proposed activity.

According to the Service's data, there are documented eagle nests in proximity to your proposed activity. There may be additional eagle nests in proximity to the proposed activity.

Recommendations Specific to Bald Eagles

The size and shape of effective buffers vary depending on the topography and other ecological characteristics surrounding the nest site. In open areas where there are little or no forested or topographical buffers, such as in North Dakota, distance alone must often serve as the buffer. To avoid/minimize impacts to nesting bald eagles from construction activities, the Service recommends: (1) keeping a minimum ½-mile buffer between the activity and any bald eagle nest if no landscape buffer exists; (2) keeping a minimum 660-foot buffer and maintaining a landscape buffer or natural areas between the activity and around nest trees; and (3) avoiding activities during the bald eagle breeding season (February 1 – July 15). The buffer areas serve to minimize visual and auditory impacts associated with human activities near nest sites. Ideally, buffers would be large enough to protect existing nest sites and provide for alternative or replacement nest sites. The Service's May 2007, National Bald Eagle Management Guidelines contains detailed information on protecting bald eagles from disturbance due to human activity. The guidelines can be accessed on the Service's website at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BaldEagle/NationalBaldEagleManagementGuidelines.pdf.

Recommendations Specific to Golden Eagles

Information available to the Service regarding all existing and recent breeding territory data indicates that golden eagles may be present in your proposed activity area. Therefore, we recommend that you make every effort to avoid impacts to golden eagles. If activities are planned within a golden eagle territory, an assessment of the potential for take of a golden eagle will need to be made in conjunction with this office. This entails identifying your proposed activities that may occur in a golden eagle breeding territory, and sharing that information with this office.

The Service recommends that surveys be conducted prior to any on-the-ground activities to determine the extent of any golden eagle breeding territories in the area that may be affected by the proposed activity. The Service recommends that aerial nest surveys (preferably by

helicopter) be conducted within a one-mile wide evaluation corridor or buffer to identify any occupied and unoccupied eagle nest sites in proximity to the proposed project area, including any proposed new access roads. Aerial surveys should be conducted between March 1 and May 15, before leaf-out, so that nests are visible, and so their status (active or inactive) can be determined. A nesting territory or inventoried habitat should be designated as unoccupied by golden eagles ONLY after at least two complete aerial surveys in a single breeding season. Aerial surveys should include the following:

1. Due to the ability to hover and facilitate observations of the ground, helicopters are preferred over fixed wing aircraft, although small aircraft may also be used. The Service requests that Hiland report any eagle nests found, as well as nests of any other raptors found during the survey. Whenever possible, two observers should be used to conduct the surveys.
2. Observations of any eagle nest sites should be recorded using GPS. The date, location, nest condition, activity status, and habitat should be recorded for each sighting.
3. We request that you share the qualifications of the biologist(s) conducting the survey, method of survey, and results of the survey with the Service.

Alternatively, Hiland could conduct ground surveys to identify golden eagle nests within a one-mile wide evaluation corridor or buffer between March 1 and May 15. However, be aware that ground surveys are much less reliable than aerial surveys, even during leaf-off conditions, and typically may miss ¾ of eagle nests present. At least two ground observation periods lasting at least four hours or more are necessary to designate an inventoried habitat or territory as unoccupied as long as all potential nest sites and alternate nests are visible and monitored. If a golden eagle nest is observed, the project proponent should contact the Service for further consultation.

Please note that maintenance of a minimum ½-mile buffer around active nests may not be adequate to ensure avoidance of take of golden eagles. If the project proponent in conjunction with the Service, determines that any level of take is anticipated, including take due to disturbance, you should work with this office to modify your activity to avoid the take, or apply for a take permit and include the following information:

1. Collect and synthesize relevant project and biological data.
2. Document project avoidance and minimization measures.
3. Quantify the anticipated take.
4. Submit an application and furnish all required information.

Water Bodies, Including Wetlands

Our review of the National Wetland Inventory (NWI) maps and photographs indicate the proposed planning area includes numerous wetland basins and stream channels. You may access the NWI data directly through their website (wetlands.fws.gov). Projects which involve the burying of a pipeline should not significantly affect wetland basins or stream channels provided precautions are taken to restore natural basin contours. Precautions should also be taken during installation of underground facilities by sufficiently compacting trenches through the wetlands to

prevent drainage along the trench or through bottom seepage. The Service recommends that construction through or adjacent to these areas be avoided where possible or measures be taken (e.g. directional boring) to minimize disturbance to these areas.

A Corps of Engineers permit pursuant to Section 404 of the Clean Water Act may be required if dredge or fill material will be placed in waters of the United States, including certain wetlands. We recommend contacting the North Dakota Regulatory Program Manager, U.S. Army Corps of Engineers, 1513 South 12th Street, Bismarck, ND 58504; Phone: (701) 255-0015, to request their permit requirements. If a 404 permit is required, the Service will also provide recommendations on this project to the Corps.

Fish and Wildlife Service Property Interests

The Service administers National Wildlife Refuges and Waterfowl Production Areas owned in fee title as well as wetland and grassland easements throughout North Dakota, including an ongoing easement acquisition program. A review of Service realty records indicates Service property interests may be located in the planning area.

The Service recommends that all property interests within the National Wildlife Refuge System be avoided whenever possible. A special use permit or right-of-way will be necessary for construction affecting property interests administered by the Service. The issuance of a special use permit or right-of-way is subject to the final determination of a refuge compatibility review process. This determination may add some time to the review process so early coordination with the affected Refuge or Wetland Management District is important. Please contact Todd Gallion, West River District Manager, Lake Ilo National Wildlife Refuge, 489 102nd Avenue SW, Dunn Center, ND 58626; Phone: (701) 548-8110; Email: todd_gallion@fws.gov, for additional information on Service property interests and specific information relative to Service easements and up to date realty records.

We appreciate your efforts to insure the conservation of listed species as part of our joint responsibilities under the Act. For further information, please have your staff contact Heidi Riddle of my staff at (701) 355-8503 or at the letterhead address.

Sincerely,

Scott Larson

Scott Larson
Field Supervisor
North Dakota and South Dakota Field Offices

cc: USFWS, West River District Manager, Killdeer, ND (Attn: T. Gallion)

North Dakota State Water Commission

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

October 6, 2014

Karine Becker
KEITU Engineers & Consultants, Inc.
PO Box 98
Mandan, ND 58554-0098

Dear Ms. Becker:

This is in response to your request for review of environmental impacts associated with the Alexander Station Lateral Crude Oil Pipeline located in McKenzie County, ND. The pipeline runs through the following locations – T151N, R101W, Sections 6 and 7; T152N, R101W, Sections 30 and 31; and T152W, R103W, Sections 24, 25, and 36.

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

- There are no floodplains identified and/or mapped where this proposed project is to take place. It is also believed that the project will not affect an identified floodplain as identified by the National Flood Insurance Program.

- The ND State Water Commission (Commission) maintains a network of observation/monitor water wells throughout the state, and many are located close to public right-of-ways. The well location information can be obtained from the Commission's website at: htttp://swc.nd.gov.; then click on "Map and Data Resources"; and then click on "Map Services". If water wells may be affected by your project or accidently damaged, please contact the Water Appropriations Division of the Commission at 701-328-2754. A copy of the map is enclosed.

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

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

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

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

Sincerely,

Linda Weispfenning
Water Resource Planner

LW:dp/1570
Encl.

Karine Becker

From: Schumacher, John D. <jdschumacher@nd.gov>
Sent: Monday, July 14, 2014 7:28 AM
To: kbecker@keitu.com
Subject: Alexander Station Lateral Crude Oil Pipeline

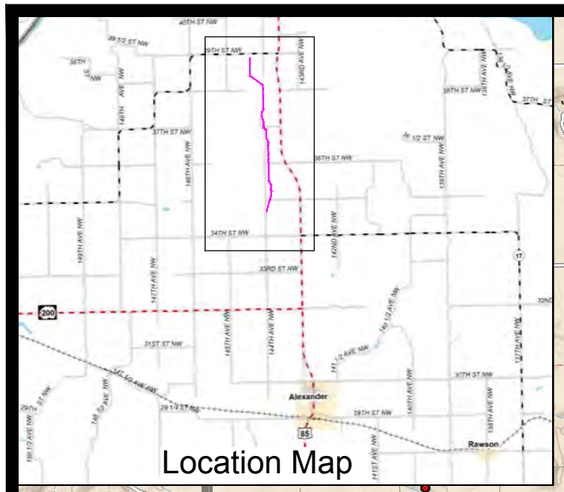
Ms. Becker,

The North Dakota Game and Fish Department has reviewed this project for wildlife concerns. We do not believe it will have a significant adverse effect on wildlife or wildlife habitat based on the information provided.

JOHN SCHUMACHER
RESOURCE BIOLOGIST
ND GAME AND FISH DEPT
701.328.6321

APPENDIX 4.F

As-Built Profile



PI #30
236+68
P.O.E.
EL=2270.6'
RISER

Continental Resources, Inc.

Shirley C. Green

High Point
204+38
EL=2298'

Larry G. Novak

State of North Dakota

Larry G. Novak

Keith Green

Low Point
26+33
EL=2000'

Craig &
Denise Wahlstrom

PI #1
0+00
P.O.B.
EL-2025.1'
RISER

Auther M. Gajewski

39 1/2 ST NW
39TH ST NW
37TH ST NW
36TH ST NW
35TH ST NW
34TH ST NW
36 1/2 ST NW
34 1/2 ST NW
147 1/2 AVE NW
145TH AVE NW
143RD AVE NW
148TH AVE NW
146TH AVE NW
144TH AVE NW
149TH AVE NW
147TH AVE NW
142ND AVE NW
141ST AVE NW
141 1/2 AVE NW
140 1/2 AVE NW
T152N R102W
T152N R101W
T151N R102W
T151N R101W
T151N R103W
FRISCO 1-31H
MIRAMAR 1-32AH
MIRAMAR 1-32H
LANCASTER 1-33H
Camp Creek
Timber Creek
16
85
17

All underground utilities depicted hereon are based upon field survey locations of marked utility lines and/or an 811 utility location request. The surveyor cannot attest or certify to the actual location, existence, size, type, condition or use of said underground utilities.

Sheet Index	
Sheet 1	Sta 0+00 - 34+00
Sheet 2	Sta 34+00 - 74+00

Sheet Index	
Sheet 3	Sta 74+00 - 115+00
Sheet 4	Sta 115+00 - 155+00

Sheet Index	
Sheet 5	Sta 155+00 -190+00
Sheet 6	Sta 190+00 - 216+00
Sheet 7	Sta 216+00 - 236.68

Surveying & Drafting Services By:
ECS INC.
ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

Date Surveyed:	March 2014
Surveyed By:	JRP / TK
Drawing Date:	May 7, 2014
Drawn By:	A. Santana
Checked By:	D. Thorn
Revision No.:	
Revision Date:	

ECS Project # 2013-10-5001.500

Coversheet

Know what's **below** **Call** before you dig.
MT - 1-800-424-5555
ND - 1-800-795-0555

Alexander Tank Farm (ALX)

As-built Alignment
Sec. 6 & 7, T151N, R101W,
Sec. 31, T152N, R101W, Sec. 29, 25 & 36,
T152N, R102W, 5th P.M.,
McKenzie Co., North Dakota

Horiz. Dist.	23,668'
Profile Dist.	23,687'

4000 0 4000 8000
scale 1" = 4000' feet

REGISTERED PROFESSIONAL LAND SURVEYOR
CHAD R. BREUER
LS-6948
DATE
NORTH DAKOTA

CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

Alexander Tank Fam (ALX)
As-built Alignment
T151N, R101W, T152N,
R101W & T152N, R102W, 5th P.M.,
McKenzie Co., North Dakota

Length	23,668' / 4.48 Miles
Coversheet	R0

County, State	MCKENZIE COUNTY, NORTH DAKOTA
Sec-Town-Range	T151N R101W, T152N R101W, T152N R102W

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
0+00					WELD		7'	PI#1 P.O.B.
	1	N/A	0.156	N/A				
0+44					ZAP			
	2	N/A	0.156	N/A				
0+88					ZAP			
	3	NEXTEER	0.156	SQ65015				
1+35					ZAP			
	4	NEXTEER	0.156	SQ65017				
1+74					ZAP			
	5	NEXTEER	0.156	SQ59098				
2+14					ZAP			
	6	NEXTEER	0.156	SQ65017				
2+53					ZAP			
	7	NEXTEER	0.156	SQ65017				
2+92					ZAP			
	8	NEXTEER	0.156	SQ65013				
3+22							5'	PI#2 - SIXTEENTH LINE X-ING
3+31					ZAP			
	9	NEXTEER	0.156	SQ65017				
3+71					ZAP			
	10	NEXTEER	0.156	SQ65017				
4+10					ZAP			
	11	NEXTEER	0.156	SQ65017				
4+48					ZAP			
	12	NEXTEER	0.156	SQ65017				
4+88					ZAP			
	13	NEXTEER	0.156	SQ65015				
5+27					ZAP			
	14	NEXTEER	0.156	SQ59098				
5+66					ZAP			
	15	NEXTEER	0.156	SQ59098				
6+05					ZAP			
	16	NEXTEER	0.156	SQ65017				
6+44					ZAP			
	17	NEXTEER	0.156	SQ65015				
6+84					ZAP			
	18	NEXTEER	0.156	SQ65017				
7+23					ZAP			
	19	NEXTEER	0.156	SQ65017				
7+62					ZAP			
	20	NEXTEER	0.156	SQ65013				
8+02					ZAP			
	21	NEXTEER	0.156	SQ65013				
8+40					ZAP			
	22	NEXTEER	0.156	SQ65017				
8+80					ZAP			
	23	NEXTEER	0.156	SQ65017				
9+19					ZAP			
	24	NEXTEER	0.156	SQ65015				
9+58					ZAP			
	25	NEXTEER	0.156	SQ65015				
9+97					ZAP			
	26	NEXTEER	0.156	SQ65017				
10+36					ZAP			
	27	NEXTEER	0.156	SQ65013				
10+75					ZAP			
	28	NEXTEER	0.156	SQ59098				
11+14					ZAP			
	29	NEXTEER	0.156	SQ65013				
11+53					ZAP			
	30	NEXTEER	0.156	SQ65017				
11+93					ZAP			

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
	31	NEXTEER	0.156	SQ65017				
12+32					ZAP			
	32	NEXTEER	0.156	SQ65017				
12+71					ZAP			
	33	NEXTEER	0.156	SQ65017				
13+10					ZAP			
	34	NEXTEER	0.156	SQ59098				
13+49					ZAP			
	35	NEXTEER	0.156	SQ65015				
13+88					ZAP			
	36	NEXTEER	0.156	SQ65013				
14+28					ZAP			
	37	NEXTEER	0.156	SQ65015				
14+67					ZAP			
	38	NEXTEER	0.156	SQ65015				
15+06					ZAP			
	39	NEXTEER	0.156	SQ65013				
15+45					ZAP			
	40	NEXTEER	0.156	SQ65013				
15+82					XR-JDT-2			
	41	NEXTEER	0.156	SQ65013				
15+96					XR-JDT-2		6'	PI#3 - BEGIN BORE
	42	N/A	0.219	N/A				
16+29					WELD			
	43	N/A	0.219	N/A				
16+71					WELD			
	44	N/A	0.219	N/A				
17+01								PI#4 - SECTION LIN X-ING
17+13					WELD			
	45	N/A	0.219	N/A				
17+55					WELD			
	46	N/A	0.237	N/A				
17+88					XR-DTI-4		5'	PI#5 - END BORE
	47	NEXTEER	0.156	SP97985				
18+13					ZAP			
	48	NEXTEER	0.156	SP97985				
18+53					ZAP			
	49	NEXTEER	0.156	SQ65015				
18+91					ZAP			
	50	NEXTEER	0.156	SQ65015				
19+30					ZAP			
	51	NEXTEER	0.156	SQ65015				
19+69					ZAP			
	52	NEXTEER	0.156	SQ65015				
20+08					ZAP			
	53	NEXTEER	0.156	SQ65015				
20+47					ZAP			
	54	NEXTEER	0.156	SQ65015				
20+87					ZAP			
	55	NEXTEER	0.156	SQ65015				
21+25					ZAP			
	56	NEXTEER	0.156	SQ65015				
21+65					ZAP			
	57	NEXTEER	0.156	SQ65015				
22+05					ZAP			
	58	NEXTEER	0.156	SQ65015				
22+44					ZAP			
	59	NEXTEER	0.156	SQ65015				
22+82					XR-DTI-7			
	60	NEXTEER	0.156	SQ65013				
23+13					XR-DTI-6			
	61	NEXTEER	0.156	SQ65017				
23+27					XR-DTI-5		6'	PI#6 - BEGIN BORE

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ERICKSON CONTRACT SURVEYING
333 10th Ave. SE Sidney, Montana
Office 406-482-6606 / Fax 406-482-6600

LEGEND:
- Alignment PI
- Utility Pole
- Well
- Valve
- Section Corner
- Quarter Corner
- Oil Line

SUMMARY OF MATERIALS

Size	Length	Description
8" x 0.188	21,531'	Steel Crude Pipeline (FBE)
8" x 0.237	2,137'	Steel Crude Pipeline (FBE)

SURVEY DATUM

Horizontal Datum: UTM ZONE 13 NORTH
(NAD 83)(CORS96) - U.S. Survey Foot
Vertical Datum: NAVD 88 - U.S. Survey Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99962181
Grid Distance x 1.000378333 = Ground Distance.

ECS Project #	2013-10-5001.500
Drawing Date:	5-6-2014
Drawn By:	A. Santana
Checked by:	D. Thorn
Revision No.	

300 0 300 600
scale 1" = 300' feet

1" = 300' HORIZ.
1" = 100' VERT.

ALEXANDER TANK FARM (ALX)

AS-BUILT ALIGNMENT

T151N R101W, T152N R101W &
T152W R102W
McKenzie Co., North Dakota

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CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

County, State	MCKENZIE COUNTY, NORTH DAKOTA
Sec-Town-Range	T151N R101W, T152N R101W, T152N R102W

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
	62	N/A	0.219	N/A				
23+66					WELD			
	63	N/A	0.219	N/A				
24+08					WELD			
	64	N/A	0.219	N/A				
24+50					WELD			
	65	N/A	0.219	N/A				
24+92					WELD			
	66	N/A	0.219	N/A				
25+34					WELD			
	67	N/A	0.219	N/A				
25+76					WELD			
	68	N/A	0.219	N/A				
26+18					WELD			
	69	N/A	0.219	N/A				
26+60					WELD			
	70	N/A	0.219	N/A				
26+99					XR-DTI-8		5'	PI#7 - END BORE
	71	NEXTEER	0.156	SQ65013				
27+29					ZAP			
	72	NEXTEER	0.156	SQ65013				
27+72					ZAP			
	73	NEXTEER	0.156	SQ65017				
28+11					ZAP			
	74	NEXTEER	0.156	SQ65013				
28+51					ZAP			
	75	NEXTEER	0.156	SQ65017				
28+90					ZAP			
	76	NEXTEER	0.156	SQ65013				
29+28					ZAP			
	77	NEXTEER	0.156	SQ65017				
29+67					ZAP			
	78	NEXTEER	0.156	SQ65013				
29+93					XR-JTI-7			
29+94							7'	PI#8 - 45° JOINT
29+95					XR-JTI-8			
	79	NEXTEER	0.156	SQ65013				
30+29					ZAP			
	80	NEXTEER	0.156	SQ65016				
30+52							6'	PI#9 - SIXTEENTH LINE X-ING
30+67					ZAP			
	81	NEXTEER	0.156	SQ65017				
31+07					ZAP			
	82	NEXTEER	0.156	SQ65017				
31+45					ZAP			
	83	NEXTEER	0.156	SQ65095				
31+68					ZAP			
	84	NEXTEER	0.156	SQ65095				
31+81					XR-DTI-15			
31+82							15'	PI#10 - 22° JOINT
31+83					XR-DTI-14			
	85	NEXTEER	0.156	SQ59058				
32+06					ZAP			
	86	NEXTEER	0.156	SQ65015				
32+45					ZAP			
	87	NEXTEER	0.156	SQ65015				
32+83					ZAP			
	88	NEXTEER	0.156	SQ65017				
33+23					ZAP			
	89	NEXTEER	0.156	SQ59098				
33+63					ZAP			
	90	NEXTEER	0.156	SQ59098				
34+01					ZAP			

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
34+40					ZAP			
	92	NEXTEER	0.156	SQ65017				
34+78					ZAP			
	93	NEXTEER	0.156	SQ65017				
35+17					ZAP			
	94	NEXTEER	0.156	SQ65017				
35+57					ZAP			
	95	NEXTEER	0.156	SQ65017				
35+96					ZAP			
	96	NEXTEER	0.156	SQ59098				
36+35					ZAP			
	97	NEXTEER	0.156	SQ59098				
36+74					ZAP			
	98	NEXTEER	0.156	SQ65017				
37+13					ZAP			
	99	NEXTEER	0.156	SQ65016				
37+52					ZAP			
	100	NEXTEER	0.156	SQ68075				
37+91					ZAP			
	101	NEXTEER	0.156	SQ65017				
38+30					ZAP			
	102	NEXTEER	0.156	SQ65016				
38+69					ZAP			
	103	NEXTEER	0.156	SQ65015				
39+09					ZAP			
	104	NEXTEER	0.156	SQ65015				
39+47					XR-DTI-11			
	105	NEXTEER	0.156	SQ65017				
39+67					XR-DTI-10			
39+68							5'	PI#11 - 45° JOINT
39+69					XR-DTI-9			
	106	NEXTEER	0.156	SQ65017				
40+13					ZAP			
	107	NEXTEER	0.156	SQ65015				
40+52					ZAP			
	108	NEXTEER	0.156	SQ65015				
40+91					ZAP			
	109	NEXTEER	0.156	SQ65015				
41+31					ZAP			
	110	NEXTEER	0.156	SQ68083				
41+70					ZAP			
	111	NEXTEER	0.156	SQ68080				
42+09					ZAP			
	112	NEXTEER	0.156	SQ65015				
42+48					ZAP			
	113	NEXTEER	0.156	SP30740				
42+87					ZAP			
	114	NEXTEER	0.156	SQ65017				
43+27					ZAP			
	115	NEXTEER	0.156	SQ65017				
43+65					ZAP			
	116	NEXTEER	0.156	SQ65017				
44+05					ZAP			
	117	NEXTEER	0.156	SQ65017				
44+44					ZAP			
44+46							6'	PI#12 - QUARTER LINE X-ING
	118	NEXTEER	0.156	SQ65015				
44+50					ZAP			
	119	NEXTEER	0.156	SQ65017				
44+84					ZAP			
	120	NEXTEER	0.156	SQ65015				
45+21					ZAP			
	121	NEXTEER	0.156	SQ65015				

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LEGEND:

- Alignment PI
- Utility Pole
- Well
- Valve
- Section Corner
- Quarter Corner
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SUMMARY OF MATERIALS

Size	Length	Description
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Combined Scale Factor = 0.99962181
Grid Distance x 1.000378333 = Ground Distance.

300 0 300 600

scale 1" = 300' feet

ECS Project # 2013-10-5001.500

Drawing Date: 5-6-2014

Drawn By: A. Santana

Checked by: D. Thorn

Revision No.

1" = 300' HORIZ.
1" = 100' VERT.

ALEXANDER TANK FARM (ALX)

AS-BUILT ALIGNMENT

T151N R101W, T152N R101W & T152W R102W
McKenzie Co., North Dakota

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CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

County, State	MCKENZIE COUNTY, NORTH DAKOTA
Sec-Town-Range	T151N R101W, T152N R101W, T152N R102W

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
45+21					ZAP			
	121	NEXTEER	0.156	SQ65015				
45+30					XR-DTI-18			
45+31							5'	PI#13 - 45° JOINT
45+32					XR-DTI-17			
	122	NEXTEER	0.156	SQ65015				
45+66					ZAP			
	123	NEXTEER	0.156	SQ65015				
46+05					ZAP			
	124	NEXTEER	0.156	SQ65015				
46+44					ZAP			
	125	NEXTEER	0.156	SQ65015				
46+83					ZAP			
	126	NEXTEER	0.156	SQ65013				
47+22					ZAP			
	127	NEXTEER	0.156	SQ65015				
47+61					ZAP			
	128	NEXTEER	0.156	SP98000				
48+03					ZAP			
	129	NEXTEER	0.156	SQ65013				
48+42					ZAP			
	130	NEXTEER	0.156	SQ65015				
48+81					ZAP			
	131	NEXTEER	0.156	SP97997				
49+22					ZAP			
	132	NEXTEER	0.156	SQ65015				
49+61					ZAP			
	133	NEXTEER	0.156	SQ65017				
50+00					ZAP			
	134	NEXTEER	0.156	SQ65015				
50+39					ZAP			
	135	NEXTEER	0.156	SQ65015				
50+78					ZAP			
	136	NEXTEER	0.156	SQ65015				
51+17					ZAP			
	137	NEXTEER	0.156	SQ65015				
51+96					ZAP		5'	PI#14
	138	NEXTEER	0.156	SQ65017				
52+35					ZAP			
	139	NEXTEER	0.156	SQ65017				
52+74					ZAP			
	140	NEXTEER	0.156	SP31550				
53+13					ZAP			
	141	NEXTEER	0.156	SQ65017				
53+53					ZAP			
	142	NEXTEER	0.156	SQ65015				
53+92					ZAP			
	143	NEXTEER	0.156	SQ65015				
54+31					ZAP			
	144	NEXTEER	0.156	SQ65015				
55+09					ZAP			
	145	NEXTEER	0.156	SQ65015				
55+48					ZAP			
	146	NEXTEER	0.156	SQ65013				
55+87					ZAP			
	147	NEXTEER	0.156	SQ65015				
56+16					ZAP			
	148	NEXTEER	0.156	SQ65015				
56+56					ZAP			
	149	NEXTEER	0.156	SQ65013				
56+94					ZAP			
	150	NEXTEER	0.156	SQ65013				
57+30					ZAP			

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
	151	NEXTEER	0.156	SQ65013				
57+69					ZAP			
57+78							13'	PI#15 - SIXTEENTH LINE X-ING
	152	NEXTEER	0.156	SQ65015				
58+10					ZAP			
	153	NEXTEER	0.156	SQ65015				
58+45					ZAP			
	154	NEXTEER	0.156	SQ65013				
58+55					ZAP			
	155	NEXTEER	0.156	SQ65013				
58+88					ZAP			
	156	NEXTEER	0.156	SQ59098				
59+28					ZAP			
	157	NEXTEER	0.156	SQ59098				
59+66					ZAP			
	158	NEXTEER	0.156	SQ65017				
60+05					ZAP			
	159	NEXTEER	0.156	SQ62716				
60+45					ZAP			
	160	NEXTEER	0.156	SQ65013				
60+84					ZAP			
	161	NEXTEER	0.156	SQ65013				
61+23					ZAP			
	162	NEXTEER	0.156	SQ65017				
61+62					ZAP			
	163	NEXTEER	0.156	SQ65013				
62+01					ZAP			
	164	NEXTEER	0.156	SQ65013				
62+41					ZAP			
	165	NEXTEER	0.156	SQ65013				
62+80					ZAP			
	166	NEXTEER	0.156	SP30742				
63+19					ZAP			
	167	NEXTEER	0.156	SP30742				
63+58					ZAP			
	168	NEXTEER	0.156	SQ65017				
63+97					ZAP			
	169	NEXTEER	0.156	SQ65017				
64+36					ZAP			
	170	NEXTEER	0.156	SQ65017				
64+75					ZAP			
	171	NEXTEER	0.156	SQ65013				
65+15					ZAP			
	172	NEXTEER	0.156	SQ65013				
65+54					ZAP			
	173	NEXTEER	0.156	SQ65045				
65+91					XR-DTI-27			
	174	NEXTEER	0.156	SQ65045				
66+12					XR-DTI-28		5'	PI#16 - BEGIN BORE
	175	N/A	0.219	N/A				
66+33					WELD			
	176	N/A	0.219	N/A				
66+75					WELD			
	177	N/A	0.219	N/A				
67+17					WELD			
	178	N/A	0.219	N/A				
67+59					WELD			
	179	N/A	0.219	N/A				
68+01					WELD			
	180	N/A	0.219	N/A				
68+01					WELD			
	181	N/A	0.219	N/A				
68+43					XR-DB-1			

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LEGEND:

- Alignment PI
- Utility Pole
- Well
- Valve
- Section Corner
- Quarter Corner
- Oil Line

SUMMARY OF MATERIALS

Size	Length	Description
8" x 0.188	21,531'	Steel Crude Pipeline (FBE)
8" x 0.237	2,137'	Steel Crude Pipeline (FBE)

SURVEY DATUM

Horizontal Datum: UTM ZONE 13 NORTH
(NAD 83)(CORS96) - U.S. Survey Foot
Vertical Datum: NAVD 88 - U.S. Survey Foot
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ECS Project #	2013-10-5001.500
Drawing Date:	5-6-2014
Drawn By:	A. Santana
Checked by:	D. Thorn
Revision No.	

300 0 300 600

scale 1" = 300' feet

1" = 300' HORIZ.
1" = 100' VERT.

ALEXANDER TANK FARM (ALX)

AS-BUILT ALIGNMENT

T151N R101W, T152N R101W &
T152W R102W
McKenzie Co., North Dakota

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CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
	182	NEXTEER	0.219	SP19205				
68+85					XR-DB-2			
	183	NEXTEER	0.219	SP19208				
69+27					XR-DB-3			
	184	NEXTEER	0.219	SP19208				
69+69					XR-DB-4			
	185	NEXTEER	0.219	SP19208				
70+11					XR-DB-5			
	186	NEXTEER	0.219	SP19208				
70+53					XR-DB-6			
	187	NEXTEER	0.219	SF02672				
70+95					XR-DB-7			
70+99								PI#17 - SECTION LINE X-ING
	188	NEXTEER	0.219	SP19205				
71+37					XR-DB-8			
	189	NEXTEER	0.219	SP19205				
71+80					XR-DB-9			
	190	NEXTEER	0.219	SP19208				
72+21					XR-DTI-29		6'	PI#18 - END BORE
	191	NEXTEER	0.156	SQ65013				
72+28					ZAP			
	192	NEXTEER	0.156	SQ65013				
72+66					ZAP			
	193	NEXTEER	0.156	SQ68080				
73+06					ZAP			
	194	NEXTEER	0.156	SQ65015				
73+46					ZAP			
	195	NEXTEER	0.156	SQ65013				
73+84					ZAP			
	196	NEXTEER	0.156	SQ65015				
74+24					ZAP			
	197	NEXTEER	0.156	SQ65017				
74+63					ZAP			
	198	NEXTEER	0.156	SQ65015				
75+01					ZAP			
	199	NEXTEER	0.156	SQ65017				
75+41					ZAP			
	200	NEXTEER	0.156	SQ65013				
75+80					ZAP			
	201	NEXTEER	0.156	SQ65015				
76+19					ZAP			
	202	NEXTEER	0.156	SQ65013				
76+58					ZAP		8'	PI#19
	203	NEXTEER	0.156	SQ65015				
76+97					ZAP			
	204	NEXTEER	0.156	SQ65015				
77+36					ZAP			
	205	NEXTEER	0.156	SQ65015				
77+75					ZAP			
	206	NEXTEER	0.156	SQ65015				
78+16					ZAP			
	207	NEXTEER	0.156	SQ65015				
78+54					ZAP			
	208	NEXTEER	0.156	SQ65015				
78+94					ZAP			
	209	NEXTEER	0.156	SQ65015				
79+32					ZAP			
	210	NEXTEER	0.156	SQ65015				
79+71					ZAP			
	211	NEXTEER	0.156	SQ65017				
80+11					ZAP			
	212	NEXTEER	0.156	SQ59098				
80+50					ZAP			

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
80+50					ZAP			
	213	NEXTEER	0.156	SQ59098				
80+89					ZAP			
	214	NEXTEER	0.156	SQ59098				
81+28					ZAP			
	215	NEXTEER	0.156	SQ65013				
81+67					ZAP			
	216	NEXTEER	0.156	SQ65013				
82+06					ZAP			
	217	NEXTEER	0.156	SQ65013				
82+46					ZAP			
	218	NEXTEER	0.156	SQ65017				
82+85					ZAP			
	219	NEXTEER	0.156	SQ65017				
83+24					ZAP			
	220	NEXTEER	0.156	SQ65017				
83+63					ZAP			
	221	NEXTEER	0.156	SQ65015				
84+02					ZAP			
84+17							5'	PI#20 - SIXTEENTH LINE X-ING
	222	NEXTEER	0.156	SQ65015				
84+41					ZAP			
	223	NEXTEER	0.156	SQ65017				
84+81					ZAP			
	224	NEXTEER	0.156	SQ65017				
85+20					ZAP			
	225	NEXTEER	0.156	SQ65017				
85+59					ZAP			
	226	NEXTEER	0.156	SQ65017				
85+98					ZAP			
	227	NEXTEER	0.156	SQ65015				
86+38					ZAP			
	228	NEXTEER	0.156	SQ65015				
86+76					ZAP			
	229	NEXTEER	0.156	SQ65017				
87+16					ZAP			
	230	NEXTEER	0.156	SQ65017				
87+55					ZAP			
	231	NEXTEER	0.156	SQ65015				
87+94					ZAP			
	232	NEXTEER	0.156	SQ65015				
88+33					ZAP			
	233	NEXTEER	0.156	SQ65013				
88+72					ZAP			
	234	NEXTEER	0.156	SQ65015				
89+11					ZAP			
	235	NEXTEER	0.156	SQ65015				
89+50					ZAP			
	236	NEXTEER	0.156	SQ65013				
89+90					ZAP			
	237	NEXTEER	0.156	SQ65013				
90+28					ZAP			
	238	NEXTEER	0.156	SQ65013				
90+68					ZAP			
	239	NEXTEER	0.156	SQ65013				
91+07					ZAP			
	240	NEXTEER	0.156	SQ65015				
91+46					ZAP			
	241	NEXTEER	0.156	SQ65013				
91+86					ZAP			
	242	NEXTEER	0.156	SQ65013				
92+25					N/A			
	243	NEXTEER	0.156	SQ65013				

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LEGEND:
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- Utility Pole
- Well
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Drawing Date: 5-6-2014
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Checked by: D. Thorn
Revision No.

1" = 300' HORIZ.
1" = 100' VERT.

ALEXANDER TANK FARM (ALX)
AS-BUILT ALIGNMENT

T151N R101W, T152N R101W &
T152W R102W
McKenzie Co., North Dakota

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CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

County, State	MCKENZIE COUNTY, NORTH DAKOTA
Sec-Town-Range	T151N R101W, T152N R101W, T152N R102W

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
92+64					N/A			
	244	NEXTEER	0.156	SQ65015				
93+03					N/A			
	245	NEXTEER	0.156	SQ65015				
93+42					ZAP			
	246	NEXTEER	0.156	SQ65017				
93+81					ZAP			
	247	NEXTEER	0.156	SQ65015				
94+20					ZAP			
	248	NEXTEER	0.156	SQ65015				
94+59					ZAP			
	249	NEXTEER	0.156	SQ65013				
94+98					ZAP			
	250	NEXTEER	0.156	SQ65015				
95+38					ZAP			
	251	NEXTEER	0.156	SQ65017				
95+77					ZAP			
	252	NEXTEER	0.156	SQ65013				
96+16					ZAP			
	253	NEXTEER	0.156	SQ65013				
96+56					ZAP			
	254	NEXTEER	0.156	SQ65017				
96+95					ZAP		5'	PI#21
	255	NEXTEER	0.156	SQ65017				
97+34					ZAP			
97+36							5'	PI#22 - QUARTER LINE X-ING
	256	NEXTEER	0.156	SP30740				
97+72					ZAP			
	257	NEXTEER	0.156	SQ65015				
98+12					ZAP			
	258	NEXTEER	0.156	SQ65015				
98+51					ZAP			
	259	NEXTEER	0.156	SQ65013				
98+90					ZAP			
	260	NEXTEER	0.156	SQ65015				
99+29					ZAP			
	261	NEXTEER	0.156	SQ65016				
99+68					ZAP			
	262	NEXTEER	0.156	SQ65015				
100+07					ZAP			
	263	NEXTEER	0.156	SQ65016				
100+47					ZAP			
	264	NEXTEER	0.156	SQ65013				
100+86					ZAP			
	265	NEXTEER	0.156	SQ65013				
101+24					XR-DTI-34			
	266	NEXTEER	0.156	N/A				
101+30					XR-DTI-35			
101+31							6'	PI#23 - 45° JOINT
101+32					XR-DTI-36			
	267	NEXTEER	0.156	N/A				
101+36					XR-DTI-37			
	268	NEXTEER	0.156	SQ59018				
101+72					ZAP			
	269	NEXTEER	0.156	SQ59015				
102+11					ZAP			
	270	NEXTEER	0.156	SQ59015				
102+50					ZAP		5'	PI#24
	271	NEXTEER	0.156	SQ59017				
102+89					ZAP			
	272	NEXTEER	0.156	SQ59015				
103+28					ZAP			
	273	NEXTEER	0.156	SQ59015				

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
103+68					ZAP			
	274	NEXTEER	0.156	SQ59017				
104+06					ZAP			
	275	NEXTEER	0.156	SQ59015				
104+46					ZAP			
	276	NEXTEER	0.156	SQ59098				
104+85					ZAP			
	277	NEXTEER	0.156	SQ59017				
105+24					ZAP			
	278	NEXTEER	0.156	SQ59017				
105+63					ZAP			
	279	NEXTEER	0.156	SQ59017				
106+02					ZAP			
	280	NEXTEER	0.156	SQ62716				
106+42					ZAP			
	281	NEXTEER	0.156	SQ62716				
106+81					ZAP			
	282	NEXTEER	0.156	SQ59015				
107+20					ZAP			
	283	NEXTEER	0.156	SQ65013				
107+59					ZAP			
	284	NEXTEER	0.156	SQ59017				
107+97					XR-DTI-38			
	285	NEXTEER	0.156	SQ59015				
108+17					XR-DTI-39			
108+18							6'	PI#25 - 45° JOINT
108+19					XR-DTI-40			
	286	NEXTEER	0.156	SQ6507				
108+25					XR-DTI-41			
	287	NEXTEER	0.156	SQ6507				
108+60					ZAP			
	288	NEXTEER	0.156	SQ6507				
108+99					ZAP			
	289	NEXTEER	0.156	SQ59015				
109+38					ZAP			
	290	NEXTEER	0.156	SQ59015				
109+78					ZAP			
	291	NEXTEER	0.156	SQ65013				
110+16					ZAP			
	292	NEXTEER	0.156	SQ59015				
110+55					ZAP			
	293	NEXTEER	0.156	SQ59015				
110+94					ZAP			
	294	NEXTEER	0.156	SQ59098				
111+21							7'	PI#26 - SIXTEENTH LINE X-ING
111+33					ZAP			
	295	NEXTEER	0.156	SQ65013				
111+72					ZAP			
	296	NEXTEER	0.156	SQ68083				
112+11					ZAP			
	297	NEXTEER	0.156	SQ59015				
112+43					ZAP			
	298	NEXTEER	0.156	N12403				
112+70					ZAP			
	299	NEXTEER	0.156	S13074				
113+00					ZAP			
	300	NEXTEER	0.156	S13074				
113+30					ZAP			
	301	NEXTEER	0.156	N12400				
113+57					ZAP			
	302	NEXTEER	0.156	S13073				
113+84					ZAP			
	303	NEXTEER	0.156	N12399				

Surveying & Drafting Services By:

ECS INC.

ERICKSON CONTRACT SURVEYING

333 10th Ave. SE Sidney, Montana

Office 406-482-6606 / Fax 406-482-6600

LEGEND:

- Alignment PI
- Utility Pole
- Well
- Valve
- Section Corner
- Quarter Corner
- Oil Line

SUMMARY OF MATERIALS

Size	Length	Description
8" x 0.188	21,531'	Steel Crude Pipeline (FBE)
8" x 0.237	2,137'	Steel Crude Pipeline (FBE)

SURVEY DATUM

Horizontal Datum: UTM ZONE 13 NORTH
(NAD 83)(CORS96) - U.S. Survey Foot
Vertical Datum: NAVD 88 - U.S. Survey Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99962181
Grid Distance x 1.000378333 = Ground Distance.

300 0 300 600

scale 1" = 300' feet

ECS Project # 2013-10-5001.500

Drawing Date: 5-6-2014

Drawn By: A. Santana

Checked by: D. Thorn

Revision No.

1" = 300' HORIZ.
1" = 100' VERT.

ALEXANDER TANK FARM (ALX)

AS-BUILT ALIGNMENT

T151N R101W, T152N R101W & T152W R102W
McKenzie Co., North Dakota

Sheet-v R0

CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

County, State	MCKENZIE COUNTY, NORTH DAKOTA
Sec-Town-Range	T151N R101W, T152N R101W, T152N R102W

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
114+11					ZAP			
	304	NEXTEER	0.156	S11026				
114+52					ZAP		8'	PI#27
	305	NEXTEER	0.156	ZB1381				
114+85					ZAP			
	306	NEXTEER	0.156	12403				
115+25					ZAP			
	307	NEXTEER	0.156	S13071				
115+65					XR-DML-1			
	308	NEXTEER	0.156	ZB3377				
116+09					XR-DML-2			
	309	NEXTEER	0.156	21218920				
116+53					XR-DML-3			
	310	NEXTEER	0.156	21218920				
116+97					XR-DML-4			
	311	NEXTEER	0.156	21218920				
117+41					XR-DML-5			
	312	NEXTEER	0.156	21218920				
117+85					XR-DML-6			
	313	NEXTEER	0.156	21218920				
118+29					XR-DML-7			
	314	NEXTEER	0.156	21218920				
118+73					XR-DML-8			
	315	NEXTEER	0.156	21218920				
119+17					XR-DML-9			
	316	NEXTEER	0.156	21218920				
119+61					XR-DML-10			
	317	NEXTEER	0.156	N/A				
119+93					WELD			
	318	NEXTEER	0.156	N/A				
119+99					XR-DTI-30			
120+00							8'	PI#28 - 45° JOINT
120+01					XR-DTI-31			
	319	NEXTEER	0.156	21218920				
120+39					XR-DTI-32			
	320	NEXTEER	0.156	21218920				
120+83					ZAP		7'	PI#29
	321	NEXTEER	0.156	21218920				
121+27					ZAP			
	322	NEXTEER	0.156	21218920				
121+60					XR-DTI-33			
	323	NEXTEER	0.156	21218920				
122+04					XR-DML-140		5'	PI#30
	324	NEXTEER	0.156	21218920				
122+04					XR-DML-141			
	325	NEXTEER	0.156	21218920				
122+47					XR-DML-142			
	326	NEXTEER	0.156	21218920				
122+91					XR-T-44			
	327	NEXTEER	0.156	21218920				
123+94					XR-T-45			
123+95							5'	PI#31 - 22° JOINT
123+96					XR-T-46			
123+99							5'	PI#32 - SECTION LINE X-ING
	328	NEXTEER	0.156	21218920				
124+36					ZAP			
	329	NEXTEER	0.156	21218920				
124+80					XR-T-43			
124+81							8'	PI#33
124+82					XR-T-42			BEGIN BORE
	330	NEXTEER	0.219	SF02672				
125+27					XR-21			
	331	NEXTEER	0.219	SP69998				

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
125+66					XR-22			
	332	NEXTEER	0.219	SP19205				
126+03								PI#34 - SECTION LINE X-ING
126+08					XR-23			
	333	NEXTEER	0.219	SP19205				
126+50					XR-24			
	334	NEXTEER	0.219	SP19205				
126+92					XR-25			
	335	NEXTEER	0.219	SP19205				
127+34					XR-26			
	336	NEXTEER	0.219	SP19205				
127+76					XR-27			
	337	NEXTEER	0.219	SP19205				
128+18					XR-28			
	338	NEXTEER	0.219	SP19205				
128+60					XR-29			
	339	NEXTEER	0.219	SP19205				
129+01					XR-T-50		8'	PI#35 - END BORE
	340	NEXTEER	0.156	21218910				
129+17					XR-T-49			
	341	NEXTEER	0.156	21218910				
129+45					ZAP			
	342	NEXTEER	0.156	21218910				
129+89					DML-21			
	343	NEXTEER	0.156	21218920				
130+32					XR-DTI-236			
	344	NEXTEER	0.156	21218920				
130+76					XR-DTI-237			
	345	NEXTEER	0.156	21218910				
131+20					XR-DTI-238			
	346	NEXTEER	0.156	21218920				
131+64					XR-DTI-239			
	347	NEXTEER	0.156	21218910				
132+07					XR-DTI-240			
	348	NEXTEER	0.156	21218910				
132+52					XR-DTI-242			
	349	NEXTEER	0.156	21218910				
132+95					XR-DTI-243		9'	PI#36
	350	NEXTEER	0.156	21218910				
133+39					XR-DTI-244			
	351	NEXTEER	0.156	2121890				
133+66					XR-T-48		8'	PI#37
	352	NEXTEER	0.156	2121890				
133+86					XR-T-47		9'	PI#38 - BEGIN BORE
	353	N/A	0.219	N/A				
134+10					WELD			
	354	N/A	0.219	N/A				
134+52					WELD			
	355	N/A	0.219	N/A				
134+94					WELD			
	356	N/A	0.219	N/A				
135+36					WELD			
	357	N/A	0.219	N/A				
135+78					WELD			
	358	N/A	0.219	N/A				
136+01					XR-T-52		5'	PI#39 - END BORE
	359	N/A	0.156	N/A				
136+19					XR-DML-23			
	360	N/A	0.156	N/A				
136+64					XR-DML-24		5'	PI#40
	361	NEXTEER	0.156	11219410				
137+07					XR-DML-25			
	362	NEXTEER	0.156	11219410				

Surveying & Drafting Services By:

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LEGEND:

- Alignment PI
- Utility Pole
- Well
- Valve
- Section Corner
- Quarter Corner
- Oil Line

SUMMARY OF MATERIALS

Size	Length	Description
8" x 0.188	21,531'	Steel Crude Pipeline (FBE)
8" x 0.237	2,137'	Steel Crude Pipeline (FBE)

SURVEY DATUM

Horizontal Datum: UTM ZONE 13 NORTH
(NAD 83)(CORS96) - U.S. Survey Foot
Vertical Datum: NAVD 88 - U.S. Survey Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99962181
Grid Distance x 1.000378333 = Ground Distance.

300 0 300 600

scale 1" = 300' feet

ECS Project # 2013-10-5001.500

Drawing Date: 5-6-2014

Drawn By: A. Santana

Checked by: D. Thorn

Revision No.

1" = 300' HORIZ.
1" = 100' VERT.

ALEXANDER TANK FARM (ALX)

AS-BUILT ALIGNMENT

T151N R101W, T152N R101W & T152W R102W
McKenzie Co., North Dakota

Sheet-vi R0

CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
137+44					XR-DML-26			
	363	NEXTEER	0.156	11219410				
137+88					XR-DML-27			
	364	NEXTEER	0.156	21218920				
138+32					XR-DML-28			
	365	NEXTEER	0.156	21218900				
138+75					XR-DML-29			
	366	NEXTEER	0.156	21218900				
139+19					XR-DML-30			
	367	NEXTEER	0.156	11219410				
139+63					XR-DML-31			
	368	NEXTEER	0.156	11219410				
140+07					XR-DML-32			
	369	NEXTEER	0.156	11219410				
140+48					XR-MT-7			
	370	NEXTEER	0.156	45648D				
140+63					XR-MT-8			
	371	NEXTEER	0.156	45648D				
141+05					XR-L-66			
	372	NEXTEER	0.156	45648D				
141+48					XR-L-68			
	373	NEXTEER	0.156	45648D				
141+90					XR-L-70			
	374	NEXTEER	0.156	45648D				
142+32					XR-L-72			
	375	NEXTEER	0.156	45648D				
142+75					XR-L-73			
	376	NEXTEER	0.156	45648D				
143+17					XR-MT-14			
143+18							5'	PI#41 - 22° JOINT
143+19					XR-MT-13			
	377	NEXTEER	0.156	45644D				
143+24					XR-MT-12			
	378	NEXTEER	0.156	45644D				
143+66					XR-L-64			
	379	NEXTEER	0.156	45644D				
144+08					XR-L-69			
	380	NEXTEER	0.156	45644D				
144+49					XR-L-72			
	381	NEXTEER	0.156	45644D				
144+92					XR-L-74			
	382	NEXTEER	0.156	456440D				
145+34					XR-L-64			
	383	NEXTEER	0.156	456440D				
145+77					XR-L-62			
	384	NEXTEER	0.156	45648D				
146+19					XR-L-60			
	385	NEXTEER	0.156	45648D				
146+61					XR-L-58			
	386	NEXTEER	0.156	45644D				
147+03					XR-MT-11			
147+04							5'	PI#42 - 45° JOINT
147+05					XR-MT-10			
	387	NEXTEER	0.156	S065015				
147+18					XR-MT-9			
	388	NEXTEER	0.156	45648D				
147+61					XR-L-65			
	389	NEXTEER	0.156	45648D				
148+03					XR-L-63			
	390	NEXTEER	0.156	458400				
148+46					XR-L-61			
	391	NEXTEER	0.156	458400				
148+88					XR-L-59			

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
	392	NEXTEER	0.156	458480				
149+31					XR-MT-8			
	393	NEXTEER	0.156	11219410				
149+63					XR-DML-53			
	394	NEXTEER	0.156	11219410				
150+07					XR-DML-54			
	395	NEXTEER	0.156	21218920				
150+51					XR-DML-55			
	396	NEXTEER	0.156	F04953				
150+95					XR-DML-56			
	397	NEXTEER	0.156	F04953				
151+40					XR-DTI-12			
	398	NEXTEER	0.156	F04953				
151+54					XR-T-8			
	399	NEXTEER	0.156	F04953				
151+57					XR-T-9			
151+58							5'	PI#43 - 45° JOINT
151+59					XR-T-10			
	400	NEXTEER	0.156	F04953				
151+75					XR-T-11		5'	PI#44 -BEGIN BORE
	401	N/A	0.219	N/A				
152+16					WELD			
	402	N/A	0.219	N/A				
152+58					WELD			
	403	N/A	0.219	N/A				
152+98					WELD		6'	PI#45 -END BORE
	404		0.156					
153+08					XR-T-5			
	405	NEXTEER	0.156	F04953				
153+25					XR-DTI-13			
	406	NEXTEER	0.156	F04953				
153+54							6'	PI#46 - QUARTER LINE X-ING
153+68					XR-DML-60			
	407	NEXTEER	0.156	F04953				
154+13					XR-DML-61			
	408	NEXTEER	0.156	F04731				
154+57					XR-DML-62			
	409	NEXTEER	0.156	F04731				
155+02					XR-DML-63			
	410	NEXTEER	0.156	R06533				
155+44					XR-DML-64			
	411	NEXTEER	0.156	F04953				
155+89					XR-DML-65			
	412	NEXTEER	0.156	F04953				
156+33					XR-DML-66			
	413	NEXTEER	0.156	F04953				
156+78					XR-DML-67			
	414	NEXTEER	0.156	F04953				
157+23					XR-DML-68			
	415	NEXTEER	0.156	F04491				
157+67					XR-DML-69			
	416	NEXTEER	0.156	F04953				
158+11					XR-DML-70			
	417	NEXTEER	0.156	F04953				
158+56					XR-DML-71			
	418	NEXTEER	0.156	F04732				
159+00					XR-DML-72			
	419	NEXTEER	0.156	F04732				
159+45					XR-DML-73		5'	PI#47
	420	NEXTEER	0.156	F04732				
159+89					XR-DML-74			
	421	NEXTEER	0.156	F04732				
160+34					XR-DML-75			

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LEGEND:
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- Utility Pole
- Well
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- Section Corner
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- Oil Line

SUMMARY OF MATERIALS

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300 0 300 600
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ECS Project # 2013-10-5001.500
Drawing Date: 5-6-2014
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Checked by: D. Thorn
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1" = 300' HORIZ.
1" = 100' VERT.

ALEXANDER TANK FARM (ALX)
AS-BUILT ALIGNMENT
T151N R101W, T152N R101W &
T152W R102W
McKenzie Co., North Dakota

Sheet-vii | R0

CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

County, State	MCKENZIE COUNTY, NORTH DAKOTA
Sec-Town-Range	T151N R101W, T152N R101W, T152N R102W

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
	422	NEXTEER	0.156	F04732				
160+78					XR-DML-76			
	423	NEXTEER	0.156	F04732				
161+23					XR-DML-77			
	424	NEXTEER	0.156	F04953				
161+67					XR-DML-78			
	425	NEXTEER	0.156	F04731				
162+11					XR-DML-79			
	426	NEXTEER	0.156	F04731				
162+55					XR-DML-80			
	427	NEXTEER	0.156	F04731				
162+95					XR-DML-81			
	428	NEXTEER	0.156	F04731				
163+39					XR-DML-82			
	429	NEXTEER	0.156	F04732				
163+84					XR-DML-83			
	430	NEXTEER	0.156	F04959				
164+28					XR-DML-84			
	431	NEXTEER	0.156	F04959				
164+73					XR-DML-85			
	432	NEXTEER	0.156	F04959				
165+17					XR-DML-86			
	433	NEXTEER	0.156	F04731				
165+53					XR-DML-87			
	434	NEXTEER	0.156	F04731				
165+98					XR-DML-88			
	435	NEXTEER	0.156	F04731				
166+42					XR-DML-89			
	436	NEXTEER	0.156	R06538				
166+87					XR-DML-90			
	437	NEXTEER	0.156	R06538				
167+31					XR-DML-91			
	438	NEXTEER	0.156	R06538				
167+76					XR-DML-92			
	439	NEXTEER	0.156	R06538				
168+20					XR-DML-93			
	440	NEXTEER	0.156	11219410				
168+65					XR-DML-94			
	441	NEXTEER	0.156	11219410				
169+09					XR-DML-95			
	442	NEXTEER	0.156	21218920				
169+52					XR-DML-96		5'	PI#48
	443	NEXTEER	0.156	11219410				
169+96					XR-DML-97			
	444	NEXTEER	0.156	F04953				
170+40					XR-T-17			
	445	NEXTEER	0.156	F04953				
170+84					XR-DML-98			
	446	NEXTEER	0.156	11219410				
171+28					XR-T-18			
	447	NEXTEER	0.156	11219410				
171+69					XR-DML-99			
	448	NEXTEER	0.156	21218920				
172+13					XR-DML-100			
	449	NEXTEER	0.156	21218920				
172+57					WELD			
	450	NEXTEER	0.156	21218920				
172+98					XR-DML-101			
	451	NEXTEER	0.156	21218920				
173+42					XR-DML-102			
	452	NEXTEER	0.156	21218920				
173+86					XR-DML-103			
	453	NEXTEER	0.156	21218920				

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
174+30					XR-DML-104			
	454	NEXTEER	0.156	21218920				
174+74					XR-DML-105			
	455	NEXTEER	0.156	21218920				
175+17					XR-DML-106			
	456	NEXTEER	0.156	22118900				
175+60					XR-DML-108			
	457	NEXTEER	0.156	SP63490				
176+02					XR-DML-109			
	458	NEXTEER	0.156	SP63490				
176+44					XR-DML-110			
	459	NEXTEER	0.156	SP63490				
176+86					XR-DML-111			
	460	NEXTEER	0.156	SP63487				
177+28					XR-DML-112			
	461	NEXTEER	0.156	SP63487				
177+70					XR-DML-113			
	462	NEXTEER	0.156	SP63490				
178+12					XR-DML-114			
	463	NEXTEER	0.156	SP63487				
178+54					XR-DML-115			
	464	NEXTEER	0.156	SP64022				
178+96					XR-DML-116			
	465	NEXTEER	0.156	SP64025				
179+38					XR-DML-117			
	466	NEXTEER	0.156	SP64025				
179+80					XR-DML-118			
179+95							6'	PI#49 - SECTION LINE X-ING
	467	NEXTEER	0.156	SP64020				
180+22					XR-T-7			
	468	NEXTEER	0.156	SP64020				
180+58					XR-DML-118			
	469	NEXTEER	0.156	SP64025				
181+00					XR-T-12			
	470	NEXTEER	0.156	SP64025				
181+42					XR-DM-119			
	471	NEXTEER	0.156	SP64020				
181+84					XR-DM-120			
	472	NEXTEER	0.156	SP64025				
182+26					XR-DM-121			
	473	NEXTEER	0.156	SP64025				
182+44					XR-DM-122			
	474	NEXTEER	0.156	SP64025				
182+67					XR-DM-123			
	475	NEXTEER	0.156	SP63486				
183+09					XR-DM-124			
	476	NEXTEER	0.156	SP63486				
183+51					XR-DM-125		6'	PI#50
	477	NEXTEER	0.156	SP63486				
183+93					XR-DM-126			
	478	NEXTEER	0.156	SP63487				
184+35					XR-DM-127			
	479	NEXTEER	0.156	SP63487				
184+77					XR-DM-128			
	480	NEXTEER	0.156	SP64022				
185+19					XR-DM-129			
	481	NEXTEER	0.156	SP64022				
185+61					XR-DM-130			
	482	NEXTEER	0.156	SP64022				
186+03					XR-DM-131			
	483	NEXTEER	0.156	SP63487				
186+45					XR-DM-132			
	484	NEXTEER	0.156	SP63487				

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ERICKSON CONTRACT SURVEYING

333 10th Ave. SE Sidney, Montana

Office 406-482-6606 / Fax 406-482-6600

LEGEND:

- Alignment PI
- Utility Pole
- Well
- Valve
- Section Corner
- Quarter Corner
- Oil Line

SUMMARY OF MATERIALS

Size	Length	Description
8" x 0.188	21,531'	Steel Crude Pipeline (FBE)
8" x 0.237	2,137'	Steel Crude Pipeline (FBE)

SURVEY DATUM

Horizontal Datum: UTM ZONE 13 NORTH
(NAD 83)(CORS96) - U.S. Survey Foot
Vertical Datum: NAVD 88 - U.S. Survey Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99962181
Grid Distance x 1.000378333 = Ground Distance.

ECS Project #	2013-10-5001.500
Drawing Date:	5-6-2014
Drawn By:	A. Santana
Checked by:	D. Thorn
Revision No.	

300 0 300 600

scale 1" = 300' feet

1" = 300' HORIZ.
1" = 100' VERT.

ALEXANDER TANK FARM (ALX)

AS-BUILT ALIGNMENT

T151N R101W, T152N R101W &
T152W R102W
McKenzie Co., North Dakota

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CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

County, State	MCKENZIE COUNTY, NORTH DAKOTA
Sec-Town-Range	T151N R101W, T152N R101W, T152N R102W

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
186+87					XR-DM-133			
	485	NEXTEER	0.156	SP63487				
187+29					XR-DM-134			
	486	NEXTEER	0.156	SP63487				
187+71					XR-T-13			
	487	NEXTEER	0.156	SP63487				
187+90					XR-T-14			
187+91							5'	PI#51 - 45° JOINT
187+92					XR-T-15			
	488	NEXTEER	0.156	SP64022				
188+15					XR-T-16			
	489	NEXTEER	0.156	SP64022				
188+57					XR-DML-135			
	490	NEXTEER	0.156	SP63487				
188+99					XR-DML-136			
	491	NEXTEER	0.156	SP63487				
189+41					XR-DML-137			
	492	NEXTEER	0.156	SP63487				
189+83					XR-DML-138			
	493	NEXTEER	0.156	SP63487				
190+26					XR-DML-139			
	494	NEXTEER	0.156	SP63487				
190+68					XR-DML-140			
	495	NEXTEER	0.156	SP63487				
191+09					XR-DML-141			
	496	NEXTEER	0.156	SP63487				
191+52					XR-DML-142			
	497	NEXTEER	0.156	SP63490				
191+93					XR-DML-143			
	498	NEXTEER	0.156	SP64025				
192+36					XR-DML-144			
	499	NEXTEER	0.156	SP64025				
192+77					XR-DML-145			
	500	NEXTEER	0.156	SP64025				
193+19					XR-DML-146			
	501	NEXTEER	0.156	SP64022				
193+61					XR-DML-147			
	502	NEXTEER	0.156	SP51626				
194+03					XR-DML-148			
	503	NEXTEER	0.156	SP64025				
194+45					XR-DML-149			
	504	NEXTEER	0.156	SP64025				
194+87					XR-DML-150			
	505	NEXTEER	0.156	SP64025				
195+29					XR-DML-151			
	506	NEXTEER	0.156	SP64022				
195+71					XR-DML-152			
	507	NEXTEER	0.156	F04490				
196+16					XR-DML-153			
	508	NEXTEER	0.156	F04953				
196+60					XR-DML-154			
	509	NEXTEER	0.156	F04953				
197+05					XR-DML-155			
	510	NEXTEER	0.156	F04490				
197+49					XR-DML-156			
	511	NEXTEER	0.156	F04953				
197+94					XR-DML-157			
	512	NEXTEER	0.156	F04491				
198+38					XR-DML-158		5'	PI#52
	513	NEXTEER	0.156	F04491				
198+83					XR-DML-159			
	514	NEXTEER	0.156	F04491				
199+27					XR-DML-160			

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
	515	NEXTEER	0.156	F04491				
199+71					XR-DML-161			
	516	NEXTEER	0.156	F04731				
200+16					XR-DML-162			
	517	NEXTEER	0.156	F04731				
200+60					XR-DML-163			
	518	NEXTEER	0.156	F04731				
200+97					XR-DML-164			
	519	NEXTEER	0.156	F04731				
201+41					XR-DML-165			
	520	NEXTEER	0.156	F04731				
201+86					XR-DML-166			
	521	NEXTEER	0.156	B06766				
202+30					XR-DML-167			
	522	NEXTEER	0.156	B06766				
202+74					XR-DML-168			
	523	NEXTEER	0.156	F04731				
203+19					XR-DML-169			
	524	NEXTEER	0.156	F04953				
203+63					XR-DML-170			
	525	NEXTEER	0.156	F04953				
204+07					XR-DML-171			
	526	NEXTEER	0.156	R06538				
204+52					XR-DML-172			
	527	NEXTEER	0.156	R06538				
204+93					XR-DML-173			
	528	NEXTEER	0.156	R06538				
205+38					XR-DML-174			
	529	NEXTEER	0.156	F04953				
205+82					XR-DML-175			
	530	NEXTEER	0.156	F04953				
206+23					XR-DML-176			
	531	NEXTEER	0.156	F04953				
206+71					XR-DML-177			
	532	NEXTEER	0.156	F04953				
207+16					XR-DML-178			
	533	NEXTEER	0.156	R06538				
207+60					XR-DML-179			
	534	NEXTEER	0.156	R06538				
208+04					XR-DML-180		5'	PI#53
	535	NEXTEER	0.156	R06538				
208+48					XR-DML-181			
	536	NEXTEER	0.156	F04491				
208+93					XR-DML-182			
	537	NEXTEER	0.156	F04491				
209+38					XR-DML-183			
	538	NEXTEER	0.156	F04491				
209+76					XR-DML-184			
	539	NEXTEER	0.156	F04732				
210+20					XR-DML-185			
	540	NEXTEER	0.156	R06538				
210+56					XR-DML-186			
	541	NEXTEER	0.156	F04953				
210+64					WELD			
210+65							6'	PI#54 - 45° JOINT
210+66					WELD			
	542	NEXTEER	0.156	F04953				
211+10					XR-DML-18			
	543	NEXTEER	0.156	F04953				
211+54					WELD			
	544	NEXTEER	0.156	R06538				
211+98					XR-T-19			
	545	NEXTEER	0.156	R06538				

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LEGEND:

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- Utility Pole
- Well
- Valve
- Section Corner
- Quarter Corner
- Oil Line

SUMMARY OF MATERIALS

Size	Length	Description
8" x 0.188	21,531'	Steel Crude Pipeline (FBE)
8" x 0.237	2,137'	Steel Crude Pipeline (FBE)

SURVEY DATUM

Horizontal Datum: UTM ZONE 13 NORTH
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*Distances are Grid Distances.
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ECS Project #	2013-10-5001.500
Drawing Date:	5-6-2014
Drawn By:	A. Santana
Checked by:	D. Thorn
Revision No.	

300 0 300 600
scale 1" = 300' feet

1" = 300' HORIZ.
1" = 100' VERT.

ALEXANDER TANK FARM (ALX)

AS-BUILT ALIGNMENT

T151N R101W, T152N R101W &
T152W R102W
McKenzie Co., North Dakota

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CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

County, State	MCKENZIE COUNTY, NORTH DAKOTA
Sec-Town-Range	T151N R101W, T152N R101W, T152N R102W

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
212+43					XR-DML-185			
	546	NEXTEER	0.156	R06538				
212+56					XR-DML-176			
	547	NEXTEER	0.156	R06538				
212+96					XR-DML-186			
	548	NEXTEER	0.156	R06538				
213+40					XR-23			
	549	NEXTEER	0.156	R06538				
213+85					XR-DML-187			
	550	NEXTEER	0.156	R06538				
214+10					XR-DML-188			
	551	NEXTEER	0.156	F04953				
214+50					XR-DML-189			
	552	NEXTEER	0.156	F04953				
214+95					XR-DML-190			
	553	NEXTEER	0.156	F04490				
215+39					XR-DML-191			
	554	NEXTEER	0.156	F04953				
215+62							7'	PI#55 - QUARTER LINE X-ING
215+83					XR-DML-192			
	555	NEXTEER	0.156	R06538				
216+28					XR-DML-193			
	556	NEXTEER	0.156	F04731				
217+14					XR-DML-194			
	557	NEXTEER	0.156	F04491				
217+59					XR-DML-195			
	558	NEXTEER	0.156	F04491				
218+03					XR-DML-196			
	559	NEXTEER	0.156	F04491				
218+48					XR-DML-197			
	560	NEXTEER	0.156	F04491				
218+92					XR-DML-198			
	561	NEXTEER	0.156	F04491				
219+36					XR-DML-199			
	562	NEXTEER	0.156	F04491				
219+81					XR-DML-200			
	563	NEXTEER	0.156	R06538				
220+07					XR-DML-201			
	564	NEXTEER	0.156	F04732				
220+49					XR-DML-202			
	565	NEXTEER	0.156	F04732				
220+83					XR-DML-203		7'	PI#56
	566	NEXTEER	0.156	F04732				
221+28					XR-DML-204			
	567	NEXTEER	0.156	F04732				
221+58					XR-DML-205			
	568	NEXTEER	0.156	F04732				
222+03					XR-DML-206			
	569	NEXTEER	0.156	F04732				
222+47					XR-DML-207			
	570	NEXTEER	0.156	R06537				
222+92					XR-DML-208			
	571	NEXTEER	0.156	R06537				
223+34					XR-DML-209			
	572	NEXTEER	0.156	R06537				
223+78					XR-DML-210			
	573	NEXTEER	0.156	F04953				
224+16					XR-DML-211			
	574	NEXTEER	0.156	F04491				
224+60					XR-DML-212			
	575	NEXTEER	0.156	F04491				
225+04					XR-DML-213			
	576	NEXTEER	0.156	F04491				

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
225+38					XR-DML-214			
	577	NEXTEER	0.156	F04490				
225+83					XR-DML-215			
	578	NEXTEER	0.156	F04490				
226+27					XR-DML-216			
	579	NEXTEER	0.156	F04490				
226+72					XR-DML-217			
	580	NEXTEER	0.156	F04490				
227+16					XR-DML-218			
	581	NEXTEER	0.156	F04490				
227+61					XR-DML-219			
	582	NEXTEER	0.156	112119410				
228+05					XR-DML-220			
	583	NEXTEER	0.156	112119410				
228+44					XR-DML-221		7'	PI#57
	584	NEXTEER	0.156	112119410				
228+88					XR-DML-222			
	585	NEXTEER	0.156	21218920				
229+32					XR-DML-223			
	586	NEXTEER	0.156	21218920				
229+76					XR-DML-224			
	587	NEXTEER	0.156	11219410				
230+20					XR-DML-225			
	588	NEXTEER	0.156	11219410				
230+63					XR-DML-226			
	589	NEXTEER	0.156	A31398				
231+01					XR-DML-227			
	590	NEXTEER	0.156	21218920				
231+45					XR-DML-228			
	591	NEXTEER	0.156	2129410				
231+82					XR-DML-229			
	592	NEXTEER	0.156	21218920				
232+26					XR-DML-230			
	593	NEXTEER	0.156	11219410				
232+66					XR-DML-231			
	594	NEXTEER	0.156	21218920				
233+10					XR-DML-232			
	595	NEXTEER	0.156	21218920				
233+54					XR-DML-233			
	596	NEXTEER	0.156	21218920				
233+70					XR-T-22		7'	PI#58 - BEGIN BORE
	597	NEXTEER	0.156	31073				
234+12					XR-T-8			
	598	NEXTEER	0.156	31073				
234+52					XR-T-7			
	599	NEXTEER	0.156	SP19208				
234+94					XR-T-6			
	600	NEXTEER	0.156	SP19200				
235+36					XR-T-5			
235+42								PI#59 - SIXTEENTH LINE X-ING
	601	NEXTEER	0.156	SP19200				
235+77					XR-DF-5		8'	PI#60 - END BORE
	602	NEXTEER	0.156	21218920				
235+98					XR-T-28			
235+99							14'	PI#61
236+00					XR-T-29			
	603	NEXTEER	0.156	21218920				
236+22					XR-DF-4			
236+23							8'	PI#62 - 90° JOINT
236+24					XR-DF-3			
236+28					XR-T-130			
	604	NEXTEER	0.156	21218920				
236+58					XR-DF-2			

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LEGEND:

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- Utility Pole
- Well
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- Oil Line

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300 0 300 600
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ECS Project # 2013-10-5001.500
Drawing Date: 5-6-2014
Drawn By: A. Santana
Checked by: D. Thorn
Revision No.

ALEXANDER TANK FARM (ALX)

AS-BUILT ALIGNMENT

T151N R101W, T152N R101W &
T152W R102W
McKenzie Co., North Dakota

Sheet-x | R0

CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

County, State	MCKENZIE COUNTY, NORTH DAKOTA
Sec-Town-Range	T151N R101W, T152N R101W, T152N R102W

Hiland As-Built Pipe Data - Alexander Tank Farm

Station	Joint No.	MFG	Wall	Heat No.	X-Ray No.	Welder ID	Depth of Cover (D.O.C.)	Comments
	605	NEXTEER	0.156	21218920				
236+66					XR-F-2			
236+68					XR-F-1		8'	PI#63 P.O.E. - RISER CONNECTION TO BLOCKVALVE

PI TABLE

PI #	DESCRIPTION	LATITUDE	LONGITUDE	STATION	DOC
PI#1	P.O.B.	N047° 54' 58.5615"	W103° 40' 05.3722"	0+00	7'
PI#2		N047° 55' 01.6015"	W103° 40' 03.9947"	3+22	5'
PI#3		N047° 55' 13.6316"	W103° 39' 58.5427"	15+96	6'
PI#4	SEC LINE X-ING	N047° 55' 14.6273"	W103° 39' 58.1173"	17+01	
PI#5		N047° 55' 15.4538"	W103° 39' 57.7642"	17+88	5'
PI#6		N047° 55' 20.5509"	W103° 39' 55.4681"	23+27	6'
PI#7		N047° 55' 24.2000"	W103° 39' 54.9514"	26+99	5'
PI#8		N047° 55' 27.1105"	W103° 39' 54.6837"	29+94	7'
PI#9		N047° 55' 27.6566"	W103° 39' 54.9167"	30+52	6'
PI#10		N047° 55' 28.8925"	W103° 39' 55.4442"	31+82	15'
PI#11		N047° 55' 36.6508"	W103° 39' 55.3826"	39+68	5'
PI#12	QTR LINE X-ING	N047° 55' 40.6850"	W103° 39' 59.0241"	44+46	6'
PI#13		N047° 55' 41.3995"	W103° 39' 59.6690"	45+31	5'
PI#14		N047° 55' 47.9676"	W103° 39' 59.6705"	51+96	5'
PI#15		N047° 55' 53.7170"	W103° 39' 59.6617"	57+78	13'
PI#16		N047° 56' 01.9409"	W103° 39' 59.6490"	66+12	5'
PI#17	SEC LINE X-ING	N047° 56' 06.7488"	W103° 39' 59.6517"	70+99	
PI#18		N047° 56' 07.9606"	W103° 39' 59.6524"	72+21	6'
PI#19		N047° 56' 12.2720"	W103° 39' 59.6390"	76+58	8'
PI#20		N047° 56' 19.7650"	W103° 39' 59.6277"	84+17	5'
PI#21		N047° 56' 32.3754"	W103° 39' 59.6086"	96+95	5'
PI#22	QTR LINE X-ING	N047° 56' 32.7811"	W103° 39' 59.5516"	97+36	5'
PI#23		N047° 56' 36.6624"	W103° 39' 59.0062"	101+31	6'
PI#24		N047° 56' 37.7530"	W103° 39' 59.6658"	102+50	5'
PI#25		N047° 56' 42.8088"	W103° 40' 03.2847"	108+18	6'
PI#26		N047° 56' 45.7978"	W103° 40' 03.2777"	111+21	7'
PI#27		N047° 56' 49.0648"	W103° 40' 03.2701"	114+52	8'
PI#28		N047° 56' 54.4686"	W103° 40' 03.4951"	120+00	8'
PI#29		N047° 56' 55.0792"	W103° 40' 04.3085"	120+83	7'
PI#30		N047° 56' 55.9270"	W103° 40' 05.5586"	122+04	5'
PI#31		N047° 56' 57.2371"	W103° 40' 07.5745"	123+95	5'
PI#32	SEC LINE X-ING	N047° 56' 57.2540"	W103° 40' 07.6274"	123+99	5'
PI#33		N047° 56' 57.6041"	W103° 40' 08.7204"	124+81	8'
PI#34	SEC LINE X-ING	N047° 56' 58.8092"	W103° 40' 08.7254"	126+03	
PI#35		N047° 57' 01.7478"	W103° 40' 08.7375"	129+01	8'
PI#36		N047° 57' 05.6427"	W103° 40' 08.6627"	132+95	9'
PI#37		N047° 57' 06.3393"	W103° 40' 08.7166"	133+66	8'
PI#38		N047° 57' 06.5324"	W103° 40' 08.7786"	133+86	9'
PI#39		N047° 57' 08.5614"	W103° 40' 09.7270"	136+01	5'
PI#40		N047° 57' 09.1458"	W103° 40' 10.0002"	136+64	5'

PI TABLE

PI #	DESCRIPTION	LATITUDE	LONGITUDE	STATION	DOC
PI#41		N047° 57' 15.3321"	W103° 40' 12.7684"	143+18	5'
PI#42		N047° 57' 19.1136"	W103° 40' 12.0980"	147+04	5'
PI#43		N047° 57' 22.9508"	W103° 40' 08.6346"	151+58	4'
PI#44		N047° 57' 23.1098"	W103° 40' 08.6789"	151+75	5'
PI#45		N047° 57' 24.3255"	W103° 40' 08.8174"	152+98	6'
PI#46	QTR LINE X-ING	N047° 57' 24.8777"	W103° 40' 08.8174"	153+54	6'
PI#47		N047° 57' 30.7092"	W103° 40' 08.8175"	159+45	5'
PI#48		N047° 57' 40.6550"	W103° 40' 08.8383"	169+52	5'
PI#49	SEC LINE X-ING	N047° 57' 50.9469"	W103° 40' 08.7759"	179+95	6'
PI#50		N047° 57' 54.4605"	W103° 40' 08.7546"	183+51	6'
PI#51		N047° 57' 58.8084"	W103° 40' 08.7493"	187+91	5'
PI#52		N047° 58' 04.9156"	W103° 40' 21.1568"	198+38	5'
PI#53		N047° 58' 10.5670"	W103° 40' 32.6021"	208+04	5'
PI#54		N047° 58' 12.1037"	W103° 40' 35.6656"	210+65	6'
PI#55	QTR LINE X-ING	N047° 58' 17.0115"	W103° 40' 35.5525"	215+62	7'
PI#56		N047° 58' 22.1595"	W103° 40' 35.4339"	220+83	7'
PI#57		N047° 58' 29.6650"	W103° 40' 35.2554"	228+44	7
PI#58		N047° 58' 34.8548"	W103° 40' 35.1230"	233+70	7'
PI#59		N047° 58' 36.5533"	W103° 40' 35.0687"	235+42	
PI#60		N047° 58' 36.9039"	W103° 40' 35.0587"	235+77	8'
PI#61		N047° 58' 37.1171"	W103° 40' 35.1268"	235+99	14'
PI#62		N047° 58' 37.3543"	W103° 40' 35.1329"	236+23	8'
PI#63	P.O.E.	N047° 58' 37.3531"	W103° 40' 35.7845"	236+68	8'

FEATURE TABLE

STATION	DESCRIPTION
15+96	BEGIN BORE
16+57	PIPELINE X-ING
17+02	CL RD X-ING
17+88	END BORE
23+27	BEGIN BORE
23+64	FENCE X-ING
26+99	END BORE
30+01	FENCE X-ING
56+70	PIPELINE X-ING
58+06	FIBER X-ING
66+12	BEGIN BORE
66+80	PIPELINE X-ING
67+54	PIPELINE X-ING
69+29	GAS LINE X-ING
69+92	GAS LINE X-ING
70+42	PIPELINE X-ING
70+97	CL RD X-ING
71+64	FIBER X-ING
71+75	OVERHEAD X-ING
72+21	END BORE
121+03	GAS LINE X-ING
124+82	BEGIN BORE
125+43	CL RD X-ING
126+38	ELECTRIC LINE X-ING
128+02	FENCE X-IMG
128+15	PIPELINE X-ING
129+01	END BORE
133+86	BEGIN BORE
136+01	END BORE
151+75	BEGIN BORE
152+01	FENCE X-ING
152+98	END BORE
179+76	FENCE X-ING
190+09	PIPELINE X-ING
195+37	FENCE X-ING
211+00	FENCE X-ING
211+43	PIPELINE X-ING
213+12	GAS LINE X-ING
233+70	BEGIN BORE
234+40	PIPELINE X-ING

FEATURE TABLE

STATION	DESCRIPTION
234+84	OIL LINE X-ING
234+88	OIL LINE X-ING
234+93	GAS LINE X-ING
235+77	END BORE
236+34	EDGE OF PAD

Surveying & Drafting Services By:

ECS INC.

ERICKSON CONTRACT SURVEYING

333 10th Ave. SE Sidney, Montana

Office 406-482-6606 / Fax 406-482-6600

LEGEND:

- Alignment PI
- Utility Pole
- Well
- Valve
- Section Corner
- Quarter Corner
- Oil Line

SUMMARY OF MATERIALS

Size	Length	Description
8" x 0.188	21,531'	Steel Crude Pipeline (FBE)
8" x 0.237	2,137'	Steel Crude Pipeline (FBE)

SURVEY DATUM

Horizontal Datum: UTM ZONE 13 NORTH (NAD 83)(CORS96) - U.S. Survey Foot
Vertical Datum: NAVD 88 - U.S. Survey Foot
**Distances are Grid Distances.*
Combined Scale Factor = 0.99962181
Grid Distance x 1.000378333 = Ground Distance.

ECS Project #	2013-10-5001.500
Drawing Date:	5-6-2014
Drawn By:	A. Santana
Checked by:	D. Thorn
Revision No.	

300 0 300 600

scale 1" = 300' feet

1" = 300' HORIZ.
1" = 100' VERT.

ALEXANDER TANK FARM (ALX)

AS-BUILT ALIGNMENT

T151N R101W, T152N R101W &
T152W R102W
McKenzie Co., North Dakota

Sheet-xi | R0

CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

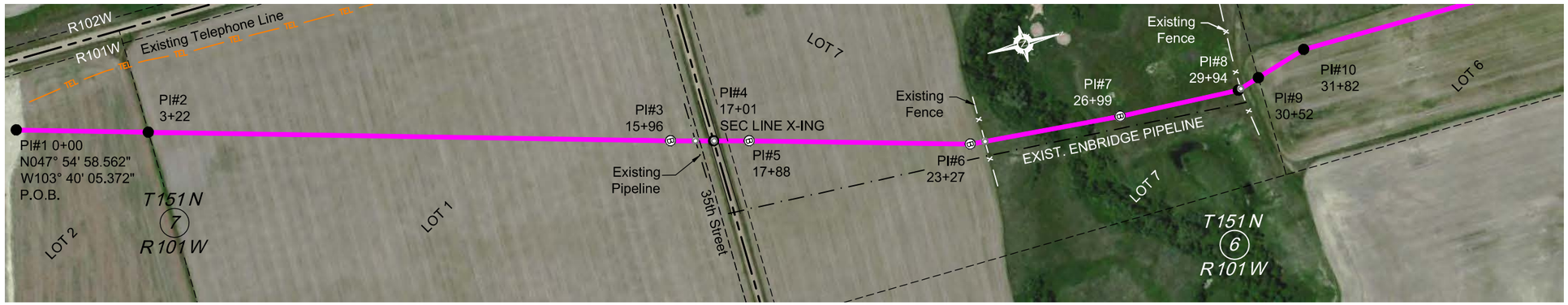
County, State	MCKENZIE, NORTH DAKOTA			
Sec-Town-Range	Sections 6 & 7, T151N, R101W			
OWNERSHIP	Arthur M. Gajewaski Lot 2 Sec. 7, T151N, R101W	Craig & Denise Wahlstrom Lot 1 Sec. 7, T151N, R101W	Craig & Denise Wahlstrom Lot 7 Sec. 6, T151N, R101W	Keith Green Lot 6 Sec. 6, T151N, R101W
RODDAGE	321.9' / 19.5 Rods	1378.9' / 83.6 Rods	1350.9' / 81.9 Rods	1394.2' / 84.5 Rods
Align. Data	N15°57'13"E 321.93'	N15°57'13"E 1273.99' | N15°02'01"E 104.94'	N15°02'01"E 87.12' | N15°51'20"E 539.50' | N04°26'48"E 371.34' | N02°32'47"E 295.40' | N16°59'47"W 57.55'	N16°59'47"W 130.25' | N00°41'06"W 785.96'
Align. Data				
Bore Length		192' BORE	372' BORE	

ROW DETAIL N.T.S.

STATIONING

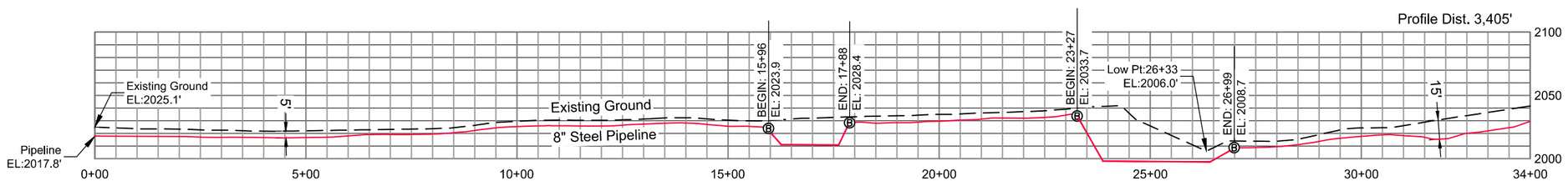
15+96 BEGIN BORE
16+57 PIPELINE X-ING
17+02 CL RD X-ING
17+88 END BORE
23+27 BEGIN BORE
23+64 FENCE X-ING
26+99 END BORE
30+01 FENCE X-ING

ALIGNMENT



PIPE SCHEMATIC

PROFILE



Ref. Dwgs. Aerial Image USDA 10-26-2012 | 2013-10-5001.100 | 2013-10-5001.200

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ERICKSON CONTRACT SURVEYING

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Office 406-482-6606 / Fax 406-482-6600

LEGEND:

- Alignment PI
- Utility Pole
- Well
- Valve
- Section Corner
- Quarter Corner
- Oil Line

SUMMARY OF MATERIALS

Size	Length	Description
8" x 0.156	21,531	Steel Crude Pipeline (FBE)
8" x 0.219	2,137'	Steel Crude Pipeline (FBE)

SURVEY DATUM

Horizontal Datum: UTM ZONE 13 NORTH
(NAD 83)(CORS96) - U.S. Survey Foot
Vertical Datum: NAVD 88 - U.S. Survey Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99962181
Grid Distance x 1.000378333 = Ground Distance.

300 0 300 600

scale 1" = 300' feet

ECS Project #	2013-10-5001.500
Drawing Date:	5-6-2014
Drawn By:	A. Santana
Checked by:	D. Thorn
Revision No.	

1" = 300' HORIZ.
1" = 100' VERT.

ALEXANDER TANK FARM (ALX)

AS-BUILT ALIGNMENT

Sec. 6 & 7, T151N, R101W, 5th P.M.,
McKenzie Co., North Dakota

Sheet 1 | R0

CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

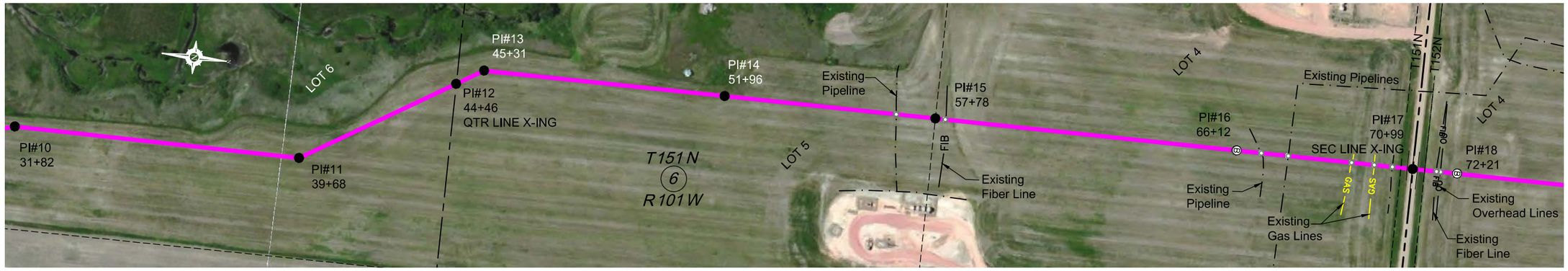
County, State	MCKENZIE, NORTH DAKOTA		
Sec-Town-Range	Section 6, T151N, R101W & Section 31, T152N, R101W		
OWNERSHIP	Keith Green Lot 6 Sec. 6, T151N, R101W	Keith Green Lots 4 & 5 Sec. 6, T151N, R101W	Keith Green Lot 4 Sec. 31, T152N, R101W
RODDAGE	1394.2' / 84.5 Rods	2652.6' / 160.8 Rods	1318.6' / 79.9 Rods
Align. Data	N00°41'06"W 785.96' | N32°14'03"W 478.00'	N32°14'03"W 84.65' | N00°59'56"W 665.37' | N00°55'51"W 582.43' | N00°55'51"W 833.11' | N01°00'41"W 487.06'	N01°00'41"W 122.76' | N00°52'13"W 436.76'
Align. Data			
Bore Length		609' BORE	

ROW DETAIL N.T.S.

STATIONING

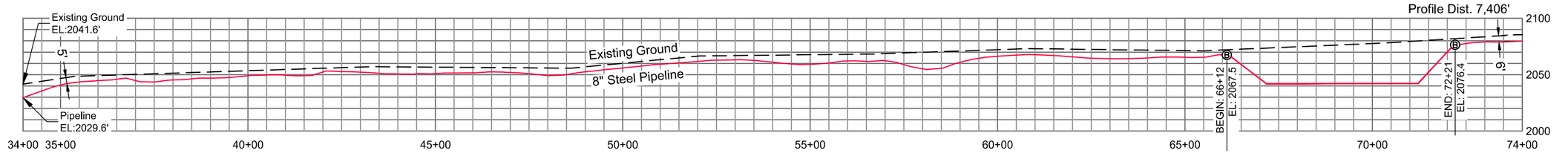
56+70 PIPELINE X-ING
58+06 FIBER X-ING
66+12 BEGIN BORE
66+80 PIPELINE X-ING
67+54 PIPELINE X-ING
69+29 GAS LINE X-ING
69+92 GAS LINE X-ING
70+42 PIPELINE X-ING
70+97 CL RD X-ING
71+64 FIBER X-ING
71+75 OVERHEAD X-ING
72+21 END BORE

ALIGNMENT



PIPE SCHEMATIC

PROFILE



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LEGEND:

- Alignment PI
- Utility Pole
- Well
- Valve
- Section Corner
- Quarter Corner
- Oil Line

SUMMARY OF MATERIALS

Size	Length	Description
8" x 0.156	21,531'	Steel Crude Pipeline (FBE)
8" x 0.237	2,137'	Steel Crude Pipeline (FBE)

SURVEY DATUM

Horizontal Datum: UTM ZONE 13 NORTH
(NAD 83)(CORS96) - U.S. Survey Foot
Vertical Datum: NAVD 88 - U.S. Survey Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99962181
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ECS Project #	2013-10-5001.500
Drawing Date:	5-6-2014
Drawn By:	A. Santana
Checked by:	D. Thorn
Revision No.	

300 0 300 600

scale 1" = 300' feet

1" = 300' HORIZ.
1" = 100' VERT.

ALEXANDER TANK FARM (ALX)

AS-BUILT ALIGNMENT

Sec. 6, T151N, R101W,
& Sec. 31, T152N, R101W, 5th P.M.,
McKenzie Co., North Dakota

Sheet 2 | R0

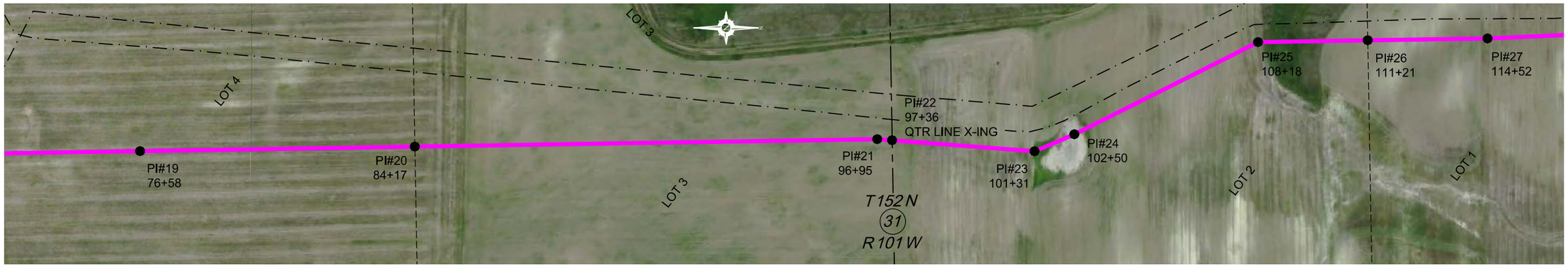
CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

County, State	MCKENZIE, NORTH DAKOTA		
Sec-Town-Range	Section 31, T152N, R101W		
OWNERSHIP	Keith Green Lot 4 Sec. 31, T152N, R101W	Larry G. Novak Lot 3 Sec. 31, T152N, R101W	Larry G. Novak Lots 1 & 2 Sec. 31, T152N, R101W
RODDAGE	1318.6' / 79.9 Rods	1318.8' / 79.9 Rods	2662.7' / 161.4 Rods
Align. Data	N00°52'13"W 436.76' | N00°55'55"W 759.06'	N00°55'55"W 1277.48' | N04°24'11"E 41.28'	N04°24'11"E 394.94' | N23°06'17"W 119.25' | N26°40'25"W 568.32' | N00°54'00"W 302.79' | N00°54'00"W 330.95' | N02°35'30"W 547.64'
Align. Data			
Bore Length			

ROW DETAIL N.T.S.

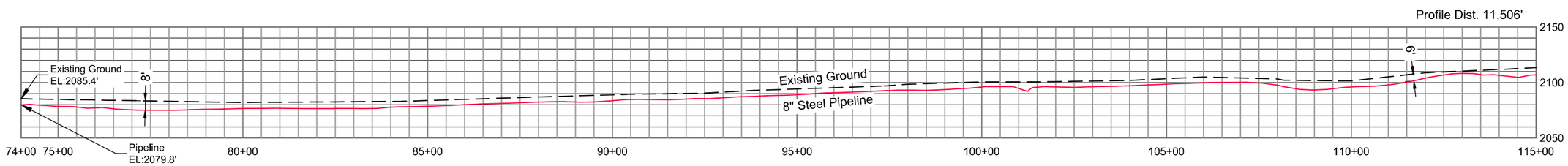
STATIONING

ALIGNMENT



PIPE SCHEMATIC

PROFILE



Ref. Dwgs. Aerial Image USDA 10-26-2012 | 2013-10-5001.100 | 2013-10-5001.200

Surveying & Drafting Services By:

ECS INC.

ERICKSON CONTRACT SURVEYING

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Office 406-482-6606 / Fax 406-482-6600

LEGEND:

- Alignment PI
- Utility Pole
- Well
- Valve
- Section Corner
- Quarter Corner
- Oil Line

SUMMARY OF MATERIALS

Size	Length	Description
8" x 0.156	21,531'	Steel Crude Pipeline (FBE)
8" x 0.237	2,137'	Steel Crude Pipeline (FBE)

SURVEY DATUM

Horizontal Datum: UTM ZONE 13 NORTH
(NAD 83)(CORS96) - U.S. Survey Foot
Vertical Datum: NAVD 88 - U.S. Survey Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99962181
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ECS Project #	2013-10-5001.500
Drawing Date:	5-6-2014
Drawn By:	A. Santana
Checked by:	D. Thorn
Revision No.	

300 0 300 600

scale 1" = 300' feet

1" = 300' HORIZ.
1" = 100' VERT.

ALEXANDER TANK FARM (ALX)

AS-BUILT ALIGNMENT

Sec. 31, T152N, R101W, 5th P.M.,
McKenzie Co., North Dakota

Sheet 3 | R0

CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

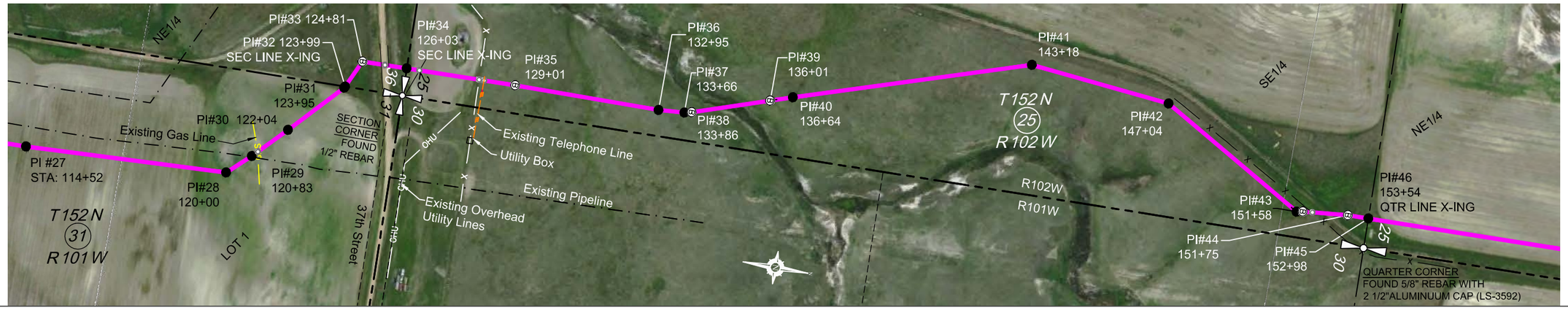
County, State	MCKENZIE, NORTH DAKOTA					
Sec-Town-Range	Section 31, T152N, R101W & Sections 25 & 36, T152N R102W					
OWNERSHIP	Larry G. Novak Lots 1 & 2 Sec. 31, T152N, R101W	State of North Dakota NE1/4 Sec. 36, T152N, R102W	Larry G. Novak SE1/4 Sec. 25, T152N, R102W			Larry G. Novak NE1/4 Sec. 25, T152N, R102W
RODDAGE	2662.7' / 161.4 Rods	204.5' / 12.4 Rods	2751.1' / 166.7 Rods			2640.9' / 160.1 Rods
Align. Data	N42°49'12"W 83.01' | N45°42'56"W 120.89' | N46°56'28"W 190.88'	N65°29'48"W 82.41'	N01°08'50"W 297.69' | N00°14'58"W 394.60' | N03°57'49"W 70.66' | N13°08'56"W 20.01' | N18°25'19"W 215.44' | N18°25'19"W 62.05' | N17°43'06"W 654.39' | N05°48'13"E 385.79' | N30°14'26"E 454.58'			N00°59'21"W 590.75'
Align. Data	N65°29'48"W 3.99'	N01°08'50"W 122.08'	N11°35'42"W 16.39' | N05°21'52"W 123.51' | N00°59'21"W 55.95'			
Bore Length	419' BORE		215' BORE		123' BORE	

ROW DETAIL N.T.S.

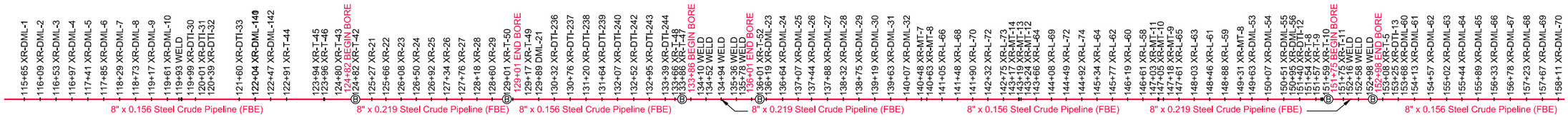
STATIONING

21+03 GAS LINE X-ING
124+82 BEGIN BORE
25+43 CL RD X-ING
26+38 ELECTRIC LINE X
28+02 FENCE X-IMG
28+15 PIPELINE X-ING
129+01 END BORE
133+86 BEGIN BORE
136+01 END BORE
151+76 BEGIN BORE
152+01 FENCE X-ING
152+98 END BORE

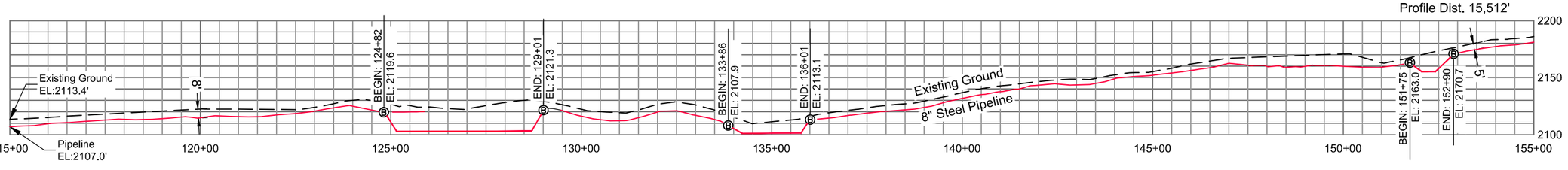
ALIGNMENT



PIPE SCHEMATIC



PROFILE



Ref. Dwgs. Aerial Image USDA 10-26-2012 | 2013-10-5001.100 | 2013-10-5001.200

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LEGEND:

- Alignment PI
- Utility Pole
- Well
- Valve
- Section Corner
- Quarter Corner
- Oil Line

SUMMARY OF MATERIALS

Size	Length	Description
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8" x 0.237	2,137'	Steel Crude Pipeline (FBE)

SURVEY DATUM

Horizontal Datum: UTM ZONE 13 NORTH
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Vertical Datum: NAVD 88 - U.S. Survey Foot
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ECS Project #	2013-10-5001.500
Drawing Date:	5-6-2014
Drawn By:	A. Santana
Checked by:	D. Thorn
Revision No.	

300 0 300 600

scale 1" = 300' feet

1" = 300' HORIZ.
1" = 100' VERT.

ALEXANDER TANK FARM (ALX)

AS-BUILT ALIGNMENT

Sec. 31, T152N, R101W
& Sec. 25, 36, T152N, R102W, 5th P.M.,
McKenzie Co., North Dakota

Sheet 4 | *R0*

CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

County, State	MCKENZIE, NORTH DAKOTA
Sec-Town-Range	Sections 24 & 25, T152N, R102W

	Larry G. Novak NE1/4 Sec. 25, T152N, R102W	Shirley C. Green SE1/4 Sec. 24, T152N, R102W
OWNERSHIP		
RODDAGE	2640.9' / 160.1 Rods	3566.8' / 216.2 Rods
Align. Data	N00°59'21"W 590.75' | N01°04'08"W 1007.55' | N00°45'18"W 1042.61'	N00°45'18"W 355.95' | N00°56'31"W 440.45' | N54°44'58"W 1046.58'
Align. Data		
Bore Length		

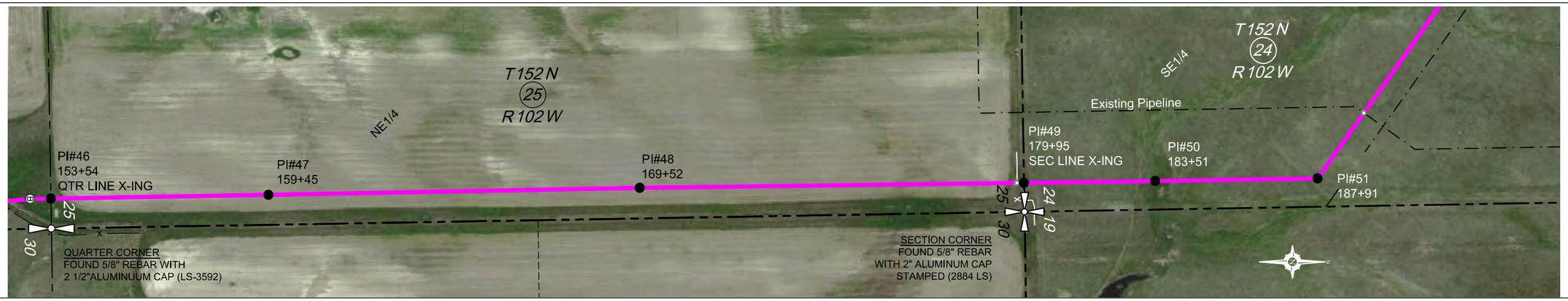
ROW DETAIL N.T.S.

STATIONING

179+76 FENCE X-ING

190+09 PIPELINE X-ING

ALIGNMENT

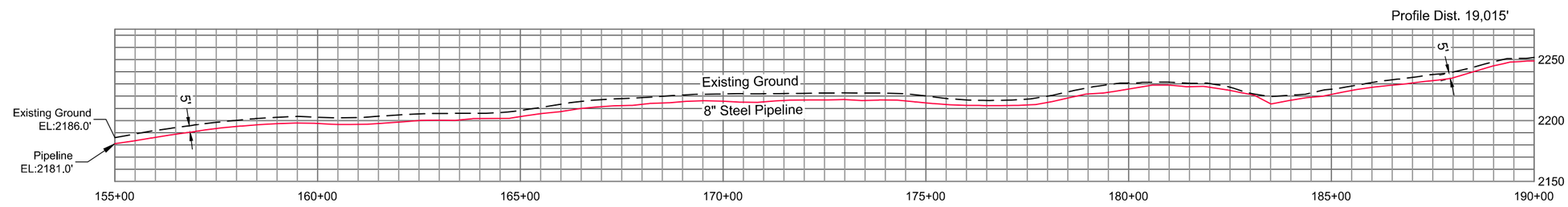


PIPE SCHEMATIC

157+67 XR-DML-69 | 158+11 XR-DML-70 | 158+56 XR-DML-71 | 159+00 XR-DML-72 | 159+45 XR-DML-73 | 159+89 XR-DML-74 | 160+34 XR-DML-75 | 160+78 XR-DML-76 | 161+23 XR-DML-77 | 161+67 XR-DML-78 | 162+11 XR-DML-79 | 162+55 XR-DML-80 | 162+95 XR-DML-81 | 163+39 XR-DML-82 | 163+84 XR-DML-83 | 164+28 XR-DML-84 | 164+73 XR-DML-85 | 165+17 XR-DML-86 | 165+53 XR-DML-87 | 165+98 XR-DML-88 | 166+42 XR-DML-89 | 166+87 XR-DML-90 | 167+31 XR-DML-91 | 167+76 XR-DML-92 | 168+20 XR-DML-93 | 168+65 XR-DML-94 | 169+09 XR-DML-95 | 169+52 XR-DML-96 | 169+96 XR-DML-97 | 170+40 XR-T-17 | 170+84 XR-DML-98 | 171+28 XR-T-18 | 171+69 XR-DML-99 | 172+13 XR-DML-100 | 172+57 WELD | 172+98 XR-DML-101 | 173+42 XR-DML-102 | 173+86 XR-DML-103 | 174+30 XR-DML-104 | 174+74 XR-DML-105 | 175+17 XR-DML-106 | 175+60 XR-DML-108 | 176+02 XR-DML-109 | 176+44 XR-DML-110 | 176+86 XR-DML-111 | 177+28 XR-DML-112 | 177+70 XR-DML-113 | 178+12 XR-DML-114 | 178+54 XR-DML-115 | 178+96 XR-DML-116 | 179+38 XR-DML-117 | 179+80 XR-DML-118 | 180+22 XR-T-7 | 180+58 XR-DML-118 | 181+00 XR-T-12 | 181+42 XR-DM-119 | 181+84 XR-DM-120 | 182+26 XR-DM-121 | 182+44 XR-DM-122 | 182+67 XR-DM-123 | 183+09 XR-DM-124 | 183+51 XR-DM-125 | 183+93 XR-DM-126 | 184+35 XR-DM-127 | 184+77 XR-DM-128 | 185+19 XR-DM-129 | 185+61 XR-DM-130 | 186+03 XR-DM-131 | 186+45 XR-DM-132 | 186+87 XR-DM-133 | 187+29 XR-DM-134 | 187+71 XR-T-13 | 187+90 XR-T-14 | 188+15 XR-T-16 | 188+57 XR-DML-135 | 188+99 XR-DML-136 | 189+41 XR-DML-137 | 189+83 XR-DML-138

8" x 0.156 Steel Crude Pipeline (FBE)

PROFILE



Ref. Dwgs.	*Aerial Image USDA 10-26-2012* | *2013-10-5001.100* | *2013-10-5001.200*

Surveying & Drafting Services By:

ECS INC.

ERICKSON CONTRACT SURVEYING

333 10th Ave. SE Sidney, Montana

Office 406-482-6606 / Fax 406-482-6600

LEGEND:

- *Alignment PI*
- *Utility Pole*
- *Well*
- *Valve*
- *Section Corner*
- *Quarter Corner*
- *Oil Line*

SUMMARY OF MATERIALS

Size	*Length*	*Description*
8" x 0.156	*21,531'*	*Steel Crude Pipeline (FBE)*
8" x 0.237	*2,137'*	*Steel Crude Pipeline (FBE)*

SURVEY DATUM

Horizontal Datum: UTM ZONE 13 NORTH
(NAD 83)(CORS96) - U.S. Survey Foot
Vertical Datum: NAVD 88 - U.S. Survey Foot
**Distances are Grid Distances.*
Combined Scale Factor = 0.99962181
Grid Distance x 1.000378333 = Ground Distance.

ECS Project #	*2013-10-5001.500*
Drawing Date:	*5-6-2014*
Drawn By:	*A. Santana*
Checked by:	*D. Thorn*
Revision No.	

scale 300 0 300 600 *feet* — *1" = 300'*

1" = 300' HORIZ.
1" = 100' VERT.

ALEXANDER TANK FARM (ALX)

AS-BUILT ALIGNMENT

Sec. 24 & 25, T152N, R102W, 5th P.M., McKenzie Co., North Dakota

Sheet 5 | *R0*

CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

County, State	MCKENZIE, NORTH DAKOTA
Sec-Town-Range	Section 24, T152N, R102W
OWNERSHIP	Shirley C. Green SE1/4 Sec. 24, T152N, R102W
RODDAGE	3566.8' / 216.2 Rods
Align. Data	N54°44'58"W 1046.58' | N54°39'32"W 966.46' | N54°13'30"W 260.13' | N00°05'49"W 497.24'
Align. Data	
Bore Length	

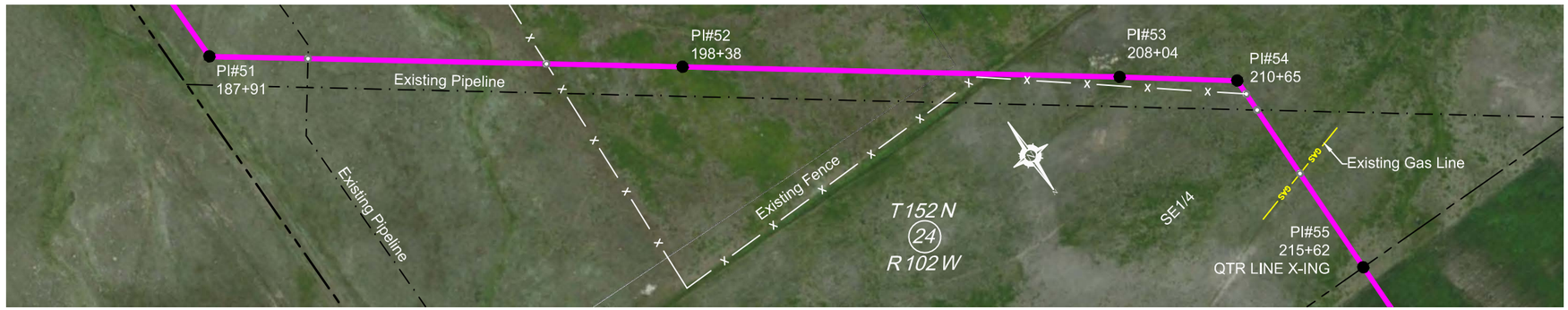
ROW DETAIL N.T.S.

STATIONING

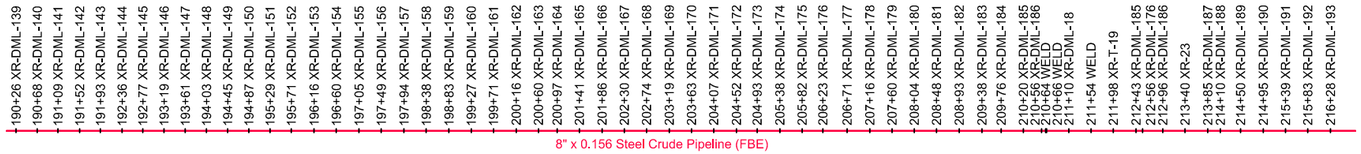
195+37 FENCE X-ING

211+00 FENCE X-ING
211+43 PIPELINE X-ING
213+12 GAS LINE X-ING

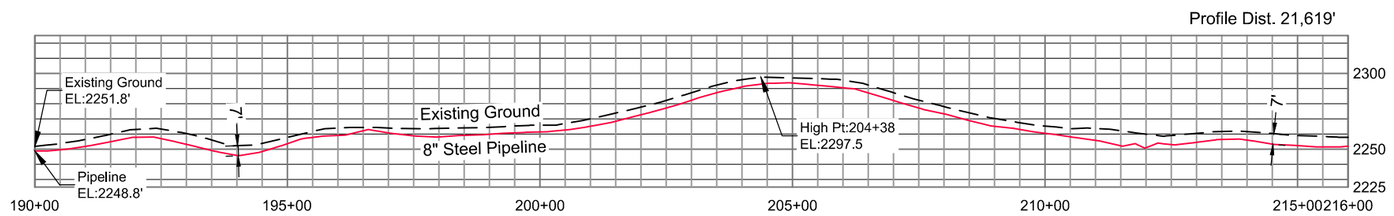
ALIGNMENT



PIPE SCHEMATIC



PROFILE



Ref. Dwgs.	Aerial Image USDA 10-26-2012	2013-10-5001.100	2013-10-5001.200

Surveying & Drafting Services By:

ECS INC.

ERICKSON CONTRACT SURVEYING

333 10th Ave. SE Sidney, Montana

Office 406-482-6606 / Fax 406-482-6600

LEGEND:

- Alignment PI
- Utility Pole
- Well
- Valve
- Section Corner
- Quarter Corner
- Oil Line

SUMMARY OF MATERIALS

Size	Length	Description
8" x 0.156	21,531'	Steel Crude Pipeline (FBE)
8" x 0.237	2,137'	Steel Crude Pipeline (FBE)

SURVEY DATUM

Horizontal Datum: UTM ZONE 13 NORTH
(NAD 83)(CORS96) - U.S. Survey Foot
Vertical Datum: NAVD 88 - U.S. Survey Foot
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Combined Scale Factor = 0.99962181
Grid Distance x 1.000378333 = Ground Distance.

ECS Project #	2013-10-5001.500
Drawing Date:	5-6-2014
Drawn By:	A. Santana
Checked by:	D. Thorn
Revision No.	

300 0 300 600

scale 1" = 300' feet

1" = 300' HORIZ.
1" = 100' VERT.

ALEXANDER TANK FARM (ALX)

AS-BUILT ALIGNMENT

Sec. 24, T152N, R102W, 5th P.M.,
McKenzie Co., North Dakota

Sheet 6 | *R0*

CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998

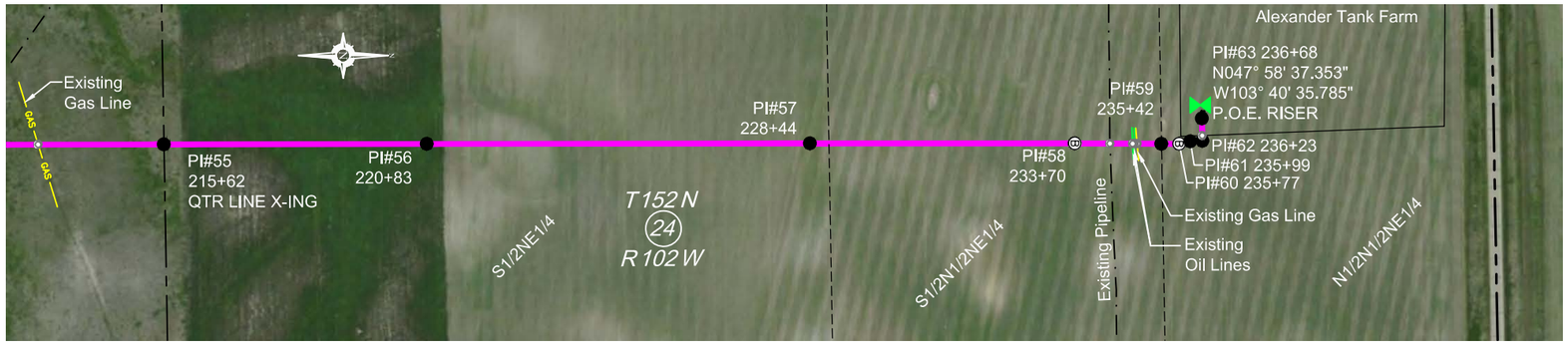
County, State	MCKENZIE, NORTH DAKOTA
Sec-Town-Range	Section 24, T152N, R102W
OWNERSHIP	Shirley C. Green S1/2N1/2NE1/4, S1/2NE1/4 Sec. 24, T152N, R102W
	Continental Resources, Inc. N1/2N1/2NE1/4 Sec. 24, T152N, R102W
RODDAGE	1979.9' / 120.0 Rods
	126.0' / 7.6 Rods
Align. Data	N00°05'49"W 521.57' | N00°04'05"W 760.43' | N00°00'08"W 525.82' | N00°14'50"E 172.11'
	N00°14'50"E 35.52' | N13°17'57"W 22.10' | N01°58'36"W 24.03' | S88°51'41"W 44.32'
Align. Data	
Bore Length	207' BORE

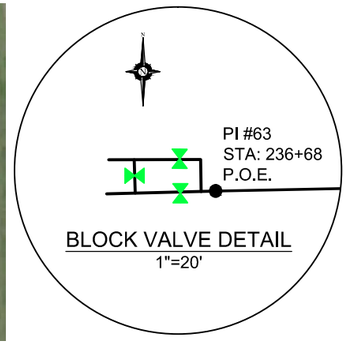
ROW DETAIL N.T.S.

STATIONING

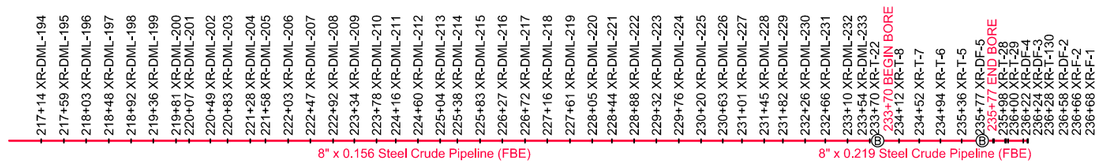
233+70 BEGIN BORE
234+40 PIPELINE X-ING
234+84 OIL LINE X-ING
234+88 OIL LINE X-ING
234+93 GAS LINE X-ING
235+77 END BORE
236+34 EDGE OF PAD

ALIGNMENT

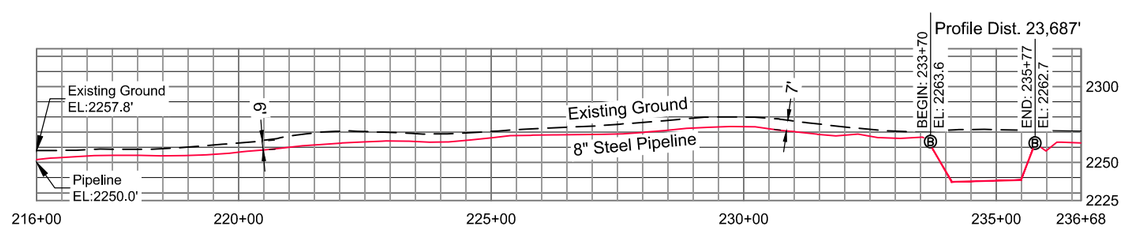




PIPE SCHEMATIC



PROFILE



Ref. Dwgs. Aerial Image USDA 10-26-2012 | 2013-10-5001.100 | 2013-10-5001.200

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ALEXANDER TANK FARM (ALX)

AS-BUILT ALIGNMENT

Sec. 24, T152N, R102W, 5th P.M.,
McKenzie Co., North Dakota

Sheet 7 | R0

CRUDE OIL SERVICES
HILAND CRUDE, LLC
SERVICE & RELIABILITY SINCE 1998