

**CONSOLIDATED APPLICATION
CERTIFICATE OF CORRIDOR COMPATIBILITY AND ROUTE
PERMIT**

Bill Sanderson Residue and NGL Pipelines Project

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J	Weed Management Plan
K	Agency Correspondence
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ACRONYMS AND ABBREVIATIONS

API	American Petroleum Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
BPD	barrels per day
BMPs	best management practices
CFR	Code of Federal Regulations
Commission	North Dakota Public Service Commission
ESA	Endangered Species Act
GIS	Geographic Information System
GMEC	Grouse Mountain Environmental Consultants
HDD	Horizontal Directional Drilling
MBTA	Migratory Bird Treaty Act
MMCFD	million cubic feet per day
NDAC	North Dakota Administrative Code
NDCC	North Dakota Century Code
NGL	natural gas liquids
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
OE2	OE2 North LLC
OSHA	Occupational Safety and Health Administration
PHMSA	Pipeline Hazardous Materials Safety Administration
PSC	Public Service Commission
Project	Bill Sanderson Residue and NGL Pipelines Project
ROW	Right-of-Way
SHSND	State Historical Society of North Dakota
SWPPP	Storm Water Pollution Prevention Plan
UDP	Unanticipated Discovery Plan
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

CHECKLIST FOR COMBINED CERTIFICATE OF CORRIDOR COMPATIBILITY AND ROUTE PERMIT APPLICATION

Authority	Description	Section(s)
Chapter 49-22.1 CENTURY CODE		
49-22.1-06	Application for a Certificate for a Corridor	
1.a	Description of size and type of facility	1.0, 8.0
1.b	Summary of any studies of environmental impacts	13.0
1.c	Need for the facility	3.0
1.d	Site for energy conversion facility	N/A
1.e	Preferred transmission (pipeline) corridor	2.2
1.f	Analysis of merits and detriments of facility location	2.2, 12.0
1.g	Mitigating measures	19.0
1.h	Corridor evaluation pursuant to 49-22.1-09 and 49-22.1-03	17.0, 16.1, 16.2
49-22.1-07	Application for Route Permit	
1.a	Description of size and type of facility	1.0, 8.0
1.b	Description of the location	2.0
1.c	Route evaluation relative to 49-22.1-09 and 49-22.1-03	17.0, 16.1, 16.2
1.d	Mitigating measures	19.0
1.e	Right-of-way preparation, construction, and reclamation	10.0
1.f	Statement identifying how: 1) landowners informed of right-of-way acquisition; and 2) how landowners will be compensated	9.0
1.g	Other relevant information	18.0
49-22.1-09	Factors to be considered in evaluating corridor and route applications	17.0
1	Research and investigation into effects of the project on public health, welfare, natural resources, and the environment	17.1
2	Effects of transmission technology and design to minimize adverse effects	17.2
3	Potential beneficial uses of waste energy from energy conversion facility	17.3
4	Unavoidable adverse direct and indirect environmental effects	17.4
5	Corridor or route alternatives developed during the hearing which minimize adverse effects	17.5
6	Irreversible and irretrievable commitments of natural resources if designated	17.6
7	Direct and indirect economic impacts of the facility	17.7
8	Existing plans for other developments at or in the vicinity	17.8
9	Effect of project on scenic areas, historic sites and structures, paleontological and archaeological sites	17.9
10	Effect of route on unique biological areas	17.10
11	Problems raised by federal, state, or local entities	17.11

Authority	Description	Section(s)
ADMINISTRATIVE CODE – ARTICLE 69-06		
69-06-05-01	Application for a Transmission Facility Permit	
2.a.(1)	Type of facility proposed	1.0
2.a.(2)	Purpose of facility	3.0
2.a.(3)	Technology to be deployed	5.0
2.a.(4)	Type of product to be transmitted	4.1
2.a.(5)	Source of product being transmitted	4.2
2.a.(6)	Final destination of product being transmitted	4.3
2.a.(7)	Size and design detail and any alternative size and design	8.0
2.a.(7)(a)	The width of right-of-way	8.1.1
2.a.(7)(b)	The approximate length of facility	8.1.2
2.a.(7)(c)	The estimated span length for electric facilities	N/A
2.a.(7)(d)	The anticipated type of structure for electric facilities	N/A
2.a.(7)(e)	The voltage for electric facilities	N/A
2.a.(7)(f)	The requirement for and general location of any associated facilities	8.2.1
2.a.(7)(g)	The estimated distance between pipeline surface structures	8.2.2
2.a.(7)(h)	The pipe size	8.1.3
2.a.(7)(i)	The maximum design for pipeline operating pressure and temperature	8.1.4
2.a.(7)(j)	The maximum design pipeline flow rate	8.2.2
2.a.(7)(k)	The number and general location of compressor or pumping stations	8.2.3
2.b	Time schedule	7.0
2.b.(1)	Obtaining the certificate of corridor compatibility	7.1
2.b.(2)	Obtaining route permit	7.2
2.b.(3)	Completing right-of-way acquisition	7.3
2.b.(4)	Starting construction	7.4
2.b.(5)	Completing construction	7.5
2.b.(6)	Testing operations	7.6
2.b.(7)	Commencing operations	7.7
2.c	A copy of each evaluative study or assessment of environmental impact of the proposed facility submitted to the agencies listed in section 69-06-01-05 and each response received	Appendix G and I
2.d	Need for facility	3.0
2.e	Description of alternatives	12.0
2.f	Corridor width	2.2, 9.1.1
2.g	Study area to enable the Commission to evaluate the factors in the Century Code section 49-22-09	2.1, 17.0
2.h	Discussion of factors in Century Code section 49-22-09 to air Commission's evaluation	17.0

Authority	Description	Section(s)
2.i	A discussion of the applicant's policies and commitments to limit the environmental impact of its facilities, including copies of board resolutions and management directives	19.0
2.j	Map of criteria that led to route location	Appendix A
2.k	Discuss relative value of each criteria and how the location was selected; how operation will affect criteria	17.0
2.l	Mitigating measures	19.0
2.m	Qualifications of each person involved in location study	20.0
2.n	Map identifying criteria that led to the route location and new facilities	Appendix A
2.o	8½ × 11 black and white map suitable for newspaper publication	Separate Document
2.p	Discussion of present and future natural resource development in the area	18.3
2.q	Maps and GIS data meeting PSC requirements	Appendix A
69-06-06-01	Application for Waiver of Procedures and Time Schedule	Separate Document
69-06-08-02	Transmission Facility Corridor and Route Criteria	
1	Exclusion areas	16.1
1.a	Designated or registered national: parks, sites, landmarks, monuments, wilderness	16.1.1
1.b	Designated or registered state: parks, sites, monuments, archaeological sites, natural preserves	16.1.2
1.c	County parks and recreational areas, municipal parks, parks owned or administered by other governmental subdivisions	16.1.3
1.d	Areas of critical habitat	16.1.4
1.e	Areas where unique or rare species would be irreversibly damaged	16.1.5
1.f	Area within 1,200 feet of ICBM facility	16.1.6
1.g	Areas within 30 feet of direct line of ICBM launch facilities	16.1.7
2	Avoidance areas	16.2
2.a	Designated or registered national: historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; grasslands	16.2.1
2.b	Designated or registered state: wild, scenic, or recreational rivers; game refuges; game management areas; forest management lands; grasslands	16.2.2
2.c	Historical resources which are not specifically designated as exclusion or avoidance areas	16.2.3
2.d	Areas which are geologically unstable	16.2.4
2.e	Within 500 feet of a residence, school, or place of business	16.2.5
2.f	Reservoirs and municipal water supplies	16.2.6

Authority	Description	Section(s)
2.g	Water sources for organized rural water districts	16.2.7
2.h	Irrigated land (does not apply to underground transmission facility)	N/A
2.i	Area of recreational significance but not designated exclusion areas	16.2.8
3	Selection criteria. Impact on:	16.3
3.a.(1)	Agricultural production	16.3
3.a.(2)	Family farms and ranches	16.3
3.a.(3)	Land economically suitable for irrigation	16.3
3.a.(4)	Surface drainage patterns and groundwater flow patterns	16.3
3.b.(1)	Sound sensitive land uses	16.3
3.b.(2)	Visual effect on adjacent area	16.3
3.b.(3)	Extractive and storage resources	16.3
3.b.(4)	Wetlands, woodlands, and wooded areas	16.3
3.b.(5)	Radio and TV reception and other communication or electronic facilities	16.3
3.b.(6)	Human health and safety	16.3
3.b.(7)	Animal health and safety	16.3
3.b.(8)	Plant life	16.3
4	Policy criteria	16.4
4.a	Location and design	16.4.1
4.b	Training and utilization of in-state labor	16.4.2
4.c	Economies of construction and operation	16.4.3
4.d	Use of citizen coordinating committees	16.4.4
4.e	Commitment of portion of transmitted product for use in state	16.4.5
4.f	Labor relations	16.4.6
4.g	Coordination of facilities	16.4.7
4.h	Monitoring of impacts	16.4.8
4.i	Using existing or proposed rights-of-way and corridors	16.4.9
4.j	Using existing or proposed transmission facilities	16.4.10

**CONSOLIDATED APPLICATION
CERTIFICATE OF CORRIDOR COMPATIBILITY AND ROUTE PERMIT
BILL SANDERSON RESIDUE AND NGLS PIPELINES PROJECT**

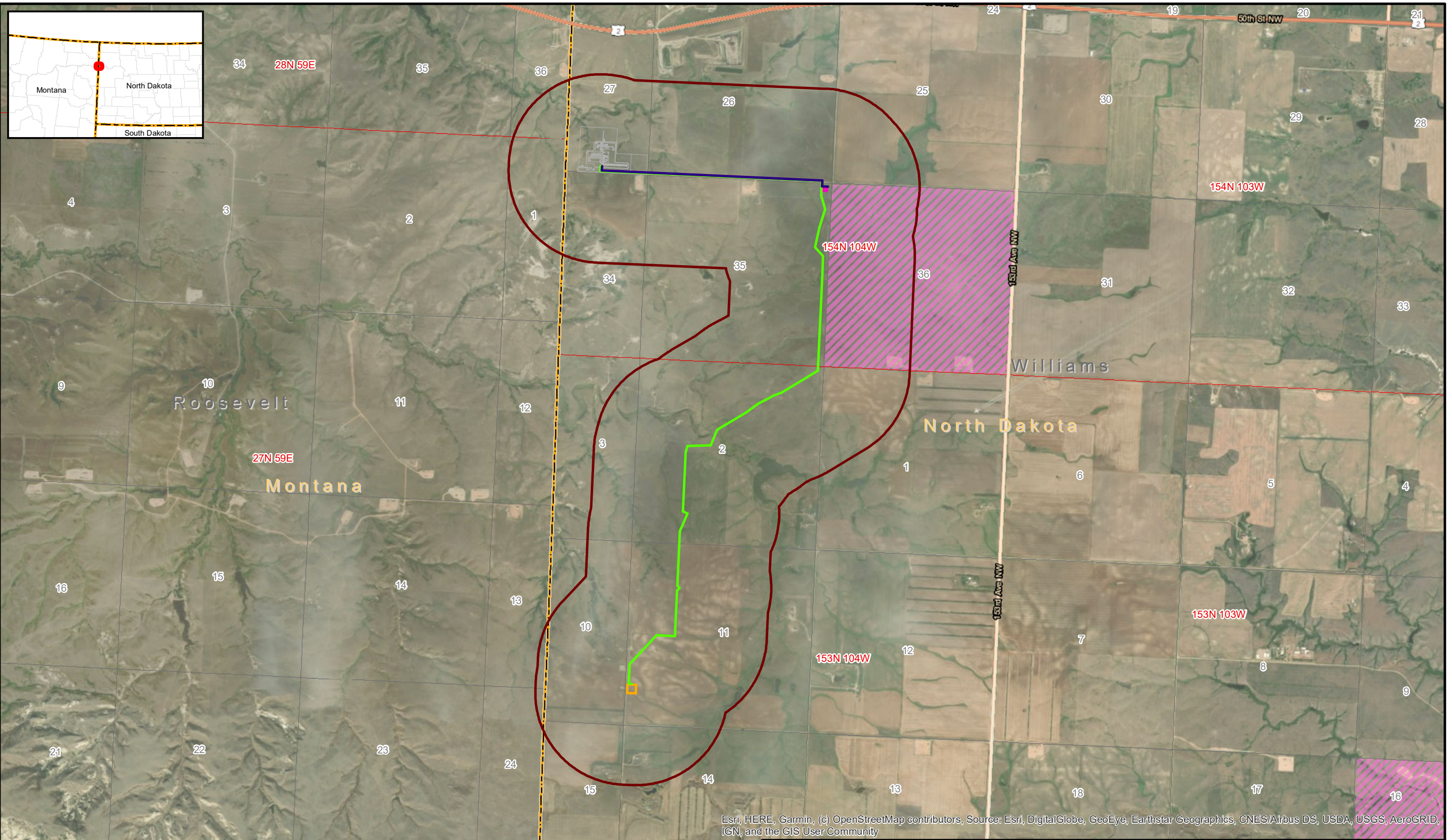
INTRODUCTION

OE2 North LLC (OE2) is a Denver-based midstream energy company with a primary geographical focus in the Rocky Mountain region. OE2 services include natural gas gathering, compression, processing, and treating, natural gas liquid (NGL) fractionation, crude oil and water gathering, and comprehensive marketing services. OE2 provides customers with the infrastructure and services necessary to deliver their production to market in a timely, safe, and efficient manner.

OE2 is proposing to construct and operate two new pipelines, an approximately 1.28 mile 8-inch NGL pipeline and an approximately 4.67-mile 20-inch residue gas pipeline coming from the proposed Bill Sanderson Gas Processing Plant located in Section 27, Township 154 North, Range 104 West approximately 15 miles west of Williston, North Dakota. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands on right-of-way (ROW) already acquired in Williams County, North Dakota (as shown on Figure 1). The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to an existing pipeline. The 20-inch steel residue gas pipeline will continue south for an additional 3.39 miles to a tie-in point with an existing pipeline. The pipelines will follow existing infrastructure for their entirety. Detailed Criteria Maps for the proposed Project are included in **Appendix A**.

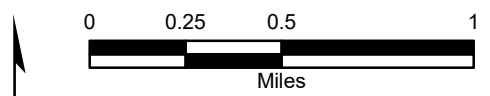
This application has been prepared in accordance with Chapter 49-22.1 of the North Dakota Century Code governing Energy Conversion and Transmission Facilities, and the North Dakota Administrative Code (Chapter 69-06-05), Transmission Facility Permit.

Date: 5/6/2020 User: ALeonard Path: \\azrgis\storp01\GIS_Projects\Client\OutriggerEnergy\20203533_SandersonGasPlant\MXD\PS\CIOE_AppA_Fig1_Overview.mxd



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LEGEND			
	NGL 8in Steel Pipeline		State Land
	Residue 20in Steel Pipeline		County Boundary
	NGL Meter Site		Township/Range
	Residue Meter Site		Section
	Study Area		



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PROJECT NO.	20203533
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CHECKED BY:	A. Daniel
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Project Overview Map	
OE2 North, LLC Pipeline Project	
Secs. 26, 27, & 35, T154N, R104W Secs. 11 & 2, T153N, R103W Williams County, North Dakota	

FIGURE
1

1 FACILITY TYPE

The Project consists of construction of two new pipelines, approximately 1.28 mile of new 8-inch steel NGL pipeline and approximately 4.67 miles of new 20-inch steel residue gas pipeline. These two pipelines are located entirely on private lands on ROW already acquired in Williams County, North Dakota. The two pipelines will begin at the proposed Bill Sanderson Gas Processing Plant located in Section 27, Township 154 North, Range 104 West approximately 15 miles west of Williston, North Dakota, and remain collocated for the first mile to a tie-in point of the NGL pipeline to an existing pipeline located in Section 35, Township 154 North, Range 104 West. The 20-inch residue gas line will continue southwest for approximately 3.39 miles to a tie-in point to an existing pipeline located in Section 11, Township 153 North, Range 104 West. The pipelines will follow existing infrastructure for their entirety. Please see the attached Figure 1, Project Overview Map for the Project location and details.

2 LOCATION

2.1 PROJECT STUDY AREA

OE2 defined the Study Area as a 1-mile-wide area (0.5-mile buffer on either side of the proposed centerline) and the Survey Area as a 200-foot-wide corridor (100 feet on either side of the proposed centerline). The Study Area and Survey Area are shown on Figure 1, with the U.S. Geological Survey (USGS) Tioga (1979), Mandaree NEW (1970), and White Earth (1991), North Dakota quadrangles.

2.2 PREFERRED LOCATION OF PROJECT CORRIDOR AND ROUTE

OE2 is seeking approval of a Corridor (defined below in this paragraph) that will align with the survey area used for conducting environmental field surveys. The permanent Corridor (or ROW) for the proposed 1.28 miles of collocated NGL and residue gas pipelines would be 125 feet wide; the temporary corridor for construction would be an additional 25 feet, for a total of 150 feet. The residue gas pipeline will continue southwest for approximately 3.39 miles, the permanent corridor of that portion of the ROW would be 50 feet with an additional 25 feet of temporary corridor, for a total of 75 feet. The ROW may be offset depending on the location of existing parallel pipeline(s) in the area. Surveys were conducted in March 2020 for the 200-foot Survey Area centered on the proposed pipelines. All areas surveyed and requested as the designated corridor will be referred to as the Corridor. The location and width of the proposed Corridor are illustrated on the topographic and aerial maps included in **Appendix A**. The location of the proposed route (Route) within the proposed Corridor is also depicted on the topographic and aerial maps provided in **Appendix A**.

OE2's proposed Corridor and Route are the result of a thorough site analysis and coordination with OE2, landowners, local officials, agencies, and existing infrastructure owners. OE2 obtained and analyzed public and proprietary information to identify sensitive areas and features within the one-mile wide Study Area, such as exclusion and avoidance areas, populated areas, wetlands, waterbodies, natural resources, areas of cultural significance, and public lands. In addition, OE2 considered existing ROWs (e.g., pipelines, powerlines, and roads) in an effort to maximize co-location with other infrastructure, where appropriate. OE2 also sought input from affected landowners, agencies, local governments, and other infrastructure owners, and refined the Corridor and Route based on input received. OE2 completed civil and environmental field surveys and additional constructability reviews to further refine its Route. Ultimately, the Corridor and Route presented in this Consolidated Application were selected to meet the Project needs, comply with the Commission's siting criteria, and minimize impacts to landowners, the environment, and existing infrastructure.

Additional discussion of the factors considered in selecting the Corridor and the Route is provided in Sections 13, 16, 17, and 18 of this Consolidated Application.

3 PURPOSE AND NEED OF THE FACILITY

OE2 is proposing to construct the Project, which consists of an 8-inch NGL pipeline and a 20-inch residue gas pipeline, to deliver processed gas and associated NGLs from OE2's proposed Bill Sanderson Gas Processing Plant in Williams County, North Dakota to two third party pipelines.

Based on historical production data from the North Dakota Oil and Gas Division, state-wide flaring has increased over 8 times from November of 2009 to November of 2019, as the pace of horizontal drilling and production has out-paced the ability of midstream companies such as Outrigger to effectively bring wellhead gas to market. The Project, along with the proposed Bill Sanderson Gas Processing Plant, will drastically improve the ability of OE2's upstream customers to economically continue oil and gas production in Williams County and the surrounding areas, while maximizing the stewardship of the environment and the state's mineral reserves through reduced wellhead flaring.

4 PRODUCT

4.1 TYPE OF PRODUCT TO BE TRANSMITTED

The proposed Project will provide pipeline capacity to transport the increasing supplies of NGL and residue gas processed by the proposed Bill Sanderson Gas Plant from areas around the state and in Williams County.

4.2 SOURCE OF PRODUCT

The NGLs and residue gas will be recovered at the proposed Bill Sanderson Gas Processing Plant from raw natural gas produced from Williams County and surrounding areas.

4.3 FINAL DESTINATION OF PRODUCT

The terminus for the 8-inch NGL line is a proposed new interconnect with ONEOK and the proposed terminus of the 20-inch residue gas pipeline is a proposed new interconnect with Northern Border.

5 TECHNOLOGY TO BE DEPLOYED

The Project will be designed, constructed, maintained, inspected, and operated to meet or exceed the U.S. Department of Transportation (USDOT) Pipeline Hazardous Materials Safety Administration (PHMSA) regulations, and in accordance with industry standards and company policies. Technologies used to satisfy these requirements and standards include:

- Use of an external protective coating and cathodic protection to prevent external pipeline corrosion
- Regular foot patrols of the permanent ROW
- Leak detection and pipeline monitoring systems will be employed utilizing a combination of flow and pressure transmitters at the upstream and downstream ends of each pipeline.

Construction and installation of the pipelines will use different techniques to avoid or minimize impacts to sensitive areas and identified road and ditch crossings, such as trenchless construction methods (e.g., borings). These techniques are discussed further in Section 10.

6 ESTIMATED TOTAL COST FOR CONSTRUCTION

The estimated total cost for construction is \$6 million.

7 SCHEDULE

7.1 OBTAINING CERTIFICATE OF CORRIDOR COMPATIBILITY

OE2 requests a Certificate of Corridor Compatibility and Route Permit from the Commission in July 2020.

7.2 OBTAINING ROUTE PERMIT

OE2 requests a Certificate of Corridor Compatibility and Route Permit from the Commission in July 2020.

7.3 COMPLETING RIGHT-OF-WAY ACQUISITION

OE2 has completed acquisition of all ROW for the Project.

7.4 STARTING CONSTRUCTION

Construction of the Project is scheduled to begin by July 2020, or upon receipt of all necessary permits and approvals.

7.5 COMPLETING CONSTRUCTION

OE2 expects to complete construction of the Project by December 2020.

7.6 TESTING OPERATIONS

OE2 expects to conduct hydrostatic testing of the pipeline and associated facilities prior to placing the pipeline in service December 15, 2020.

7.7 COMMENCING OPERATIONS

The Project is anticipated to be operational December 15, 2020.

8 FACILITY SIZE AND DESIGN

The following provides a description of the Project design, including the pipeline infrastructure and aboveground facilities.

8.1 PIPELINE

8.1.1 Width of Right-of Way

The temporary construction ROW for the 1.28 miles of collocated NGL and residue pipelines will be 150 feet wide (including the permanent ROW). The residue gas pipeline will continue for an additional 3.39 miles within a temporary construction ROW of 75 feet wide (including the permanent ROW). The temporary construction ROW may be reduced in some areas as necessary to avoid impacts to environmentally sensitive areas or where the full width of the easement is not required for the installation.

The permanent ROW for the 1.28 miles of collocated NGL and residue pipelines will be 125 feet wide. The permanent ROW for the additional 3.39 miles of residue gas pipeline will be 50 feet wide. The location of the pipeline within the permanent ROW may vary, however, depending on terrain, the presence of other existing facilities, and landowner concerns. The Project will follow existing pipeline and utility easements where feasible. OE2 has obtained all necessary ROWs.

8.1.2 Length of Facility

The entirety of the new construction for the Project is a combined 5.95 miles of new pipeline.

8.1.3 Pipe Size

The proposed NGL pipeline would be new 8-inch steel pipeline, and the proposed residue gas pipeline would be new 20-inch steel pipeline.

8.1.4 Maximum Design Operating Pressure and Temperature

The proposed Project is designed to carry up to 250 million cubic feet per day (MMCFD) of residue gas and 80,000 barrels per day (BPD) of NGL. The maximum allowable operating pressure for each pipeline will be 1650 pounds per square inch gauge (psig), at a design temperature of 120 degrees Fahrenheit. The Project will be designed, constructed, and operated in compliance with applicable portions of the USDOT regulations as set forth in Chapter 49 of the Code of Federal Regulations (CFR) Part 192 (49 CFR 192) Transportation of Natural and Other Gas by Pipeline and Part 195 Transportation of Hazardous Liquids. These regulations encompass general requirements, accident reporting and safety related condition reporting, design requirements,

construction, pressure testing, operation and maintenance, qualification of pipeline personnel, and corrosion control. Relevant industry standards are incorporated into these regulations by reference, including those of the American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), the American Society for Testing and Materials (ASTM), and others.

8.2 ABOVEGROUND FACILITIES

8.2.1 General Location of New Associated Facilities

Surface facilities will include a proposed 100 by 100-foot interconnect site at the terminus of the 8-inch NGL pipeline, a 250 by 250-foot interconnect site at the terminus of the 20-inch residue gas pipeline, as well as pipeline markers and cathodic test stations along the Route.

8.2.2 Maximum Design Flow Rate for Pipeline Facilities

The maximum design flow rate of the residue gas pipeline is 250 MMSCFD, and the maximum design flow rate of the NGL pipeline is 80,000 BPD.

8.2.3 Number and Location for Compressor and/or Pumping Stations

No compressor stations will be built as part of the Project. The pressure provided by input at the proposed Bill Sanderson Gas Processing Plant will be adequate for operation of the pipeline at the current projected flow rates.

9 EASEMENT ACQUISITION

OE2 secured the ROW by obtaining easements from landowners whose property is crossed by the Project. During easement negotiations, landowners were informed of the easement conditions and restrictions. Landowners have been compensated for the easement and will be compensated for damages resulting from construction of the Project. Landowners have been contacted to obtain permission to survey and to conduct necessary soil investigations. As the Project progresses, landowners will be advised of the survey and construction schedule, necessary site access, and any vegetation clearing, and grading required for construction.

No additional staging or lay down yards in addition to the ROW will be required to complete the project. All temporary easements/workspaces have been obtained from landowners, as needed, for the duration of construction.

10 RIGHT-OF-WAY PREPARATION, CONSTRUCTION, AND RECLAMATION PROCEDURES

10.1 DESCRIPTION OF RIGHT-OF-WAY PREPARATION AND CONSTRUCTION

OE2's facilities will be designed, constructed, tested, operated, and maintained in accordance with applicable requirements of the USDOT regulations in 49 CFR Part 192 and 195, United States Department of Labor regulations, Occupational Safety and Health Administration (OSHA) requirements, and other applicable federal and state regulations. Among other design standards, 49 CFR Part 192 and 195 specifies pipeline material selection, minimum design requirements, protection from internal, external and atmospheric corrosion, and qualification procedures for welding and operations personnel.

Construction of the pipeline involves several procedures that are summarized in the following sections. These operations include survey and staking; clearing and grading; trenching; pipe stringing, bending, and welding; lowering the pipeline; backfilling; hydrostatic testing; and ROW cleanup and restoration.

Construction will proceed along the pipeline route in one continuous operation. As construction proceeds along a spread, construction at any single point along the pipeline, from initial surveying and clearing, to backfilling and finish grading, is anticipated to last 12 weeks. Multiple spreads may be constructed at the same time. The entire process will be coordinated in such a manner as to minimize the total time an individual tract of land is disturbed, exposed to erosion, or temporarily precluded from its normal use. Construction and environmental controls for the Project are included in the Stormwater Pollution Prevention Plan (SWPPP) (**Appendix B**) and the Spill Contingency Plan (**Appendix C**).

10.1.1 Survey and Staking

The first step of construction will involve marking the limits of the approved work area (i.e., the construction ROW and temporary workspaces), the pipeline centerline, access roads, existing utility lines, and other special areas. Sensitive areas such as wetland boundaries and cultural resource sites will be marked and flagged. OE2 will notify landowners in advance of construction activities that could affect their property, business, or operations.

10.1.2 Clearing and Grading

The construction ROW will be cleared and graded (where necessary) to provide a relatively level surface for construction equipment, a sufficiently wide workspace for the passage of heavy

construction equipment, and a safe work environment for the pipeline workers. Vegetation will be mowed and cleared to the edge of the work area in grassland areas where grading is not required.

To avoid soil mixing, topsoil will be removed and segregated from the underlying subsoil, stored separately from subsoil, and protected from construction-related activities. The depth of topsoil stripping will vary according to the ROW landscape position. Topsoil depth will be determined in the field using best practices. Topsoil is typically stored at the far edge of the ROW on the opposite side of the trench from where construction machinery does its work. In some instances, topsoil may be stored off site or on the “working side” of the trench. In the latter case, the topsoil is again stored away from where machinery will operate. Construction activities will be suspended during abnormally wet conditions to prevent excessive rutting or mixing of topsoil with subsurface soils.

After pipeline installation is complete, the subsoil will be placed in the pipeline trench and adjacent areas to restore the land’s natural contours. Then the topsoil will be placed back in its previous locations.

Fences and gates will be constructed during the clearing and grading operations to allow continuous use of pastures, grazing units, and livestock facilities. Silt fence and other erosion control devices will be installed along the ROW adjacent to wetlands and streams.

Temporary erosion controls will be installed after initial disturbance of soils, where necessary, to minimize erosion. Erosion controls will be maintained throughout construction. Additionally, dust control will be conducted during construction, specifically during clearing and grading. OE2’s Dust Control Plan is included as **Appendix D**.

10.1.3 Trenching

Trenches will be excavated using a wheel trencher or backhoe. Trenches will be excavated to a depth sufficient to provide a minimum of five feet of cover. The depth of cover may be increased if requested by a landowner, or as needed at road and stream crossings, and as needed for safety considerations.

10.1.4 Pipe Stringing, Bending, and Welding

After clearing and grading, the contractor will string the pipe along the ROW. Pipe will be stored at storage yards or transported directly to the pipeline ROW. The pipe lengths are typically 40 to 60 feet long. A stringing crew using special trailers will move the pipe along the ROW.

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

Pipe will be bent at the mill when necessary for sharp bends. The pipe will be pre-coated at the mill with a fusion-bonded epoxy external coating (or other coating technique) to provide corrosion protection.

A welding process will be utilized to join the sections of pipe into one continuous length. Each welder will be required to pass an approved qualification test to work on a particular pipeline aspect. The qualification tests will be conducted using project specific weld procedure(s) that will be developed in accordance with federally adopted welding standards.

Welds will be nondestructively tested to ensure structural integrity and compliance with the applicable USDOT regulations. Those welds not meeting established specifications will be repaired or removed. Once the welds are approved, the welded joints will be externally coated and the entire pipeline will be visually and electronically inspected for coating defects, scratches, or other damage. Any damage or defects will be repaired before lowering into the trench.

10.1.5 Pipeline Installation and Trench Backfilling

A series of side-boom tractors will simultaneously lift welded sections of the pipe and carefully lower the sections into the trench. Non-metallic slings protect the pipe and coating as it is raised and moved into position. In rocky areas, the contractor may place sandbags or foam blocks at the bottom of the trench prior to lowering-in to protect the pipe and coating from damage. Trench breakers or water stops will be installed, as necessary, adjacent to wetlands and stream crossings to eliminate groundwater migration along the trench.

The trench will be dewatered, as necessary, prior to lowering-in. Dewatering effluent will pass through sediment filters (hay bale structures and/or filter bags), if necessary, to ensure compliance with applicable water quality requirements.

The trench will be backfilled after the pipe has been installed. Soil will be returned to the trench in the reverse order of excavation. Where topsoil has been segregated, subsoil will be backfilled first and followed by the topsoil. The trench line (subsoil) will be compacted with a wheeled-roller or other suitable construction equipment. A crown will be left over the trench line to allow for natural subsidence. If the excavated material (e.g., rock) can damage the pipe and/or coating, the pipeline will be protected/padded with a rock shield and/or covered with select fill, obtained from commercial borrow areas or by separating suitable material from nearby trench spoils. Topsoil will not be used for padding.

10.1.6 Hydrostatic Testing

The entire length of the pipeline will be hydrostatically tested before being placed into service. Requirements for this test are prescribed in the USDOT's federal regulations. Water from commercial water sources is anticipated.

Each pipe section will be filled with water and pressured to a level higher than the operating pressure. The test pressure will be held for a specific period to confirm that it meets the design strength requirements and if any leaks are present.

Hydrostatic test water will be discharged in accordance with applicable permits. It is anticipated that hydrostatic test water will be discharged to provide irrigation water as approved or disposed of at an approved disposal facility. Test water will contact only new pipe and OE2 does not anticipate the addition of chemicals to the test water. Once a test section successfully passes the hydrostatic test, the water will be emptied from the pipeline in accordance with federal and state requirements. The pipeline will then be dried to assure it has no free water in it before being put in service.

10.1.7 Cleanup

The final step in the construction process is restoring the ROW as closely as possible to its original condition. Depending on the project requirements, this typically involves loosening the soil within construction work areas, replacing the topsoil, and seeding non-cultivated land. Final grading is anticipated to occur within 20 days of backfilling the trench, or after the Spring thaw, whichever occurs last. Permanent erosion controls will be installed within the ROW during this phase.

Pipeline markers and/or warning signs will be placed along the pipeline centerline at specified intervals to identify the location of the pipe. Access roads will be restored to pre-construction conditions, unless otherwise specified by the property owner and approved by regulatory agencies. Private and public property (e.g., fences, gates, driveways, roads, etc.) that were disturbed by construction will be restored to their original or better conditions, consistent with agreements with individual landowners, counties and/or townships, and any applicable permit requirements.

10.2 SPECIAL CONSTRUCTION TECHNIQUES

10.2.1 Highway, Road, and Railroad Line Crossings

Highway, road, and railroad line crossings will be constructed according to applicable crossing permits. Primary roads are generally major roads and highways with relatively large volumes of traffic that have a well-defined traveled roadway (i.e., traffic lane) and shoulders with a granular pavement and/or concrete surface. Primary roads and railroad crossings will be constructed using the conventional bore method or by the horizontal directional drilling (HDD) method. Little or no traffic disruption is expected when using the bore or HDD method. There are no highways, railroads or primary roads crossed by the proposed Routes.

Secondary roads are generally roads with moderate traffic. Usually the traveled roadway will be defined but may have apparent shoulders. The road surface may contain granular material, soil,

or a combination of both. Secondary roads will be crossed using the open-cut method. There are no secondary roads crossed by the proposed Routes.

Unimproved roads are generally minor roads with minimal, if any, traffic. They will normally be identified as small roadways, trailer, or tracks with no embankment or adjacent ditches and constructed/situated in natural earth material. The surface may have a light sprinkling of granular material. There is one unimproved road (49th St) that leads to the proposed Bill Sanderson Gas Processing Plant that will be crossed by the proposed Routes by conventional bore.

10.2.2 Waterbody Crossings

“Waterbody” includes any natural or artificial stream, river, or drainage with perceptible flow at the time of crossing, and other permanent waterbodies such as ponds and lakes. Any waterbody will be avoided by using the HDD construction method, therefore no discharge or fill into such waterbody will occur. OE2 has included an HDD Contingency Plan for the planned HDDs as **Appendix E**.

OE2’s SWPPP, included in **Appendix B**, specifies measures based on best management practices (BMPs) that will address erosion control, equipment refueling, timing, construction methods, revegetation, and restoration to protect waterbodies in the Project area.

10.2.3 Wetland Crossings

Any wetlands will be avoided by using the HDD construction method, therefore no U.S. Army Corps of Engineers (USACE) permits will be required.

Sediment barriers and erosion control measures will be installed and maintained adjacent to wetlands as necessary to minimize the potential for sediment runoff. Sediment barriers will also be installed where necessary to minimize the potential for sediment to run off the construction ROW and into wetland areas outside of work areas. Sediment barriers will be installed across the full width of the construction ROW at the base of slopes adjacent to wetlands. Sediment barriers installed across the working side of the ROW will be removed when construction equipment is present to allow orderly progression along the ROW. Sediment barriers will be replaced at the end of the day.

Temporary erosion control devices will be installed where necessary until vegetation of adjacent upland areas is successful. Permanent slope breakers may be installed across the ROW in upland areas adjacent to the wetland boundary. The SWPPP included in **Appendix B** will have locations of these BMPs clearly marked on the site plans by OE2’s contractor.

10.2.4 Open Cut Construction

The open cut crossing method of construction involves excavating a pipeline trench, installing a section of pipe, and then backfilling the trench with material excavated from the trench. Excavation and backfilling of the trench will be performed using backhoes or other excavation equipment.

10.2.5 HDD Technology

HDD can reduce or mitigate surface disturbance, traffic interruptions, damage to roads, and environmental impacts to streams, wetlands, cultural resources or other sensitive areas. OE2 will use HDD technology for some of the pipeline crossings and all wetlands crossed by the pipelines. HDD technology requires specialized equipment and personnel. **Appendix E** provides the HDD Contingency Plan for the planned HDDs.

10.3 RESTORATION PROCEDURES

The construction contractor will limit ground disturbance wherever possible and use appropriate erosion and sediment control measures. Disturbed areas will be restored to their original contours and condition to the extent practical unless landowner consent is obtained to do otherwise. Post-construction reclamation activities include removing and disposing of debris, dismantling temporary facilities, leveling or filling tire ruts, loosening soil, and reseeding non-cultivated areas. Revegetation and recommended seed mixes are included in the Project SWPPP (**Appendix B**).

11 OPERATION AND MAINTENANCE

The following measures will be implemented to prevent or mitigate any adverse effects resulting from the Project operations:

1. OE2 will follow a written manual of procedures for conducting normal operations and maintenance activities and for handling abnormal operations and emergencies. The manual will delineate the responsibilities of both management and operating personnel and will be reviewed each calendar year to confirm its effectiveness. The manual will include provisions that address the following:
 - a. Retention of important construction, operation, and maintenance records, including records of pipeline and equipment inspections.
 - b. Procedures for reporting spills, accidents, and safety related conditions.
 - c. Identification of sensitive areas along the Project route that would require an immediate response to prevent hazards to the public if the facilities failed or malfunctioned.
 - d. Procedures for receiving, identifying, and classifying notices of events that need either an immediate response by Project personnel or a notice to fire, police, or other appropriate public officials.
 - e. Establishing and maintaining liaison with fire, police, and other appropriate public officials. Procedures will be included for notifying these officials of pipeline emergencies and coordinating with them on pre-planned and actual responses during such emergency.
 - f. Maintaining a list and contact information of area contractors that may be used to respond to a spill or emergency. OE2's Spill Contingency Plan is included as **Appendix C**.
2. OE2 will monitor pipeline inlet pressure and flow at the proposed Bill Sanderson Gas Processing Plant. There will also be relief valves and pressure shutdowns at the proposed Bill Sanderson Gas Processing Plant to protect the pipelines from overpressure.
3. A continuing training program will be implemented to instruct personnel in safely carrying out the operations, maintenance, and emergency procedures related to their assignments. This will include instruction on the characteristics and hazards of the NGL and residue gas being transported, the recognition of conditions that are likely to cause emergencies, and the steps necessary to control or minimize the impacts of an

accidental release. A copy of OE2's Emergency Action Plan is included in **Appendix F**.

4. A damage prevention program will be established to prevent damage to the pipelines from excavation activities or other encroachments on the ROW. The damage prevention program will include participation in the North Dakota "One-Call" system that requires prior notification when excavation by third parties is to occur near the Project.

12 ALTERNATIVES CONSIDERED

As part of Project development, OE2 analyzed alternatives to the proposed Project. The alternatives analysis considered a no action/no build alternative, shipping alternatives via other pipelines, rail, or truck, and different routes.

12.1 NO-ACTION ALTERNATIVE

If this alternative were selected, OE2 would not be able to operate the proposed Bill Sanderson Gas Processing plant. OE2 has determined that the no-action alternative is not an acceptable long-term alternative due to the need for midstream processing facilities in the state.

12.2 NORTH DAKOTA PIPELINE ALTERNATIVES

There are no currently available viable pipeline alternatives to the Project.

12.3 ROUTE ALTERNATIVES

The proposed route was determined based on the location of existing Bill Sanderson Gas Processing Plant and the route of the existing third-party pipelines. No other route would capture the efficiencies of following the existing easement. Any other route would result in greater overall impacts.

13 ENVIRONMENTAL STUDIES

Resource assessments, both field and desktop, were performed based on the Commission's siting requirements. The Study Area is a one-mile wide area centered on the proposed alignment, consisting of 0.5-mile buffer on either side of the pipeline centerline. The Study Area refers to the desktop review conducted prior to field surveys. The Survey Area consists of a 200-foot wide corridor centered on the proposed pipeline and included those areas where construction and installation of new pipe is anticipated. This Survey Area boundary was utilized for the field surveys for natural resources. The permanent disturbance for the collocated portion of the pipelines would be a 125-foot corridor, with an additional temporary disturbance corridor of 25 feet, for a total temporary construction corridor of 150 feet; for the remaining 3.39 miles of residue gas pipeline, the permanent disturbance would be a 50-foot corridor, with an additional temporary disturbance corridor of 25 feet, for a total temporary construction corridor of 75 feet. The Study Area, Survey Area, and proposed temporary and permanent corridors are shown on all maps included in **Appendix A**.

OE2 performed the following resource assessments for the Project:

- A Class I Cultural Resource Inventory;
- A wetland and waterbody delineation, consultation and assessment for threatened and endangered species; and
- Field surveys that determined tree, shrub, and noxious weed locations in the Project area, as applicable.

13.1 CULTURAL RESOURCE INVENTORY

On behalf of OE2, Grouse Mountain Environmental Consultants (GMEC) conducted a Class I cultural resource desktop analysis and file search for the Project on April 4, 2020. The NGL and Residue Lines generally follow an existing pipeline ROW where previous cultural inventories have been completed. GMEC's lead archaeologist is coordinating with the State Historical Society of North Dakota (SHSND) regarding the Class I results. OE2 is committed to full avoidance of impacts to cultural resources through HDD or fencing enclosures around documented resources during construction.

The Class I Cultural Resource Inventory for the Project is included in **Appendix G**. The Inventory was submitted to the SHSND and overlaps with multiple other inventories done on the existing infrastructure the Project parallels.

OE2 is working with SHSND and will take a conservative avoidance of any cultural resources by reducing workspace or utilizing the HDD construction method where necessary. In addition, OE2 has developed an Unanticipated Discovery Plan (UDP) to guide procedures if unknown cultural resource or human remains are encountered during construction. The UDP outlines the framework for handling such discoveries in an efficient and legally compliant manner. This UDP is included in **Appendix H**.

13.2 WETLAND AND WATERBODY INVENTORY

Prior to conducting field surveys in March 2020, GMEC conducted a desktop assessment using the U.S. Geological Survey (USGS) Watershed Boundary Dataset (WBD), the National Hydrologic Dataset (NHD), and the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) topographic maps. This spatial data was used to determine the location and extent of mapped wetlands and waterbodies within the Study Area.

The desktop assessment evaluated drainages and waterbodies that fell within 200 feet of the proposed pipelines. GMEC identified 10 NWI-designated wetlands along the NGL and Residue Line or within the 200-foot buffer (listed in Table 1). The Residue Line crosses Horse Tied Creek in Section 2 Township 153N Range 104W. Horse Tied Creek is an intermittent stream. There are two wetlands associated with this stream crossing. The NWI dataset identifies WTL-007 as an intermittent riverine system that is seasonally flooded, where surface water is present for extended periods during the growing season. Additionally, an emergent palustrine wetland (WTL-008) that is seasonally flooded lies 100 feet to the west of the Residue Line in the Horse Tied Creek drainage. Six other drainages along the Residue Line in Sections 2 and 11 Township 153N Range 104W and Section 35 Township 154N Range 104W are classified as intermittent riverine wetlands that are temporarily flooded, where there are brief periods of surface water although the water table lies beneath the ground surface for most of the year. Four of these drainages (WTL-003, WTL-004, WTL-006, WTL-009) are tributaries to Horse Tied Creek and two drainages (WTL-001 and WTL-002) are secondary tributaries to Little Muddy Creek to the north. One emergent palustrine wetland (WTL-005) that is diked or impounded and temporarily flooded lies approximately 120 feet west of the Residue Line in Section 35 Township 154N Range 104W. One additional emergent palustrine wetland (WTL-010) located in Section 11 Township 153N Range 104W is not associated with an NHD line and appears to be an isolated wetland. In addition to the NWI wetlands, aerial imagery suggests there is one distinct drainage visible within the Project area that crosses the survey area twice (ISC-001 and ISC-002). These features identified during the survey are shown on the maps in **Appendix A** and further summarized in Table 1.

Table 1
Wetlands Identified within the Survey Area

NWI Crossing ID	System Name	Classification	Associated Stream Name	Associated Tributary	Field Notes
WTL-001	Riverine	Intermittent; Temporary Flooded	Unnamed	Little Muddy Creek; Missouri River	No OHWM/bed and bank; minimal hydrophytic vegetation
WTL-002	Riverine	Intermittent; Temporary Flooded	Unnamed	Little Muddy Creek; Missouri River	No OHWM/bed and bank; minimal hydrophytic vegetation
WTL-003	Riverine	Intermittent; Temporary Flooded	Unnamed	Horse Tied Creek; Little Muddy Creek	
WTL-004	Riverine	Intermittent; Temporary Flooded	Unnamed	Horse Tied Creek; Little Muddy Creek	
WTL-005	Palustrine	Intermittent; Temporary Flooded	Unnamed	Horse Tied Creek; Little Muddy Creek	Dike or impounded
WTL-006	Riverine	Intermittent; Temporary Flooded	Unnamed	Horse Tied Creek; Little Muddy Creek	
WTL-007	Riverine	Intermittent; Seasonally Flooded	Horse Tied Creek	Little Muddy Creek; Missouri River	
WTL-008	Palustrine	Intermittent; Seasonally Flooded	Horse Tied Creek	Little Muddy Creek; Missouri River	
WTL-009	Riverine	Intermittent; Temporary Flooded	Unnamed	Horse Tied Creek; Little Muddy Creek	
WTL-010	Palustrine	Intermittent; Seasonally Flooded	N/A	N/A	Isolated wetland
ISC-001	N/A	N/A	Unnamed	Horse Tied Creek; Little Muddy Creek	Anthropogenic disturbance resulting in wetland features north of the road. No hydrologic connection downstream.

To supplement the desktop assessment, GMEC conducted a field assessment of the NGL Line and collocated portion of the Residue Line on March 6, 2020 and the remainder of the Residue Line on March 26, 2020. Due to the time of year, a full assessment of hydrophytic vegetation was not possible. However, GMEC was able to assess Ordinary High-Water Mark (OHWM) and bed and bank features as well as identify major vegetation along the identified drainages.

During on-site field assessments, GMEC assessed the hydrologic characteristics of each drainage or wetland. WTL-001 and WTL-002 are drainages comprised of predominantly upland vegetation, including large patches of western snowberry (*Symphoricarpos occidentalis*). There

were no obvious physical signs of OHWM or bed and bank features along these drainages (see the photos included in the Natural Resource Field Assessment Reports in **Appendix I**). During the field assessment of ISC-001, standing water was present at the pipeline crossing on the north side of the existing road. While some hydrophytic vegetation (e.g. *Deschampsia*) and standing water were present, these features were likely attributed to anthropogenic disturbance where water from recent snow melt had pooled within a slight depression north of the road. The depression in which water had accumulated was a ditch likely associated with development of the road and, therefore, does not represent conditions in which a wetland would naturally occur. The drainage immediately south of road showed signs of hydrologic forces, with vegetation suggesting OHWM; however, these hydrologic indicators dissipated approximately 250 feet downstream where upland vegetation became prevalent within the drainage. The same hydrologic features were present again further downstream near ISC-002; however, these features are not consistent throughout the drainage and no water was present during field surveys on March 26, 2020.

WTL-003 also shows signs of shortened or bent-over vegetation suggesting OHWM and current water pooling at the proposed pipeline crossing. These features and the presence of a headcut on the upstream side of the crossing suggest recent water flows and hydrologic forces. WTL-004 consists of a small, completely vegetated channel. Both WTL-003 and WTL-004 flow into a diked pond (WTL-005) just west of the pipeline ROW. WTL-006 is a steeper drainage with OHWM indicated by bent-over and shortened vegetation present at the pipeline crossing. Headcuts are present both up and downstream from the crossing where signs of deep-water ponding and vegetation debris were present. The actual crossing area shows no definitive channel and may have been altered by construction of the prior pipeline.

WTL-007 is associated with Horse Tied Creek. This crossing is comprised of two distinct channels within a larger floodplain. Wetland vegetation was present within these channels along with frozen, standing water. GMEC geospatially defined a conservative wetland boundary based on clear signs of upland vegetation and terracing. This boundary was also inclusive of WTL-008 within the 200-foot survey buffer. The defined wetland boundary does not represent an official wetland delineation. WTL-009 is located within an agricultural field where the drainage itself shows minimal slope, no signs of channelization, and no hydrologic features. WTL-010 is believed to be an isolated wetland that is located 65 feet outside of the proposed pipeline ROW.

Based on the results from the site assessment, it is GMEC's professional opinion that some of these features crossed by the Project may be regulated by the USACE. Therefore, OE2 plans to take a conservative avoidance of all potential Waters of the U.S. utilizing the HDD construction method where necessary.

The Natural Resource Field Assessment Reports for the NGL and Residue Lines are included in **Appendix I**.

13.3 HABITAT ASSESSMENT

13.3.1 Tree/Sapling/Shrub Inventory

The Commission requires 2:1 mitigation for all trees that are 1-inch diameter or greater at breast height and all shrubs that will be impacted during the construction of the Project. GMEC conducted field surveys of the Corridor on March 6 and 26, 2020, to confirm the presence or absence of woody vegetation. No trees, saplings, or shrubs over 1-inch diameter at breast height (DBH) were identified within the surveyed area. Patches of the shrub, western snowberry (*Symphoricarpos occidentalis*), were found within the drainages; however, these patches generally occurred outside of or on the edges of the pipeline ROW. The snowberry was growing primarily as single-stemmed shoots within colonies of variable size and density and stems were <1-inch DBH. The only shrubs that will be affected are patches of western snowberry. Since snowberry spreads through its roots to form colonies of various sizes, removal of a portion of these patches will not likely result in a loss of productivity for the colony.

13.3.2 Federally Protected Species

The Endangered Species Act ([ESA], 16 U.S.C. §§ 1531-1544) ensures that any actions authorized, funded, or carried out by federal agencies do not jeopardize the existence of any listed endangered, threatened, or candidate species. The USFWS ranks potential candidates based upon the species' biological vulnerability. Species listed as endangered or threatened are provided full protection, which includes prohibition of destruction of critical habitat. Sensitive species are identified within North Dakota although they are not afforded formal protection under the Act.

At this time, the USFWS includes six listed species, identified as threatened or endangered, that have potential to occur in the Williams County, within 0.5 mile of the Project. The listed endangered species include the whooping crane (*Grus americana*), interior least tern (*Sterna antillarum*), and pallid sturgeon (*Scaphirhynchus albus*). The listed threatened species include the piping plover (*Charadrius melodus*) and its designated critical habitat, and its designated critical habitat, rufa red knot (*Calidris canutus rufa*), and northern long-eared bat (*Myotis septentrionalis*). These species are discussed below along with an analysis of the potential impacts to the species. The Project is not anticipated to affect any of the listed species with potential to occur in the Project area.

Interior Least Tern (Federal Status: Endangered)

The interior population of the least tern is listed as endangered by the USFWS (1985a). This bird is the smallest member of the gull and tern family, measuring approximately nine inches in length. Terns remain near flowing water, where they feed by hovering over and diving into standing or flowing water to catch small fish (USFWS 2013b).

The interior population of least terns breeds in isolated areas along the Missouri, Mississippi, Ohio, Red, and Rio Grande river systems where they nest in small colonies. From late April to August, terns nest in a shallow hole scraped in an open sandy area, gravel patch, or exposed flat; and in bare sandbars along rivers, sand and gravel pits, or lake and reservoir shorelines. The adults continue to care for chicks after they hatch. Least terns in North Dakota often will be found sharing sandbars with the piping plover, a threatened species (USFWS 2013b).

Census data indicate over 8,000 least terns in the interior population. In North Dakota, the least tern is found mainly on the Missouri River from Garrison Dam south to Lake Oahe, and on the Missouri and Yellowstone Rivers upstream of Lake Sakakawea (USFWS 1990, 2013b). Approximately 100 pairs breed in North Dakota (USFWS 2013b). Details of their migration are not known, but their winter range is reported to include the Gulf of Mexico and Caribbean Islands (USFWS 1990, 2013b).

Loss of suitable breeding and nesting habitat for terns has resulted from dam construction and river channelization on major rivers throughout the Mississippi, Missouri, and Rio Grande river systems. River and reservoir changes have led to reduced sandbar formation and other shoreline habitats for breeding, resulting in population declines. In addition, other human shoreline disturbances affect the species (USFWS 1990). Critical habitat has not been designated for the species (USFWS 2013b). Current conservation strategies include identification and avoidance of known nesting areas, public education, and limiting or preventing shoreline disturbances near nests and hatched chicks (USFWS 2013b).

The interior least tern is not expected to be impacted by the proposed Project.

Whooping Crane (Federal Status: Endangered)

The whooping crane was listed as endangered in 1970 in the United States by the USFWS and in 1978 in Canada. Historically, population declines were caused by shooting and destruction of nesting habitat in the prairies from agricultural development. Current threats to the species include habitat destruction, especially suitable wetland habitats that support breeding and nesting, as well as feeding and roosting during their fall and spring migration (Canadian Wildlife Service and USFWS 2007).

During the winter of 2015/2016, the total wild population of the Wood Buffalo-Aransas population was estimated at 329 birds (USFWS 2016a). There is only one self-sustaining wild population, the Aransas-Wood Buffalo National Park population, which nests in Wood Buffalo National Park and adjacent areas in Canada, where approximately 83 percent of the wild nesting sites occur (Canadian Wildlife Service and USFWS 2007; USFWS 2013a). Williams County, including the Project area, are within the primary migratory flyway of whooping cranes.

Whooping cranes probe the soil subsurface with their bills for food on the soil or vegetation substrate (Canadian Wildlife Service and USFWS 2007). Whooping cranes are omnivores, and foods typically include agricultural grains, as well as insects, frogs, rodents, small birds, minnows, berries, and plant tubers. The largest amount of time during migration is spent feeding in harvested grain fields (Canadian Wildlife Service and USFWS 2007). Studies indicate that whooping cranes use a variety of habitats during migration, in addition to cultivated croplands, and generally roost in small palustrine (marshy) wetlands within 0.62 mile of suitable feeding areas (Howe 1987, 1989). Whooping cranes have been recorded in riverine habitats during their migration, with eight sightings along the Missouri River in North Dakota (Canadian Wildlife Service and USFWS 2007:18). In these cases, they roost on submerged sandbars in wide, unobstructed channels that are isolated from human disturbance (Armbruster 1990).

The Project is currently located within the area in which 85% of migratory sightings of Whooping crane are recorded for the Aransas/Wood Buffalo population; however, the Project area is located outside of the central flyway and any designated stopover sites, and is located in an area where no e-bird sightings of Whooping cranes have been reported during migration. While croplands are located within the project area, no critical stopover habitats are designated nearby. Field surveys indicated that small, diked wetlands are present within 1km of the cropland. However, the use of Project area by Whooping cranes as a stopover during migration is unlikely. The whooping crane is not expected to be impacted by the proposed Project.

Pallid Sturgeon (Federal Status: Endangered)

The pallid sturgeon has no potential habitat within the proposed Project area and was therefore not analyzed for potential impacts.

Piping Plover (Federal Status: Threatened)

The piping plover is a small shorebird that breeds only in three geographic regions of North America: the Atlantic Coast, the Northern Great Plains, and the Great Lakes. Piping plover populations were federally listed as threatened and endangered in 1985, with the Northern Great Plains and Atlantic Coast populations listed as threatened and the Great Lakes population listed as endangered (USFWS 1985b).

Plovers in the Great Plains make their nests on open, sparsely vegetated sand or gravel beaches adjacent to alkali wetlands and on beaches, sand bars, and dredged material islands of major river systems (USFWS 2002, 2018d). The shorelines of lakes of the Missouri River constitute significant nesting areas for the bird. Piping plover nest on the ground, making shallow scrapes in the sand, which they line with small pebbles or rocks (USFWS 1988). Anthropogenic alterations of the landscape along rivers and lakes where piping plover nest have increased the number and type of predators, subsequently decreasing nest success and chick survival (USFWS 2002, 2018d). The birds fly south by mid- to late-August to areas along the Texas coast and Mexico

(USFWS 2002). The Northern Great Plains population has continued to decline despite federal listing, with population estimates of 1,500 breeding pairs in 1985 reduced to fewer than 1,100 in 1990. Low survival of adult birds has been identified as a factor (Root et al. 1992). Current conservation strategies include identification and preservation of known nesting sites, public education, and limiting or preventing shoreline disturbances near nests and hatched chicks (USFWS 1988, 2018d).

The lack of alkali wetlands, minimal disturbance to foraging wetlands, and distance to critical habitat deem the likelihood of a piping plover occurring as relatively low. The piping plover is not expected to be impacted by the proposed Project.

Northern Long-Eared Bat (Federal Status: Threatened)

On May 4, 2015, the USFWS listed the northern-long eared bat as threatened under the ESA (USFWS 2015b). The USFWS also issued an interim rule pursuant to Section 4(d) of the ESA in conjunction with the final rule (50 CFR Part 17). For areas within the species' range that are not affected by white-nose syndrome (i.e., areas outside the 150-mile white-nose syndrome buffer zone), including all of North Dakota, the interim 4(d) rule exempts incidental take from certain activities.

This medium-sized bat ranges across the eastern and north-central United States and all of the Canadian provinces (USFWS 2015b). Throughout most of this species' range, populations are patchily distributed. They emerge at dusk to fly through the understory of forested hillsides and ridges, feeding on moths, flies, leafhoppers, caddisflies, and beetles.

Most records of northern long-eared bats are from winter hibernacula surveys, with more than 780 hibernacula identified within the United States. No known hibernacula are located in North Dakota, due to either no suitable hibernacula present or a lack of survey effort (USFWS 2013d). This bat species occupies a wide range of rocky and forested habitats. Suitable winter habitat includes large caves and mines (USFWS 2015b). Summer day roosts include abandoned buildings, bridges, hollow trees, stumps, under loose bark, and rock fissures (Jones and Choate 1978). The summer roosting period is from May through October. Removal of any potential roost trees may impact the northern long-eared bat.

Due to the lack of suitable habitat, the northern long-eared bat is not expected to be impacted by the proposed Project.

Rufa Red Knot (Federal Status: Threatened)

The rufa red knot is a medium-sized shorebird approximately 9 to 11 inches in height with breeding plumage consisting of red around the face and a prominent stripe above the eye, breast, and upper belly, and non-breeding plumage a dusky gray and white (USFWS 2013c). The

USFWS published a proposal to list the rufa red knot as threatened under the ESA in the Federal Register in September 2013 (78 Federal Register 60023). On December 11, 2014, the USFWS determined a threatened species status for the rufa red knot, and the final rule became effective January 12, 2015 (79 Federal Register 73705).

The primary reason for the decline of this species includes reduced food supplies in Delaware Bay due to commercial harvest of horseshoe crabs, but also includes areas of range loss due to rising sea levels, shorelines project, and development (USFWS 2013c). The rufa red knot breeds in the Canadian Arctic and migrates 19,000 miles to winter on the U.S. Gulf Coast and in South America. The species generally occurs along the ocean coasts during migration, but a small number have been reported across the interior United States.

Due to the lack of suitable habitat, the rufa red knot is not expected to be impacted by the proposed Project

13.3.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918, 16 U.S.C. §§ 703-712, protects bird species, including, but not limited to, cranes, ducks, geese, shorebirds, hawks, and songbirds and their nests. According to the data obtained from the BLM-ND and NDGF, no previously known eagle or non-eagle raptor nests are located within the project area and no nests were observed along the pipeline ROW during the field survey.

To minimize impacts, migratory birds and nests will be avoided during construction and operation of the pipeline. Any wildlife encountered during work activities will be avoided to the extent possible. To avoid or minimize potential impacts of the proposed Project on migratory birds, OE2 will use standard construction practices associated with migratory birds. As such, migratory birds are not expected to be impacted by the proposed Project. Refer to **Appendix I**, Natural Resource Field Assessment Reports, for additional information on migratory birds.

13.3.4 Bald and Golden Eagle Protection Act Consultation

The bald eagle (*Haliaeetus leucocephalus*) feeds on fish and carrion and typically roosts in large trees near a water source. Bald eagle nesting habitat is typically any mature stands of conifer (*Pinophyta sp.*) or cottonwood (*Populus sp.*) trees in association with rivers, streams, reservoirs, lakes, or any significant body of water. Bald eagles in North Dakota are usually observed along the Missouri River (North Dakota Game and Fish Department 2016) and Yellowstone River. Bald eagles frequently migrate through the grassland habitats. No eagle nests were identified within the Project area. The USFWS generally recommends a buffer of 0.5 mile from any eagle nest. If any active nests are discovered within 0.5 mile of the pipeline ROW, the USFWS should be contacted for further direction. If these recommendations are followed, bald eagles are not expected to be impacted by the proposed Project.

The golden eagle (*Aquila chrysaetos*) prefers habitat characterized by open prairie, plains, and forested areas. Usually, golden eagles can be found in proximity to badland cliffs, which provide suitable nesting habitat. No golden eagle nests were identified within the Project area. The USFWS generally recommends a buffer of 0.5 mile from any eagle nest. If any active nests are discovered within 0.5 mile of the pipeline ROW, the USFWS should be contacted for further direction. If these recommendations are followed, golden eagles are not expected to be impacted by the proposed Project.

A 0.5-mile line-of-sight binocular survey for raptor nests was conducted by GMEC in March 2020. Due to the lack of occupied bald and golden eagle nests in the Survey Area and lack of suitable habitat within the Corridor, bald and golden eagles are not expected to be impacted by the proposed Project.

The complete Natural Resource Field Assessment Reports are included in **Appendix I**.

13.4 NOXIOUS WEEDS

Of the 14 noxious weeds listed by the state and Williams County, one state-listed species was identified during field surveys. Canada thistle (*Cirsium arvense*) was found sporadically throughout the surveyed area. It was primarily located in drainages as individual plants. No mapping was conducted as no patches or colonies were present throughout the area. Individual Canada thistle plants were found along the crossings associated with WTL-006 and WTL-007. OE2 has included a Weed Management Plan for the Project as **Appendix J**.

13.5 SOILS

Soil types identified within the proposed pipeline corridor are shown on Table 2.

Table 2
Soil Type and Composition

Soil Type	Hydric Soil Rating	Drainage Class	Farmland Classification
Vida-Zahill loams (2 to 8 percent slopes)	No	Well-drained	Not prime farmland
Zahill loam (15 to 60 percent slopes)	No	Well-drained	Not prime farmland
Williams-Bowbells loams (3 to 6 percent slopes)	No	Well-drained	Farmland of statewide importance
Zahill-Vida loams (4 to 15 percent slopes)	No	Well-drained	Not prime farmland
Amor-Williams-Zahl Loams (3 to 9 percent slopes)	No	Well-drained	Farmland of statewide importance
Amor-Zahl-Cabba loams (9 to 25 percent slopes)	No	Well-drained	Not prime farmland

Shambo Loam (0 to 9 percent slopes)	No	Well-drained	Farmland of statewide importance
Vebar-Flasher-Zahl complex (9 to 25 percent slopes)	No	Well-drained	Not prime farmland
Farmland silt loam (0 to 6 percent slopes)	No	Well-drained	Farmland of statewide importance
Korchea-Divide loams (channeled 0 to 2 percent slopes)	No	Well-drained	Not prime farmland
Daglum-Rhoades complex (0 to 6 percent slopes)	No	Moderately well-drained	Not prime farmland
Appam sandy loam (0 to 6 percent slopes)	No	Somewhat excessively drained	Prime farmland if irrigated

Each of the soils are somewhat susceptible to water erosion and not susceptible to flooding or wind erosion. According to the United States Department of Agriculture (USDA), farmland of statewide importance is generally characterized as an area that nearly meets the criteria for prime farmland and that economically produce high yields of crops when treated and managed with acceptable farming methods (USDA 2002). Some areas may produce as high a yield as prime farmland if conditions are favorable. As defined by the USDA, prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. The criteria used in defining and delineating these areas are determined by appropriate state and federal agencies.

14 CONSULTATION

Consultation letters were mailed in May 2020 to various agencies and officials, including those identified in N.D.A.C. Section 69-06-01-05, providing information regarding the Project and requesting input. Letters were sent to the following agencies:

- Federal Aviation Administration
- Job Service of North Dakota
- North Dakota Attorney General
- North Dakota Department of Agriculture
- North Dakota Department of Career and Technical Education
- North Dakota Department of Commerce
- North Dakota Department of Environmental Quality
- North Dakota Department of Health
- North Dakota Department of Human Services
- North Dakota Department of Transportation
- North Dakota Department of Trust Lands
- North Dakota Energy Development Impact Office
- North Dakota Game and Fish Department
- North Dakota Geological Survey
- North Dakota Indian Affairs Commission
- North Dakota Industrial Commission
- North Dakota Labor Department
- North Dakota Parks and Recreation Department
- North Dakota Pipeline Authority
- North Dakota Soil Conservation Committee
- North Dakota State Water Commission
- Office of Governor
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife
- Williams County Commission

Please refer to **Appendix K**, Agency Correspondence/Consultation, for a tracking table and copies of the consultation letters that have been sent out and received.

15 IDENTIFICATION OF POTENTIAL PERMITS/APPROVALS

OE2 will comply with all agency rules and regulations having jurisdiction over the proposed Project and will obtain all other necessary licenses and permits prior to construction. Potential federal, state, and local permits and approvals required are shown in Table 3.

**Table 3
Potential Permits/Approvals**

Agency	Type of Approval	Status	Need
Federal Permits			
U.S. Army Corps of Engineers – Omaha District, Bismarck Office	Section 404 Clean Water Act	N/A	Not required.
U.S. Fish and Wildlife Service – Region 6 Mountain- Prairie Region	Section 7 Consultation	N/A	Not required.
State of North Dakota Permits			
North Dakota Public Service Commission (PSC)	Certificate of Corridor Compatibility and Route Permit	Pending	Required to construct a transmission facility.
North Dakota Department of Environmental Quality – Division of Water Quality	NDPDES Permit to Discharge Hydrostatic Test Water (NDG07- 0000)	Pending	Required for dewatering of pipeline following hydrostatic testing.
North Dakota Department of Health	Section 401 Clean Water Act Certification	N/A	Required for projects that require a USACE approval and may result in any discharge into the navigable waters of the United States, therefore, not applicable.
North Dakota Department of Environmental Quality – Division of Water Quality	NDPDES Construction Stormwater General Permit (NDR11-0000)	Pending	Required for all construction projects that disturb one or more acres, including smaller projects within or part of a larger development. Includes the development of a SWPPP.
State Historical Society of North Dakota (SHSND)	Consultation per Appendix G	Pending	N/A

16 SITING CRITERIA

The exclusion and avoidance area criteria set forth in North Dakota Administrative Code (NDAC) § 69-06-08-02(1) and (2) were taken into consideration when establishing the location of the proposed Route. Any exclusion and avoidance areas located within the Corridor are depicted on the figures in **Appendix A**. Further discussion of these areas, the selection criteria, the policy criteria and other criteria considered is provided in the following Sections. The criteria set forth in North Dakota Century Code (NDCC) § 49-22.1-09 were also evaluated, as discussed in the following Sections.

16.1 EXCLUSION AREAS

In accordance with NDAC § 69-06-08-02(1), certain geographical areas shall be excluded from consideration for a transmission facility route. A buffer zone of a reasonable width to protect the integrity of the area must be included. Exclusion areas may be located within a corridor, but at no given point may such an area or areas encompass more than 50 percent of the corridor unless there is no reasonable alternative. A summary of exclusion areas in relation to the Corridor and Route is provided in Table 4.

Table 4
Exclusion Areas Summary

Geographic Area	Present within 1-mile-wide Study Area	Present within 200-foot-wide Survey Area Corridor	Crossed by Route	Impacted by Project
Designated or registered national: parks; memorial parks; historic sites and landmarks; natural landmarks; monuments; and wilderness areas.	No	No	No	No
Designated or registered state: parks; historic sites; monuments; historical markers; archaeological sites; and nature preserves.	No	No	No	No
County parks and recreational areas; municipal parks; and parks owned or administered by other governmental subdivisions.	No	No	No	No

Geographic Area	Present within 1-mile- wide Study Area	Present within 200-foot-wide Survey Area Corridor	Crossed by Route	Impacted by Project
Areas critical to the life stages of threatened or endangered animal or plant species.	No	No	No	No
Areas where animal or plant species that are unique or rare to this state would be irreversibly damaged.	No	No	No	No
Areas within 1,200 feet of the geographic center of an intercontinental ballistic missile (ICBM) launch or launch control facility.	No	No	No	No
Areas within 30 feet on either side of a direct line between ICBM launch or launch control facility.	No	No	No	No

16.1.1 Designated or Registered National Parks, Memorial Parks, Historic Sites and Landmarks, Natural Landmarks, Monuments, and Wilderness Areas

The Corridor and Route do not cross designated or registered national parks, memorial parks, historic sites and landmarks, natural landmarks, monuments, and wilderness areas.

16.1.2 Designated or Registered State Parks, Historic Sites, Monuments, Historical Markers, Archaeological Sites, and Nature Preserves

The Corridor and Route do not cross designated or registered state parks, historic sites, monuments, historical markers, archaeological sites, and nature preserves.

16.1.3 County Parks and Recreational Areas, Municipal Parks, and Parks Owned or Administered by Other Governmental Subdivisions

The Corridor and Route do not cross any county parks and recreational areas, municipal parks, or parks owned or administered by other governmental subdivisions.

16.1.4 Areas Critical to the Life Stages of Threatened or Endangered Animal or Plant Species

The Corridor and Route do not cross any areas critical to the life stages of threatened or endangered animal or plant species.

16.1.5 Areas Where Animal or Plant Species that are Unique or Rare to This State Would be Irreversibly Damaged

The Corridor and Route do not cross any areas where animal or plant species that are unique or rare to this state would be irreversibly damaged by the Project.

16.1.6 Areas within 1,200 Feet of the Geographic Center of an ICBM Launch or Launch Control Facility

The Corridor and Route are not located within 1,200 feet of the geographic center of an ICBM Launch or Launch Control Facility.

16.1.7 Areas within 30 Feet on Either Side of a Direct Line between ICBM Launch or Launch Control Facility

The Project Corridor and Route do not cross areas within 30 feet on either side of a direct line between an ICBM Launch or Launch Control Facility.

16.2 AVOIDANCE AREAS

In accordance with NDAC § 69-06-08-02(2), certain geographical areas may not be considered in the routing of a transmission facility unless the applicant shows that, under the circumstances, there is no reasonable alternative. In determining whether an avoidance area should be designated for a facility, the Commission may consider, among other things, the proposed management of adverse impacts; the orderly siting of facilities; system reliability and integrity; the efficient use of resources; and alternative routes. In addition, a buffer zone of a reasonable width to protect the integrity of the area must be included, unless a distance is specified in the criteria. Avoidance areas may be located within a corridor, but at no given point may such an area or areas encompass more than 50 percent of the corridor unless there is no reasonable alternative. A summary of avoidance areas is provided in Table 5.

**Table 5
Avoidance Areas Summary**

Avoidance Area	Present within 1- mile-wide Study Area	Present within 200-foot-wide Survey Area Corridor	Crossed by Route	>50% of Study Area Corridor Width	Impacted by Project
Designated or registered national: historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; and grasslands.	No	No	No	No	No

Avoidance Area	Present within 1- mile-wide Study Area	Present within 200-foot-wide Survey Area Corridor	Crossed by Route	>50% of Study Area Corridor Width	Impacted by Project
Designated or registered state: wild, scenic, or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands.	No	No	No	No	No
Historical resources which are not specifically designated as exclusion or avoidance areas.	Yes	Yes	Yes	No	No
Areas that are geologically unstable.	No	No	No	No	No
Within 500 feet of a residence, school, or place of business.	No	No	No	No	No
Reservoirs and municipal water supplies	No	No	No	No	No
Water sources for organized rural water districts.	No	No	No	No	No
Irrigated land. This criterion shall not apply to an underground transmission facility.	N/A	N/A	N/A	N/A	N/A
Areas of recreational significance which are not designated as exclusion areas	No	No	No	No	No

16.2.1 Designated or Registered National Avoidance Areas

No designated or registered national historic districts, wildlife areas, wild, scenic, or recreational rivers, wildlife refuges, or grasslands are located within the Study Area, Survey Area, or Route.

16.2.2 Designated or Registered State Avoidance Areas

The Corridor and Route do not cross any designated or registered state, wild, scenic, or recreational rivers, game refuges, game management areas, management areas, forests, forest management lands, or grasslands.

16.2.3 Historical Resources Not Specifically Designated as Exclusion or Avoidance Areas

Five previously recorded sites have been identified within proximity to the Project footprint (between 160-feet to 384-feet from the proposed pipeline center). Of these sites, two are within the 100-foot ROW of the Residue Line and absent avoidance actions, may be impacted by Project disturbances. These sites have been impacted by previous pipeline construction and are

unevaluated, thus they may or may not contain historical resources. Nonetheless, these sites will be avoided during construction as determined to be necessary by OE2's consultation with SHSND regarding the Project.

16.2.4 Areas that are Geologically Unstable

The Corridor and Route do not cross geologically unstable areas. No known areas of geologic instability are within the Site or Study Area. North Dakota has not experienced an earthquake of sufficient magnitude to damage welded steel piping or structural steel in recorded history. Sinkholes are known to occur in North Dakota but are more closely related to mining activities and no evidence of mining or sinkholes was identified. A desktop analysis indicated that no landslide deposits are crossed by the Project. However, Quaternary deposits have slid to the base of steeper slopes less than 500 feet west of the pipeline at the southern end of the Study Area, as shown on the maps in **Appendix L**. These landslides in this area are hundreds, if not thousands, of years old (Murphy 2011).

16.2.5 Areas Within 500 Feet of a Residence, School, or Place of Business

The Corridor and Route are not located within 500 feet of an inhabited rural residence, school, or place of business.

16.2.6 Reservoirs and Municipal Water Supplies

There are no reservoirs or municipal water supplies crossed by the Corridor and Route.

16.2.7 Water Sources for Organized Rural Water Districts

The Corridor and Route do not cross any water sources for organized rural water districts.

16.2.8 Areas of Recreational Significance that are not Designated as Exclusion Areas

No areas of recreational significance which are not designated as exclusion areas are crossed by the Project Corridor or Route.

16.3 SELECTION CRITERIA

Pursuant to NDAC § 69-06-08-02(3), a corridor or route shall be approved only when it has been demonstrated that any significant adverse effects resulting from the location, construction, and maintenance of the facility as they relate to the criteria shown in Table 6, will be at an acceptable minimum, or that those effects will be managed and maintained at an acceptable minimum. The proposed Project satisfies the Selection Criteria requirements.

**Table 6
Selection Criteria**

Selection Criteria	Anticipated Impact
Land which the owner can demonstrate has soil, topography, drainage, and an available water supply that cause the land to be economically suitable for irrigation.	No permanent impacts are anticipated.
Surface drainage patterns and ground water flow patterns.	No permanent impacts are anticipated.
Noise-sensitive land uses.	Noise-sensitive areas include residences near the Project. Increased noise may be experienced at these locations during construction of the project, but no long-term noise impacts are anticipated.
The visual effect on the adjacent area.	No permanent impacts are anticipated.
Extractive and storage resources.	No permanent impacts are anticipated.
Wetlands, woodlands, and wooded areas.	No permanent impacts are anticipated.
Radio and television reception, and other communication or electronic control facilities.	No permanent impacts are anticipated.
Human health and safety.	No permanent impacts are anticipated. Mitigation measures will be implemented as discussed throughout this application.
Animal health and safety.	No threatened or endangered species were observed or are likely to occur in the Survey Area.
Plant life.	Plants species currently inhabiting the Corridor are common. No permanent impacts are anticipated.

16.4 POLICY CRITERIA

16.4.1 Location and Design

OE2 selected the Corridor and Route based on a number of factors, including environmental, landowner preferences, engineering, and constructability considerations.

OE2 worked with landowners and consulted with local, state, and federal agencies to identify siting constraints and inform the siting of the proposed Corridor and Route. Field surveys, including those assessing natural and cultural resources, provided supplemental information to assist in refining the route to avoid or minimize impacts to sensitive resources.

16.4.2 Training and Use of In-State Labor

OE2 expects to employ approximately 40 workers during peak Project construction. Local, in state labor will be used to the extent practicable. However, if specialized skilled workers (e.g., licensed welders) are not available within the state, OE2 may need to employ workers from out-of-state.

Prior to commencing construction of the Project, OE2 will conduct a comprehensive environmental training for all Project personnel and contractors who will be working in the field. In addition, a continuing training program will be implemented to instruct personnel in safely carrying out the operations, maintenance, and emergency procedures related to their assignments.

OE2 will conduct a Project-specific training presentation for Project personnel that covers all aspects of environmental expectations, regulations, and OE2 policy. Topics covered will include General Guidelines & Contractor Expectations, Project Staff, Project Permits and Plans, Compliance and Mitigation Measures, Migratory Bird Treaty Act, Cultural Resources and Unanticipated Discoveries, Environmentally Sensitive Areas, and Public Relations. An open question and answer session will be provided to ensure contractors and all Project personnel have an understanding of Project-related environmental requirements and processes.

16.4.3 Economies of Construction and Operation

OE2 will explore all economic efficiencies for construction and operations. Efficiencies may include starting pipeline construction with completion of similar pipeline projects in order to minimize mobilization/demobilization costs, timing pipe acquisition and delivery with other projects in the area, and constructing the pipeline using multiple spreads in order to minimize overall construction time.

16.4.4 Use of Citizen Coordinating Committees

OE2 has utilized one-on-one communication with landowners and their tenant farmers regarding the Project. The Township and the County have been involved in the Project planning process. No other formal Citizen Coordinating Committees were used for communications and outreach to the public or jurisdictional entities.

16.4.5 Commitment of a Portion of Transmitted Product for Use in State

The entirety of the NGL and residue gas will be delivered to third-party natural gas transmission facilities for transport to local, regional, and international markets.

16.4.6 Labor Relations

OE2 maintains a positive relationship with its employees, contractors, and the public, and is committed to a safe working environment. OE2 is an Equal Opportunity Employer and expects to use local personnel for construction of the proposed Project when possible.

16.4.7 Coordination of Facilities

OE2 performed a centerline survey of the Route and, based on that survey, OE2 identified all third-party entities/utilities that will be encountered (e.g., petroleum, water, electric, highways). All

third-party infrastructure operators will be notified in advance of construction and OE2 will engage in customary industry coordination regarding crossings, design standards, construction impacts and operational considerations.

16.4.8 Monitoring Impacts

OE2 is committed to ensuring that BMPs are utilized during construction to minimize environmental impacts and will monitor construction compliance with the commitments made in this application and applicable permit conditions. The proposed Project will be constructed and maintained in accordance with industry and government requirements and will meet or exceed all applicable federal, state, and local environmental laws, regulations, and standards, including those regulations stipulated by PHMSA.

In addition, OE2 will provide construction oversight to confirm contractor compliance with mitigation measures, landowner agreements, and applicable permits. OE2 will have third-party inspectors who are knowledgeable of the environmental mitigation requirements for the Project. The inspectors will have the authority to stop construction activities and order corrective mitigation and will maintain appropriate compliance documents.

16.4.9 Using Existing and Proposed ROW and Corridors

OE2's proposed Route was sited to co-locate with existing utility corridors, roads, and other existing linear features to the extent practical. The Route follows existing infrastructure for its entirety.

16.4.10 Other Existing or Proposed Transmission Facilities

The Project will provide an outlet for NGL and residue gas from the proposed Bill Sanderson Gas Processing Plant and will tie into two existing third-party pipelines for distribution.

17 EVALUATION OF N.D.C.C. SECTION 49-22.1-09

In selecting the proposed Corridor and Route for the Project, OE2 evaluated the factors set forth in N.D.C.C. Section 49-22.1-09. A discussion of each factor is provided below.

17.1 EFFECTS ON PUBLIC HEALTH, WELFARE, NATURAL RESOURCES, AND THE ENVIRONMENT

Please see Sections 13, 14, 16, and 19 of this Consolidated Application for a discussion of available research and investigations relating to the effects of the location, construction, and operation of the proposed Project on public health and welfare, natural resources, and the environment. As discussed further in those sections, the Project is not anticipated to have any significant or long-term negative impacts on public health and welfare, natural resources, or the environment.

17.2 TRANSMISSION TECHNOLOGIES AND SYSTEMS DESIGNED TO MINIMIZE ADVERSE ENVIRONMENTAL EFFECTS

The Project design is consistent with existing pipeline technologies. Mitigation measures have been or will be used to avoid or minimize any potential impacts to sensitive resources, including use of trenchless construction (bores) at road and wetland crossings or due to constructability concerns. In addition, throughout construction, BMPs will be implemented to reduce any potential impacts to resources from ROW clearing, grading, trenching, and pipe and facility installation. Once constructed, leak detection and monitoring systems will be employed.

17.3 POTENTIAL FOR BENEFICIAL USES OF WASTE ENERGY FROM A PROPOSED ENERGY CONVERSION FACILITY

The proposed Project does not include any energy conversion facilities. As such, the proposed Project does not offer the possibility for the beneficial use of waste energy.

17.4 UNAVOIDABLE ADVERSE DIRECT AND INDIRECT ENVIRONMENTAL EFFECTS

Unavoidable adverse direct and indirect environmental impacts from the Project would be temporary and minimized through the use of mitigation measures and BMPs. See Sections 13, 14, 16, and 19 for further discussion of the Project's potential direct and indirect environmental effects, as well as planned mitigation measures.

17.5 CORRIDOR OR ROUTE ALTERNATIVES DEVELOPED DURING THE HEARING THAT MINIMIZE ADVERSE EFFECTS

OE2 analyzed alternatives during selection of the proposed Corridor and Route through landowner discussions, and incorporated route deviations proposed by landowners and others in its Route to the extent practicable. As a result, OE2 has identified a Project Corridor and Route that meets the needs of the Project, as well as the Commission's siting criteria, while minimizing potential impacts to landowners, existing infrastructure, and the environment.

If other corridor or route alternatives are developed during the Commission's hearing process, OE2 will analyze those alternatives, as necessary.

17.6 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF NATURAL RESOURCES IF DESIGNATED

Irreversible and irretrievable commitments of natural resources will be limited in nature and include such resources as steel for the pipeline and associated facilities, gravel/scoria for improvements to service roads, and fossil fuels used to power construction equipment and to provide power to Project facilities.

17.7 DIRECT AND INDIRECT ECONOMIC IMPACTS OF THE FACILITY

Direct and indirect economic impacts from Project construction include short-term employment opportunities during construction, increased local revenue for Project-related expenditures, and increased local and state tax revenues. Local property taxes would be realized on an annual basis during the Project's operational phase. Project-related local expenditures during the construction, for example, would include lodging and food, fuel, and construction materials and equipment.

17.8 EXISTING PLANS FOR OTHER DEVELOPMENTS (STATE, LOCAL, AND PRIVATE) IN THE VICINITY OF THE PROJECT

OE2 has consulted with various federal, state, and local governments, as well as local businesses and residents, and has not identified any conflicts with proposed developments in the vicinity of the Project.

17.9 EFFECTS OF THE PROPOSED ROUTE ON EXISTING SCENIC AREAS, HISTORIC SITES AND STRUCTURES, AND CULTURAL RESOURCES

The Project avoids all known scenic areas, historic sites and structures, and cultural resources; therefore, the Project is not anticipated to impact these resources. For further discussion, please see Sections 13, 14, 16, and 19 of this Consolidated Application.

17.10 EFFECTS OF THE PROPOSED ROUTE ON AREAS WHICH ARE UNIQUE BECAUSE OF BIOLOGICAL WEALTH OR RARE AND ENDANGERED SPECIES HABITATS

No potential areas that are unique because of biological wealth or because they are habitats for rare and endangered species are located within the Corridor or crossed by the Route and thus, the Project is not anticipated to impact these resources. For further discussion, please see Sections 13, 14, 16, and 19 of this Consolidated Application.

17.11 PROBLEMS RAISED BY FEDERAL AGENCIES, OTHER STATE AGENCIES, AND LOCAL ENTITIES

Consultation letters that were sent out to agencies are listed in Section 14. Copies of this correspondence are provided in **Appendix K**. OE2 has not received any responses to date as consultation is ongoing; OE2 will respond to and address concerns if raised from the agencies and will provide copies of correspondence to the Commission as they are received.

18 OTHER FACTORS CONSIDERED

18.1 DESIGN CONSTRUCTION LIMITATIONS

Specific factors considered in the selection of the Corridor and Route, including design and construction limitations, are identified in Sections 2 and 12 and discussed throughout this Consolidated Application. HDD crossings will require special construction techniques, which have been incorporated into the proposed Project design (see Section 10.2). The Project will be designed, constructed, and operated in accordance with USDOT regulations governing the transportation of natural gas and hazardous liquids by pipeline, which are set forth in 49 CFR Parts 192 and 195, respectively.

18.2 ECONOMIC CONSIDERATIONS

In selecting the Corridor and Route, one of many factors OE2 considered was facilitating construction of the Project in the most economic and efficient manner. However, Corridor and Route selection required balancing of a number of factors, as discussed specifically in Sections 2.2 and 12 of this Consolidated Application.

Other economic considerations associated with the Project include the positive direct and indirect economic benefits the Project will provide within and beyond North Dakota. As discussed in Section 17.7 of this Consolidated Application, the Project will provide short-term employment of workers during construction, increased revenues from local expenditures, and increased tax revenues.

18.3 PRESENT AND FUTURE NATURAL RESOURCE DEVELOPMENT

The proposed Project serves the current and future oil and gas development in the area without interfering with it, since the route follows existing infrastructure and avoids permitted locations for future well pads. The Project doesn't interfere with any planned coal mining, wind or solar sites or other resource development potential and any impacts to the surface are minimal and temporary so do not permanently impact grazing agricultural production.

Further, as discussed in Section 16.4.7, OE2 will continue to work closely with existing infrastructure owners to safely construct and operate the Project and to minimize the potential for impacts to existing facilities. Thus, impacts along the Route are anticipated to be primarily temporary and minimal.

19 APPLICANT'S MITIGATION MEASURES AND POLICIES AND COMMITMENTS TO LIMIT ENVIRONMENTAL IMPACT

OE2 is committed to avoiding, minimizing, and mitigating the environmental impacts of the Project. The Project has been designed and routed with these commitments in mind. The Project will be constructed and operated to meet or exceed federal, state, local, and industry safety, environmental, and operational standards.

In addition to the avoidance and mitigation measures discussed throughout this Consolidated Application, OE2 has developed general construction related mitigation measures to minimize impacts to natural and cultural resources from Project development. These measures meet or exceed applicable industry standards and regulatory requirements.

OE2 has also developed a SWPPP for the Project (included in **Appendix B**), which addresses BMPs, temporary erosion and sediment control, inspections, and various other requirements.

20 QUALIFICATIONS OF PREPARERS

Andrew Perdue, OE2 – Director of Operations and Engineering

Mr. Perdue has 10 years' experience in all aspects of oil and gas midstream development, including facility siting, environmental permitting, engineering, construction, commissioning, and operations. This experience includes the front-end development, construction, and safe commissioning and operation of (4) gas processing facilities while employed at OE2. Mr. Perdue is a trained OSHA PSM facilitator and has served as the lead engineer and project manager for hundreds of miles of pipeline projects, has installed over 20,000 horsepower (hp) of compression, and has managed the construction and operation of over 150 MMSCFD of processing capacity.

Education

M.S. Chemical Engineering, Colorado School of Mines, 2011

B.S. Chemical Engineering, Colorado School of Mines, 2010

Wade Janecek – OE2 Manager Environmental Health and Safety

Mr. Janecek has 10 years' experience as an environmental health and safety (EHS) professional in the oil and gas industry. His experience includes environmental permitting and compliance efforts for midstream operations ranging from remote compression facilities to large scale gas processing plants. In addition, he has participated in the implementation and maintenance of safety programs during construction and operation of facilities and has served as an EHS auditor to ensure compliance with local, State, and Federal regulations. During his career Mr. Janecek has served as both an outside consultant and in-house EHS support gaining experience with numerous large and small operators across the nation.

Education

B.S. Chemical and Biochemical Engineering, Colorado School of Mines, 2010

Nanette Elzinga, PE, Kleinfelder – Project Manager III

Ms. Elzinga has 32 years of experience in environmental permitting and review of pipeline and transmission projects, NEPA documentation, environmental construction services, and remediation. Ms. Elzinga's pipeline experience includes compiling FERC Resource Reports, preparing Environmental Assessments and Environmental Impact Statements, preparing SPCC Plans, Facility Response Plans, and Emergency Response plans, as well as environmental compliance activities.

Education

B.S. Mechanical Engineering, Bucknell University, 1988

Registration

Registered Professional Engineer: CO, WY, UT, AZ, NM, TX, MN

Annie Daniel, Kleinfelder – Project Professional

Ms. Daniel has 12 years' experience in environmental studies and environmental project permitting and coordination. This experience includes Federal Energy Regulatory Commission (FERC) pipeline and facility permitting, National Environmental Policy Act (NEPA) coordination and support, and environmental planning and permitting for energy projects. She specializes in federal, state, and local permitting for projects as well as coordination and communication with agencies on behalf of clients.

Education

M.S. Environmental Policy and Management, University of Denver, 2013

B.A. English, Colorado State University, 2008

Katie Taylor, GMEC – Lead Wildlife Biologist

Ms. Taylor has 9 years of experience working in the wildlife field. Her direct work experience includes applied field work and research for universities, private industry, and federal and state agencies. Ms. Taylor has worked on research projects involving raptors, grouse species, songbirds, wolves, and various species of ungulates throughout the continental U.S. More specifically, she has 5 years of experience conducting surveys in accordance with BLM wildlife survey protocols for nesting raptors, sage-grouse and sharp-tailed grouse leks, mountain plover, and other sensitive species in Wyoming. In addition, Ms. Taylor has experience in wildlife data management and GIS support for the Bureau of Land Management – Buffalo Field Office. Ms. Taylor has also completed wetland delineation training and has experience with wetland determinations and working with the USACE for hydrology determinations.

Education

M.S. Rangeland Ecology, University of Wyoming, 2014

B.S. Biology, Seattle Pacific University, 2009

Kirstie Lawson, GMEC – Wildlife Biologist

Ms. Lawson has over 6 years of experience working in the wildlife field. With a focus on grouse research, Ms. Lawson's background also includes conducting research and surveys for mesocarnivores, songbirds, and raptors in the U.S. and Canada. Her previous work has required interacting with various stakeholders, including private landowners, government agencies, and industry.

Education

M.S. Biology, University of British Columbia Okanagan, 2018

B.S. Wildlife Biology, University of Montana, 2012

Gregory Shedd, GMEC – Biologist

Mr. Shedd has over 15 years of combined experience in the wildlife field. His primary experience is private consulting in Wyoming and surrounding states performing surveys, monitoring and

applied research for various stakeholders including private landowners, government agencies, and industry. Mr. Shedd has completed wetland delineation training and has conducted wetland determinations for over 10 years.

Education

B.S. Wildlife Biology, Unity College, 2002

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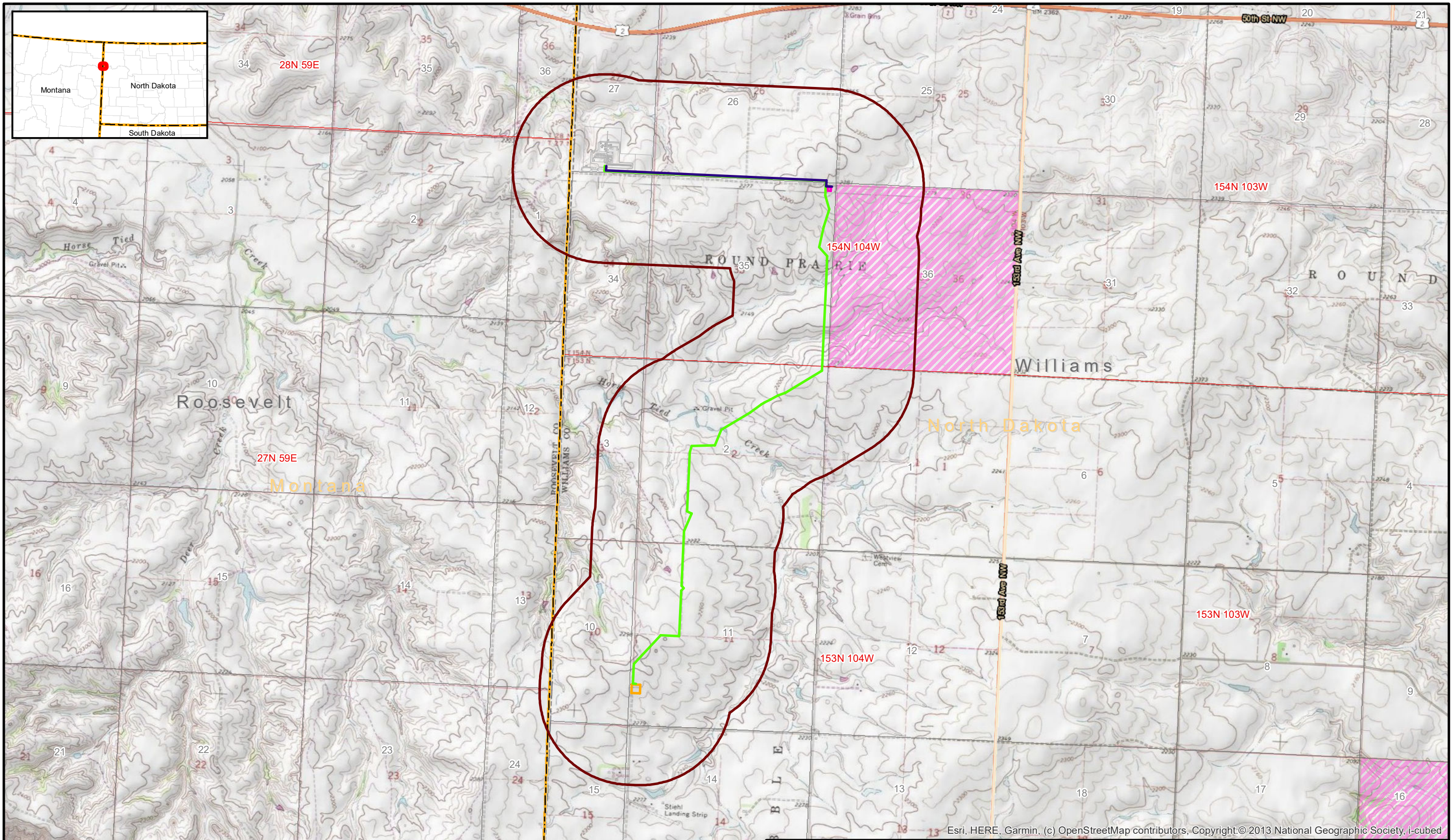
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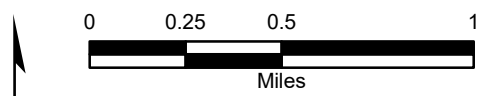
APPENDIX A
CRITERIA MAPS

Date: 5/7/2020 User: ALeonard Path: \\azrgis\storp01\GIS_Projects\Client\Outrigger\Energy\20203533_SandersonGasPlant\MXD\PSC\OE_FigA1_Topo.mxd



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LEGEND		
	NGL 8in Steel Pipeline	
	Residue 20in Steel Pipeline	
	NGL Meter Site	
	Residue Meter Site	



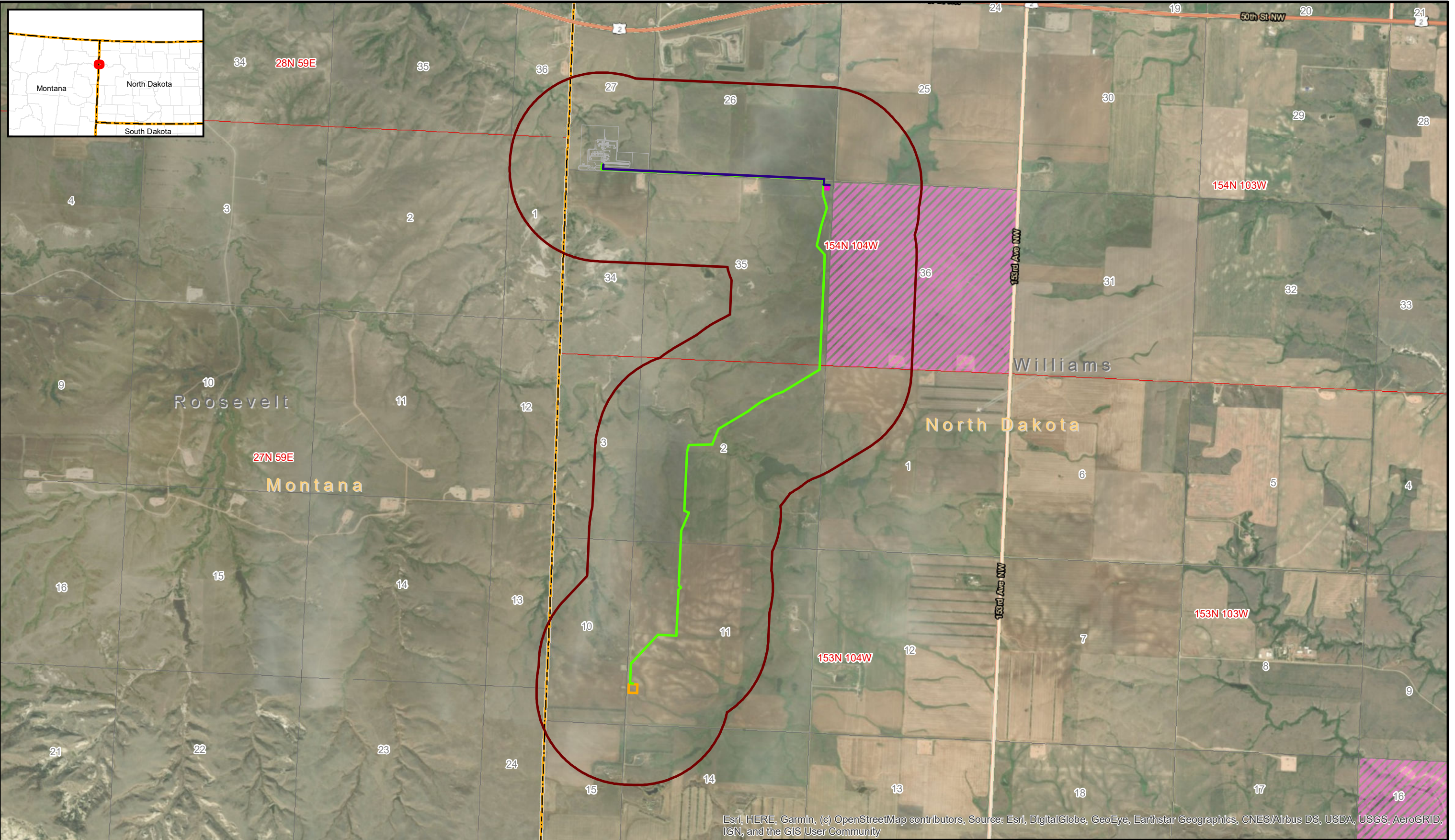
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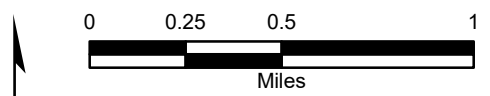
Topography Map	FIGURE A-1

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LEGEND			
	NGL 8in Steel Pipeline		Study Area
	Residue 20in Steel Pipeline		State Land
	NGL Meter Site		Township/Range
	Residue Meter Site		Section
			State Boundary
			County Boundary



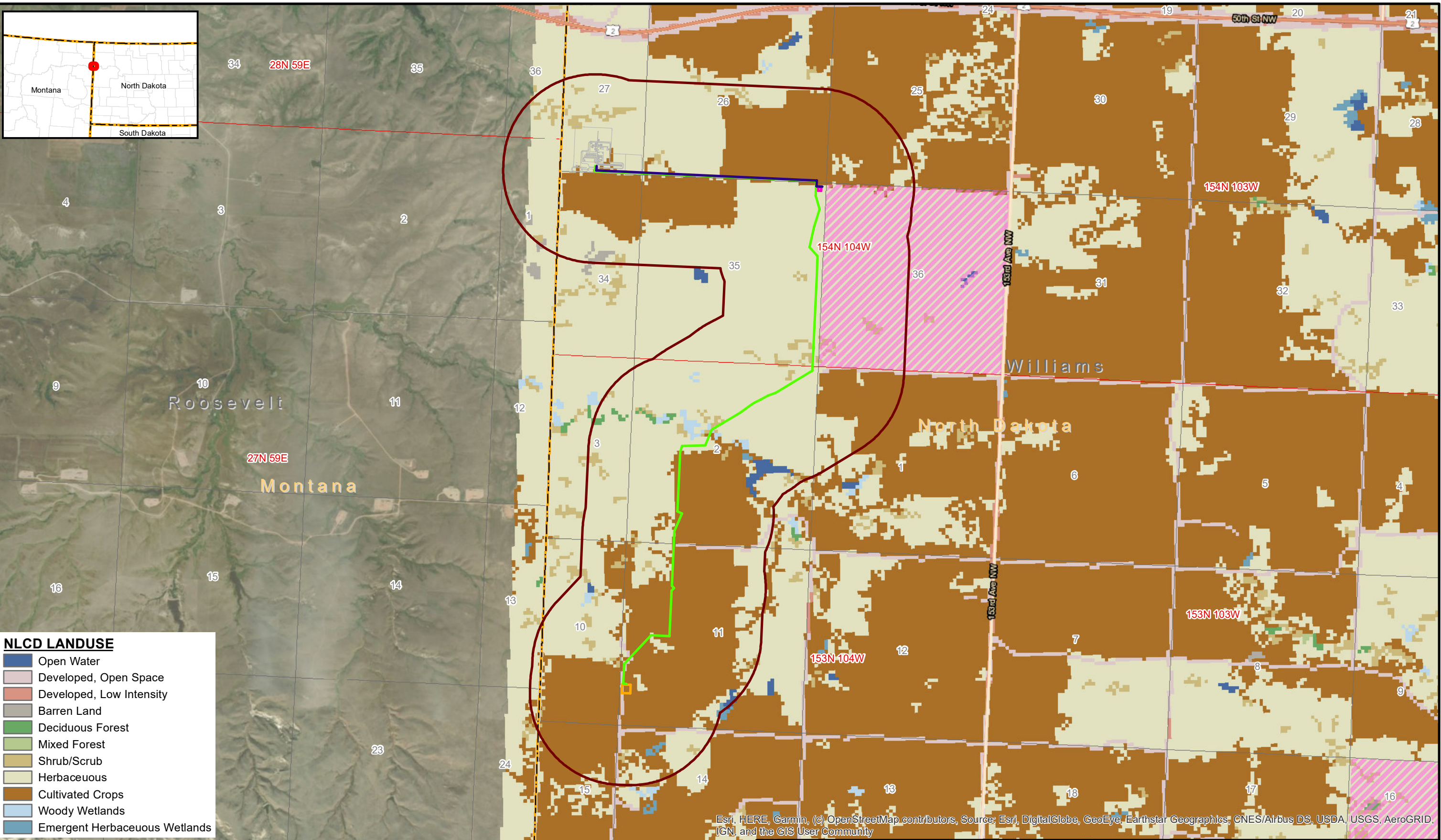
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Aerial Map
OE2 North, LLC Pipeline Project Secs. 26, 27, & 35, T154N, R104W Secs. 11 & 2, T153N, R103W Williams County, North Dakota

FIGURE
A-2

Date: 5/7/2020 User: ALeonard Path: \\azrgisstor01\GIS_Projects\Client\OutriggerEnergy\20203533_SandersonGasPlant\MXD\PS_CVOE_PSC_FigA3_LU.mxd

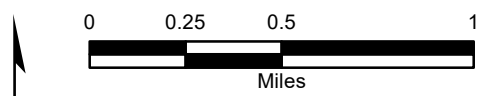


NLCD LANDUSE

Open Water
Developed, Open Space
Developed, Low Intensity
Barren Land
Deciduous Forest
Mixed Forest
Shrub/Scrub
Herbaceous
Cultivated Crops
Woody Wetlands
Emergent Herbaceous Wetlands

LEGEND

NGL 8in Steel Pipeline	Study Area	Township/Range
Residue 20in Steel Pipeline	Site Features	Section
NGL Meter Site	State Boundary	State Land
Residue Meter Site	County Boundary	



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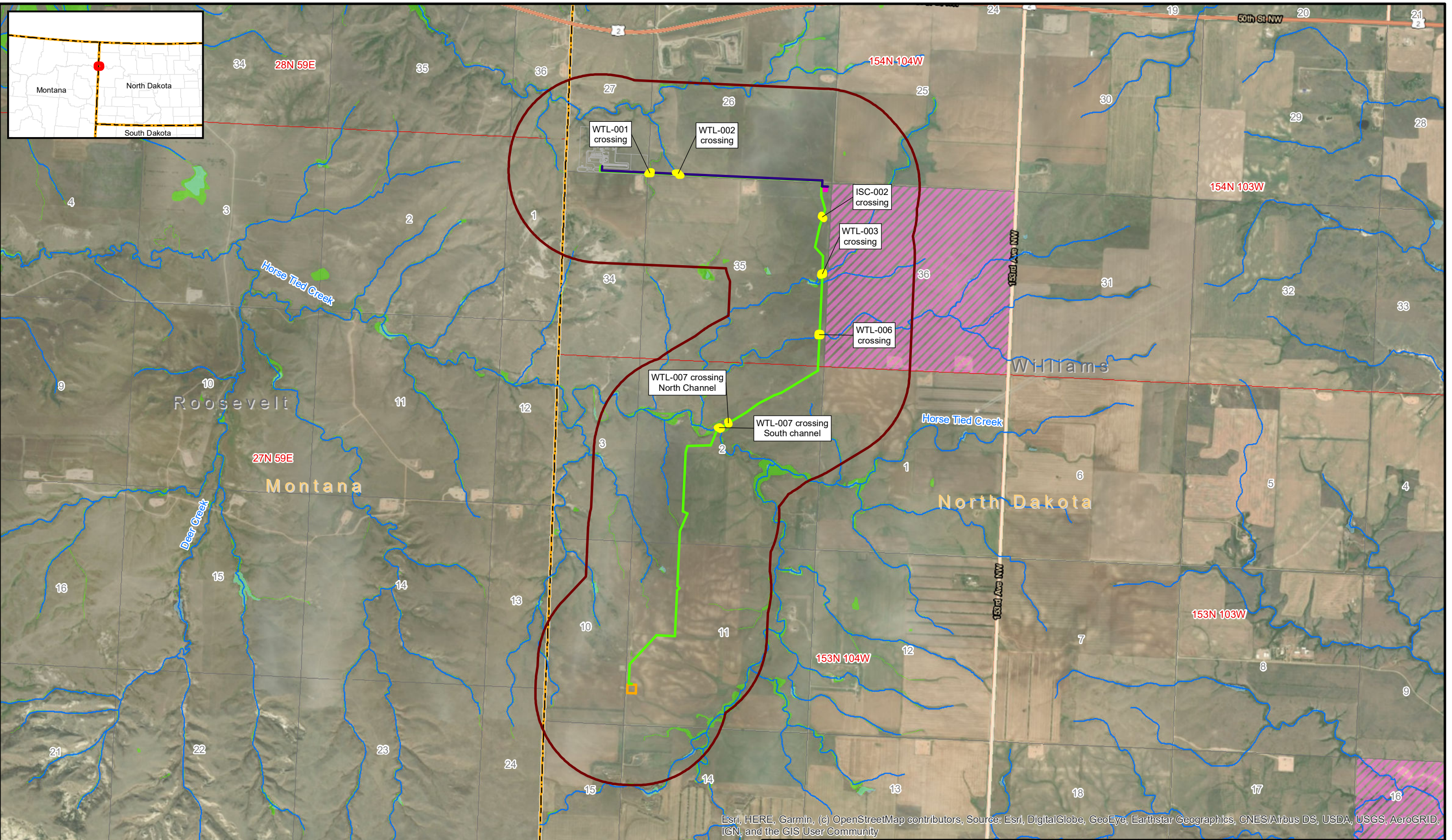


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Land Use Map	
OE2 North, LLC Pipeline Project Secs. 26, 27, & 35, T154N, R104W Secs. 11 & 2, T153N, R103W Williams County, North Dakota	

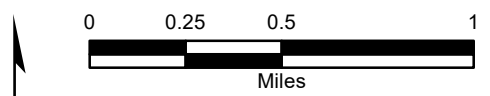
FIGURE
A-3

Date: 5/7/2020 User: ALeonard Path: \\azrgis\storp01\GIS_Projects\Client\OutriggerEnergy\20203533_SandersonGasPlant\MXD\PSC\VOE_PSC_FigA4_Hydro.mxd



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LEGEND			
	NGL 8in Steel Pipeline		Mapped Field Survey
	Residue 20in Steel Pipeline		State Boundary
	NGL Meter Site		County Boundary
	Residue Meter Site		Township/Range
	Study Area		Section
	State Land		NHD Flowline
	Mapped Field Survey		NHD Waterbody
	State Boundary		NWI Wetland



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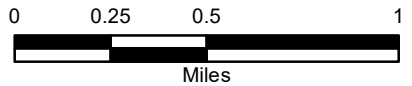
Wetlands and Waterbodies Map
OE2 North, LLC Pipeline Project Secs. 26, 27, & 35, T154N, R104W Secs. 11 & 2, T153N, R103W Williams County, North Dakota

FIGURE
A-4

Date: 5/7/2020 User: ALeonard Path: \\azrgisstor01\GIS_Projects\Client\OutriggerEnergy\20203533_SandersonGasPlan\MXD\PSC\VOE_PSC_FigA5_Soil.mxd

- SOIL UNITS**
- Amor-Williams-Zahl loams, 3 to 9 percent slopes
 - Amor-Zahl-Cabba loams, 9 to 25 percent slopes
 - Appam sandy loam, 0 to 6 percent slopes
 - Arnegard loam, 0 to 2 percent slopes
 - Arnegard-Shambo loams, 2 to 6 percent slopes
 - Bowdle loam, 0 to 2 percent slopes
 - Cabba-Amor-Zahl loams, 25 to 60 percent slopes
 - Cabba-Badland outcrop complex, 9 to 70 percent slopes
 - Daglum-Rhoades complex, 0 to 6 percent slopes
 - Dooley fine sandy loam, 0 to 6 percent slopes
 - Farland silt loam, 0 to 6 percent slopes
 - Hamerly-Tonka complex, 0 to 3 percent slopes
 - Harriet and Stirum soils, 0 to 2 percent slopes
 - Korchea loam, 0 to 2 percent slopes, occasionally flooded
 - Korchea-Divide loams, channeled 0 to 2 percent slopes
 - Lehr loam, 2 to 6 percent slopes
 - Livona fine sandy loam, 0 to 6 percent slopes
 - Mondamin silty clay loam, 0 to 2 percent slopes
 - Niobell-Williams loams, 0 to 6 percent slopes
 - Savage-Grail silty clay loams, 0 to 6 percent slopes
 - Shambo loam, 0 to 2 percent slopes
 - Vebar-Flasher-Tally fine sandy loams, 3 to 9 percent slopes
 - Vebar-Flasher-Zahl complex, 9 to 25 percent slopes
 - Vida-Zahill loams, 2 to 8 percent slopes
 - Wabek sandy loam, 2 to 6 percent slopes
 - Wabek sandy loam, 6 to 25 percent slopes
 - Water
 - Williams-Bowbells loams, 0 to 3 percent slopes
 - Williams-Bowbells loams, 3 to 6 percent slopes
 - Zahill loam, 15 to 60 percent slopes
 - Zahill-Vida loams, 4 to 15 percent slopes
 - Zahl-Cabba-Maschetah complex, 6 to 70 percent slopes

- LEGEND**
- NGL 8in Steel Pipeline
 - Residue 20in Steel Pipeline
 - NGL Meter Site
 - Residue Meter Site
 - ▭ Study Area
 - Site Features
 - ▭ State Boundary
 - ▭ County Boundary
 - ▭ Township/Range
 - ▭ Section
 - ▨ State Land



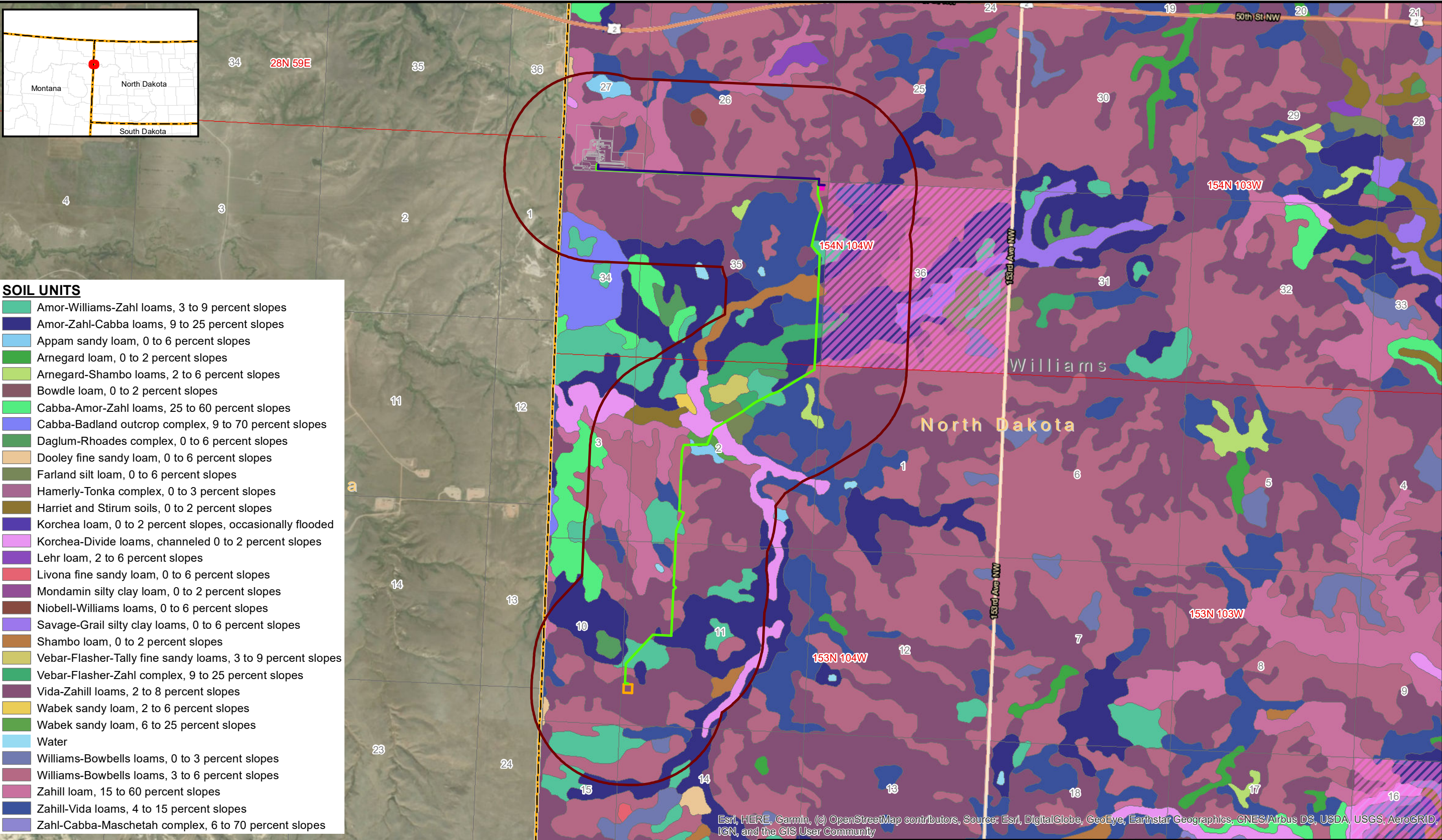
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PROJECT NO.	20203533
CREATED:	5/7/2020
CREATED BY:	A. Leonard
CHECKED BY:	A. Daniel
FILE NAME:	OE_PSC_FigA5_Soil.mxd

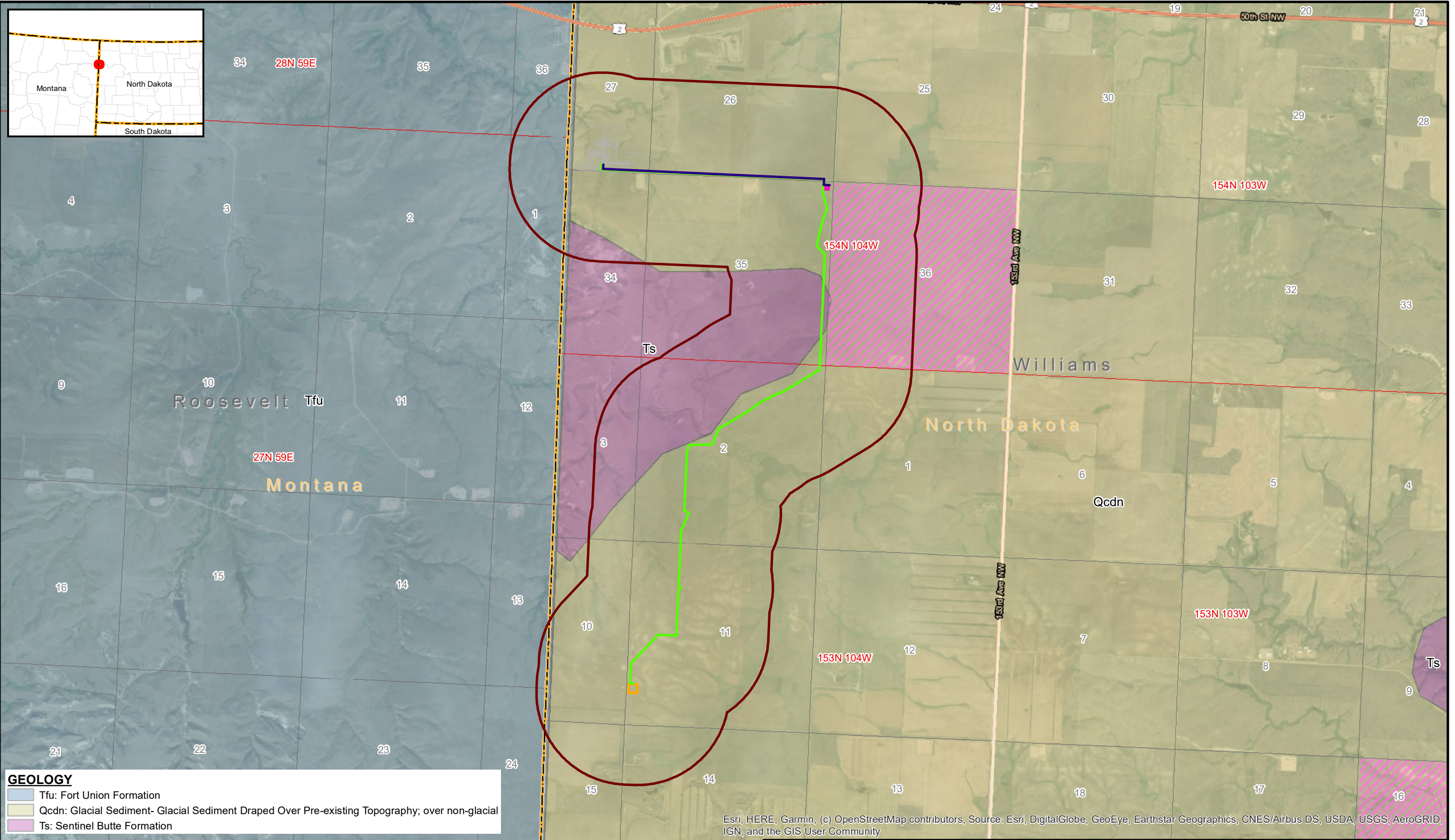
Soils Map
OE2 North, LLC Pipeline Project Secs. 26, 27, & 35, T154N, R104W Secs. 11 & 2, T153N, R103W Williams County, North Dakota

FIGURE
A-5



Esri, HERE, Garmin, (c) OpenStreetMap contributors, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Date: 5/7/2020 User: ALeonard Path: \\azrgisstor01\GIS_Projects\Client\OutriggerEnergy\20203533_SandersonGasPlant\MXD\PSC\VOE_PSC_FigA6_Geology.mxd

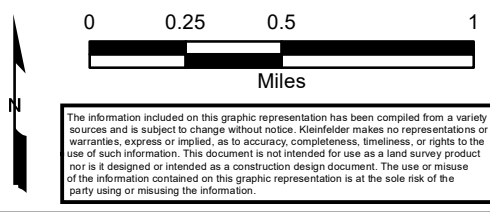


GEOLOGY

	Tfu: Fort Union Formation
	Qcdn: Glacial Sediment- Glacial Sediment Draped Over Pre-existing Topography; over non-glacial
	Ts: Sentinel Butte Formation

LEGEND

	NGL 8in Steel Pipeline		Study Area		Township/Range
	Residue 20in Steel Pipeline		Site Features		Section
	NGL Meter Site		State Boundary		State Land
	Residue Meter Site		County Boundary		



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OUTRIGGER ENERGY

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CHECKED BY:	A. Daniel
FILE NAME:	OE_PSC_FigA6_Geology.mxd

Surficial Geology Map

OE2 North, LLC
Pipeline Project
Secs. 26, 27, & 35, T154N, R104W
Secs. 11 & 2, T153N, R103W
Williams County, North Dakota

FIGURE
A-6

APPENDIX B
STORM WATER POLLUTION PREVENTION PLAN



**OE2 NORTH, LLC
STORMWATER POLLUTION PREVENTION PLAN
FOR THE BILL SANDERSON RESIDUE AND NGL
PIPELINES PROJECT**

**PERMIT NDR11-0000
WILLIAMS COUNTY, NORTH DAKOTA**

MAY 2020

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PROJECT FOR WHICH THIS REPORT WAS PREPARED.**

A Report Prepared for:

OE2 North LLC
1200 17th Street, Suite 900
Denver, CO 80202

**OE2 NORTH LLC
STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
FOR THE
BILL SANDERSON RESIDUE AND NGL PIPELINES PROJECT**

**PERMIT NDR11-0000
WILLIAMS COUNTY, NORTH DAKOTA**

Prepared by:



Annie Daniel
Project Professional / Environmental Planner

Reviewed by:



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May 2020
Kleinfelder Job No. 20203533.001A, Task 002

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Table 1 Amendments to Stormwater Pollution Prevention Plan
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Appendix B Project Overview Map
Appendix C SWPPP Site Maps
Appendix D BMP Details
Appendix E Maps of Soils, Vegetation, and Hydrology in the Project Area
Appendix F Stormwater Inspection Reports

Table 1. Amendments to Stormwater Pollution Prevention Plan

<i>SWPPP Modification Log</i>		
Name of Construction Site		Location of Construction Site
Type of Modification		Description of Modification
<input type="checkbox"/> Major <input type="checkbox"/> Minor		
Start Date:		
Completion Date:		
Reason for Modifications:		Approved/Implemented By:
Type of Modification		Description of Modification
<input type="checkbox"/> Major <input type="checkbox"/> Minor		
Start Date:		
Completion Date:		
Reason for Modifications:		Approved/Implemented By:
Type of Modification		Description of Modification
<input type="checkbox"/> Major <input type="checkbox"/> Minor		
Start Date:		
Completion Date:		
Reason for Modifications:		Approved/Implemented By:
Type of Modification		Description of Modification
<input type="checkbox"/> Major <input type="checkbox"/> Minor		
Start Date:		
Completion Date:		
Reason for Modifications:		Approved/Implemented By:

CERTIFICATION

"I _____, certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name of Applicant	Title
Signature of Applicant	Date

1 PROJECT INFORMATION

This Stormwater Pollution Prevention Plan (SWPPP) was written to comply with the North Dakota Department of Environmental Quality (NDDEQ) General Permit NDR11-0000 (the “Permit”), which provides authorization to discharge stormwater associated with new and large construction activities. This SWPPP was prepared with the objective to inventory pollutants that have potential to leave the construction site in stormwater runoff, identify best management practices (BMPs) to eliminate or minimize pollutants in runoff, meet the conditions of the Permit, and not cause contamination or degradation to waters of the state.

OE2 North, LLC (OE2) is seeking to obtain coverage under the General Stormwater Permit (NDR11-0000, **Appendix A**) for the construction of their Bill Sanderson Residue and NGL Pipelines Project (Project). This SWPPP addresses construction activities associated with the Project’s two proposed pipelines, approximately 4.67 miles of new 20-inch residue gas pipeline and approximately 1.28 miles of new 8-inch Natural Gas Liquids (NGL) pipeline in Williams County, North Dakota. **Appendix B** provides an Overview Map of the Project, and **Appendix C** provides the specific site maps that show the BMPs to be utilized during construction; these figures will be periodically added to and updated as site conditions change and as OE2 proceeds through construction to restoration.

This SWPPP was prepared in accordance with good engineering, hydrologic, and pollution control practices. This SWPPP is a dynamic document that will be updated, as needed, to address planned development, new disturbances, and other changes needed to manage stormwater and protect surface water quality. The SWPPP will be modified whenever there is a change in design, construction, operation, or maintenance that changes the potential for the discharge of pollutants to the waters of the state. The SWPPP will also be modified if elements prove ineffective in eliminating or minimizing pollutants present in stormwater. Table 1 on page v lists all modifications to this SWPPP.

The most current SWPPP is to be retained on site or may be located off-site when the Project is shut down for the season or when completion of construction occurs. The complete SWPPP will be maintained at OE2’s Denver, Colorado, offices and in the construction trailer at the site. A copy will also be kept with the SWPPP administrator when practical.

1.1 Stormwater Administrator

Stormwater management involves OE2 as well as an outside consultant. This SWPPP was prepared on behalf of OE2 by Kleinfelder, Inc.; however, the implementation and execution of the plan will be conducted by OE2 or their construction contractor. The authorized officer for this SWPPP is listed below:

SWPPP Administrator and Legally Responsible Person:

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1.2 Site Description

OE2 is proposing to construct and operate the Bill Sanderson Residue and NGL Pipelines Project (Project) which consists of construction of a new 20-inch residue gas pipeline and a new 8-inch NGL pipeline, both beginning at the proposed Bill Sanderson Gas Processing Plant and terminating at tie-ins with Northern Border Interconnect and Oneok Interconnect respectively. The pipelines are located in Williams County, North Dakota. The proposed pipelines will be collocated for 1.28 miles and will have a 125-foot permanent right-of-way (ROW) with an additional 25 feet of temporary ROW (centered on the proposed pipelines where feasible) for a total of 150 feet of temporary construction ROW. The residue gas pipeline will continue for an additional 3.39 miles and will have a 50-foot permanent ROW with an additional 25-feet of temporary ROW, for a total of 75-feet of temporary construction ROW. The Project location is depicted in the Project Overview Map included in **Appendix B**.

The Project is located entirely on private lands. The observed land use along the alignment is primarily rangeland and agricultural plots, as well as some existing oil and gas facilities. The site-specific stormwater diagrams and suggested stormwater BMPs for each project component can be found on the Site Maps in **Appendix C**. Disturbance for the pipelines' construction ROW and interconnect site footprints are estimated to be 51.7 acres.

1.3 Proposed Sequence of Construction Activities

The Project includes construction and installation of approximately 1.28 miles of collocated 20-inch residue gas pipeline and 8-inch NGL pipeline within a 150-foot construction ROW. The residue pipeline will continue southwest for 3.39 miles within a 75-foot construction ROW. Additionally, aboveground facilities will include a proposed 100x100-foot interconnect site at the terminus of the 8-inch NGL pipeline, a 250x250-foot interconnect site at the terminus of the 20-inch residue gas pipeline, as well as pipeline markers and cathodic test stations along the Route.

Construction and development is anticipated to begin in July 2020 and will continue for approximately 12 weeks. Reclamation will begin immediately after construction is complete and the final restoration including adequate vegetative cover will be dependent on weather conditions.

All BMPs will be installed in a phased approach by activity (for example, Construction and Development followed by Operation and Reclamation) as outlined in accordance with **Table 2**.

Table 2. BMPs Recommended During Each Project Phase

Construction and Development	Operation	Reclamation
Erosion and Sediment Control (Structural)		
Dust Control	Dust Control	Dust Control
Silt Fence	Silt Fence	Silt Fence
Timber Mats		
Trench Plug		
Water Bar		
Erosion and Sediment Control (Non-structural)		
Phased Construction	Phased Construction	Phased Construction
Protect/Preserve Vegetation	Protect/Preserve Vegetation	Protect/Preserve Vegetation
Re-vegetation	Re-vegetation	Re-vegetation
Mulching	Mulching	Mulching
Surface Roughening	Surface Roughening	Surface Roughening
Proper Track Walking During Land Grading	Proper Track Walking During Land Grading	Proper Track Walking During Land Grading
Slope Stabilization	Slope Stabilization	Slope Stabilization
Operational Controls		
Good Housekeeping	Good Housekeeping	Good Housekeeping
Employee Training	Employee Training	Employee Training
Bulk Storage of Petroleum	Bulk Storage of Petroleum	
Concrete Washout		
Maintenance of Equipment	Maintenance of Equipment	
Dewatering BMPs		
Settling/Filtration		
Velocity Dissipation		

1.3.1 Construction and Development

Construction of pipelines and appurtenances is subject to safety regulations specified in U.S. Department of Transportation (USDOT) CFR, Title 49, Part 192 (49 CFR § 192), Transportation of Natural and Other Gas by Pipeline Minimum Federal Safety Standards, and other applicable regulations.

Aboveground Facilities

The two new interconnect sites will be constructed in compliance with federal regulations, guidelines, and approvals. The first key activity to take place at the site is to clear the existing vegetation and grade it as necessary to create level surfaces to establish access for the movement of construction vehicles, and to prepare the area for construction activities. Clearing will only be performed on those areas necessary for installation of structures and pipeline,

including sufficient workspaces. Installation of erosion and sedimentation controls (e.g. silt fences and/or hay bales) will begin during the initial clearing of the site in accordance with this SWPPP.

Site Maps showing the limits of disturbance as well as the specific BMPs to be used during the improvements to the access road and construction of the new gas plant are included in **Appendix C**.

Pipelines

The first phase of construction would involve staking the pipeline centerline and the construction ROW. Clearing of trees and brush would be performed after staking is completed. Vegetative debris would be managed in accordance with applicable regulations; the resulting materials would be beneficially used where possible (that is, timber, mulch, firewood), or hauled away for off-site management or disposal in accordance with applicable local and state requirements and/or restrictions. Topsoil segregation would be performed ahead of trenching and subsoil would be stockpiled separately from topsoil.

Stormwater inspections would begin once the soil or vegetation is disturbed. Temporary or permanent on-site perimeter erosion and sediment control BMPs will be installed as appropriate (that is, before, during, and after all grading activities and development).

Individual sections of pipe would be strung along the ROW, which can be done either before or after trenching. Trenching would be accomplished by backhoe or trenching machine, keeping trench soil separate from topsoil. Generally, the trench would be excavated 12 inches wider than the diameter of the pipe. Trench width is dependent on pipe size and trenching method.

Pipe would be bent where necessary, aligned, and welded. All welds would be visually and radiographically inspected. The pipe assembly would be lowered into the trench and backfilled with the previously excavated soil. The depth of soil cover over the top of pipe would be at least 36 inches. After backfilling, the pipe would be hydrostatically tested in accordance with USDOT regulations specified in 49 CFR 192.

Sequencing of construction activities will progress as rapidly as practicable to minimize the amount of time that portions of the site are disturbed. Inactive areas will be temporarily stabilized to reduce erosion potential, slow runoff velocity, and promote infiltration and will be temporarily seeded where applicable.

The Site Maps showing the limits of disturbance are as well as the specific BMPs to be used during construction of the pipelines are included in **Appendix C**.

1.3.2 Operation

All proposed facilities covered under this SWPPP will be operated and maintained in compliance with USDOT regulations (49 CFR 192), and in a manner consistent with industry standards. Procedures will include periodic inspection and maintenance of pipelines and appurtenances.

OE2 operations personnel would perform operation and maintenance of the new equipment at the new interconnect sites, but they would not be manned daily. Site personnel would perform routine checks of the facilities, including calibration of equipment and instrumentation, inspection of critical components, and scheduled and preventative maintenance of equipment as required.

During the Operation Phase, appropriate BMPs will be maintained and remain in place until final stabilization is achieved.

Operational activity on the pipelines will be limited primarily to maintenance of the ROW and inspection, repair, and cleaning of the pipelines. Periodic ground inspections by pipeline personnel would identify:

- Soil erosion that may expose the pipe
- Dead vegetation that may indicate a leak in the line
- Conditions of the vegetation cover and erosion control measures
- Unauthorized encroachment on the ROW, such as buildings and other substantial structures
- Other conditions that could present a safety hazard or require preventive maintenance or repairs

The pipeline cathodic protection system would also be monitored and inspected periodically to ensure proper and adequate corrosion protection. During the Operation Phase, appropriate BMPs will be maintained and remain in place until final stabilization is achieved.

1.3.3 Reclamation

After construction and operation activities are complete, the grades of the slopes will be reduced and returned to approximately the original topography. All reclaimed areas will be permanently seeded and mulched according to the standard details included in **Appendix D**. Final seeding of the reclaimed area will be done depending on the completion time of the reclamation and weather conditions.

Following completion of final revegetation, a qualified representative will inspect areas that have been seeded to ensure that the revegetation has been successful. If revegetation is not successful, spot revegetation or other remedial actions will be implemented to assure compliance with the Permit. An Inactivation Notice will be filed for the project once all of the construction activities have been completed and all areas have reached final stabilization or 70 percent of pre-disturbed vegetative conditions.

1.4 Potential Pollution Sources

Potential pollution sources associated with construction and operation activities includes:

- Sediment resulting from erosion of soil stockpiles and other areas cleared of vegetation
- Fugitive dust
- Off-site vehicle tracking
- Leakage of fuels and lubricants from equipment and spills from fueling or equipment failures during earth moving activities
- Solid waste and debris from clearing activities, construction materials, and workers

- Construction material storage areas
- Chemicals associated with temporary portable toilet services for construction workers

The most common source of pollution anticipated during construction and development is sediment which may potentially impact the water quality of receiving waterbodies via clearing, grading, and altering previously undisturbed lands. Fugitive dust associated with construction activities may transport sediment during heavy traffic periods, grading, clearing, or grubbing activities. Off-site vehicle tracking will need to be minimized or eliminated through the use of vehicle tracking control BMPs when necessary.

Petroleum products utilized on-site can be potential stormwater pollutants. These products are used in project construction to power or lubricate equipment and include the following: fuel, gear and hydraulic oils, brake fluids, and grease. Leakage from fueling or other site operations will be handled in accordance with BMPs included in **Appendices C and D** and as described in Section 2.2 – Operational Controls. Designated areas for storing petroleum products will need to be updated on site-specific maps if locations change.

Debris from construction, residue from equipment cleaning and maintenance, and solid waste generated from land clearing operations and human activities present other potential pollution sources within the construction site(s). Please refer to the BMPs and site-specific maps that address these non-stormwater issues.

Construction material storage areas may be potential pollution sources if materials are improperly stored or exposed to precipitation. Construction material storage areas may include petroleum products, fertilizers, chemicals, or paints associated with proposed activities on site. Secondary containment BMPs should be updated on the site-specific maps and in stormwater BMPs located in **Appendices C and D**. Additional chemicals associated with toilets for construction workers will need to be sited in areas that will not impact waterways or storm drains.

Potential pollutant sources will be inspected on a regular basis and include:

1) Disturbed and stored soils

There is a potential for disturbed and stored soils to contribute pollutants to stormwater discharges; however, as part of the regular stormwater inspections, all disturbed and stored soils will be monitored to ensure sediment transport is not occurring. BMPs will be installed and maintained along these areas.

2) Vehicle tracking of sediments

There is a low potential for vehicle tracking of sediments to contribute pollutants to stormwater discharges given that the roads in the area are not paved.

3) Management of contaminated soils

There is a low potential for contaminated soils to contribute pollutants to stormwater discharges. Areas of contaminated soils will be disposed of in an appropriate facility and soil sampling will be conducted to ensure contaminated soils have been removed.

4) Loading and unloading operations

There is a low potential for loading and unloading operations to contribute pollutants to stormwater discharges, because BMPs will be installed before items necessary for pipelines, and gas treatment are put in place.

5) Outdoor storage activities (building materials, fertilizers, and chemicals)

There is a low potential for outdoor storage activities to contribute pollutants to stormwater discharges. No fertilizers or building materials will be kept on-site and chemicals used for plant operations will be stored within a weatherproof structure or will be kept off the ground and covered to ensure precipitation does not come in contact with the materials.

6) Vehicle and equipment maintenance and fueling

There is a low potential for vehicle and equipment maintenance and fueling to contribute pollutants to stormwater discharges. No vehicle and equipment maintenance and fueling will take place at the Project facilities. On-site maintenance and fueling will be done in designated areas cleared of vegetation and located away from any drainage areas.

7) Significant dust or particulate generating processes

There is a moderate potential for dust or particulate-generating processes to contribute pollutants to stormwater discharges. During summer months, winds carry dust and sediment from construction activity or moving vehicles and deposit it along waterways. However, areas of disturbed soils will be stabilized, and areas needed for post-construction operations will be hard surfaced after construction operations are completed.

8) Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, oils

Oils and antifreeze will be used for plant maintenance.

9) On-site waste management practices (waste piles, liquid wastes)

There is a low potential for on-site waste management practices to contribute pollutants to stormwater discharges. Waste piles will be contained using BMPs to minimize sediment transport. During construction operations, dumpsters may be retained on-site for worker trash and will be emptied as necessary.

10) Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment

There is a very low potential for concrete truck/equipment washing to contribute pollutants to stormwater discharge. There will be a designated washout area and concrete will be disposed of properly.

11) Dedicated asphalt and concrete batch plants

There is no potential for dedicated asphalt and concrete batch plants to contribute pollutants to stormwater discharges as there are no asphalt or concrete batch plants associated with the project.

12) Non-industrial waste sources such as worker trash and portable toilets

There is a low potential for non-industrial waste sources to contribute pollutants to stormwater discharges. Dumpsters for worker trash will be kept on-site and portable toilets will be staked down and will be located in a safe area where accidental tipping will not occur. Dumpsters and portable toilets will only be on-site during construction operations.

13) Other areas or procedures where potential spills can occur

Spills may occur from vehicles accessing each location during construction and daily activities. Observations for soil staining will be conducted during routine inspections.

Non-stormwater discharges are not expected from the Project. There are no municipal discharge outfalls within the Project Area. Storm culverts and diversion ditches in close proximity to construction activities associated with this Project are depicted on the site-specific maps.

1.5 Existing Topography, Vegetation, and Soils

Other relevant characteristics include runoff characteristics, site elevations, and soil units. Runoff characteristics are based on site topography, soil type, and soil/vegetative cover. The facilities are mainly located on flat tracks of land where the potential for soil loss due to topography is considered minimal. The elevation in the Project Area generally ranges from 2,200 to 2,300 feet.

Vegetative communities primarily consist of herbaceous upland (grasses and forbs) and cropland (small grains). Vegetative cover ranges from 90-percent to 100-percent. Vegetation maps can be found in **Appendix E**.

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web based soil survey was used to determine soil types within the Project corridor. The web-based soil maps, including a name and designation index, are included in **Appendix E**. Soils crossed by the proposed ROW are listed below:

- Amor-Williams-Zahl loams, 3 to 9 percent slopes
- Amor-Zahl-Cabba loams, 9 to 25 percent slopes
- Appam sandy loam, 0 to 6 percent slopes
- Arnegard loam, 0 to 2 percent slopes
- Bowdle loam, 0 to 2 percent slopes
- Daglum-Rhoades complex, 0 to 6 percent slopes
- Farland silt loam, 0 to 6 percent slopes
- Korchea-Divide loams, channeled 0 to 2 percent slopes
- Shambo loam, 0 to 2 percent slopes
- Vida-Zahill loams, 2 to 8 percent slopes
- Vebar-Flasher-Zahl complex, 9 to 25 percent slopes
- Williams-Bowbells loams, 3 to 6 percent slopes
- Zahl loam, 15 to 60 percent slopes
- Zahill-Vida loams, 4 to 15 percent slopes

1.6 Receiving Waters

The Project Area is located within two hydrologic units:

- Horse Tied Creek (HUC 100600050703)
- Lower Little Muddy Creek (HUC 100600050704)

From the Project Area, storm water runoff would flow into other intermittent drainages located near and within the Project Area. Outfalls potentially consist of overland flows from the locations described in this plan to the above-mentioned drainages which subsequently drain into Horse Tied Creek and ultimately into Little Muddy Creek. Hydrology Maps, including features delineated during field surveys, are included in **Appendix E**.

1.6.1 Impaired Waters

There are no receiving water(s) that are listed on the state's most recent 303(d) report as impaired within 2,000 feet of the Project Area. There are no receiving water(s) that are listed on the state's most recent 303(d) that have an approved Total Maximum Daily Load (TMDL) for sediment, suspended solids or turbidity within 2,000 feet of the construction site and that may receive runoff from the construction site or will receive construction site stormwater discharge that enter a storm sewer system.

2 BEST MANAGEMENT PRACTICES (BMPS) FOR STORMWATER POLLUTION PREVENTION

The selection of erosion and sediment control BMPs is contingent upon site-specific conditions during construction. The objective of the selected erosion and sediment controls is to minimize erosion and sedimentation via the utilization of a combination of structural and nonstructural controls. The types and locations of structural BMPs for construction of the proposed pipelines are depicted on the Site Maps in **Appendix C**.

2.1 Erosion and Sediment Controls

Erosion prevention BMPs prevent soil or sediment movement by wind or water and retain soil in its original location within the construction site. Temporary erosion protection may be needed for some activities, in particular where further work is not anticipated for 28 calendar days or more. Ditches, berms, and soil stockpiles may require temporary erosion protection. Sedimentation controls prevent soil from eroding and being transported from the original location on-site and from entering waters of the state. Appropriate control measures for erosion and sediment control of the Project Area are described as follows:

1) Structural Practices for Erosion and Sediment Control

There are a number of structural practices which may be used on the project including: various dust control methods, waterbars, trench plugs, silt fence with outlets, and sediment

traps, re-establishing/replacing vegetation, mulching, and rolled erosion control products. The locations of structural BMP practices are depicted on the Site Maps in **Appendix C**.

2) Non-Structural Practices for Erosion and Sediment Control

Non-structural erosion and sediment control BMPs include phasing construction, minimizing disturbances to existing vegetation, and preservation of natural vegetation, surface roughening, and proper track walking during land grading activities. The location of non-structural BMPs practices are depicted on the Site Maps in **Appendix C**.

3) Phased BMP Implementation

BMPs for these sites will be implemented in three phases – construction, operation, and reclamation. **Table 2** lists the BMPs that may be used during each of the aforementioned phases of the project.

2.1.1 Construction and Development

The Construction Phase will begin with the clearing and grubbing of all necessary areas to construct the proposed 20-inch residue gas pipeline and 8-inch NGL pipeline. A portion of the temporary construction ROW will be cleared of trees and obstructions and graded to a relatively flat surface to accommodate construction equipment. Stormwater inspections begin once the soil or vegetation is disturbed. The facilities and associated private access road will be constructed utilizing standard cut and fill techniques.

Structural sediment control BMPs will be installed below the limits of disturbance to prevent sediment from leaving the construction site. These BMPs will be installed prior to starting any earthwork activities. If site berms are installed, they will encompass the facility surface and will be constructed at the top of the fill slopes to act as run on control. BMPs will be maintained during construction to the standards outlined in the BMP details located in **Appendix D**.

In areas disturbed by construction, topsoil will be stripped and stockpiled on-site. Soil materials will be managed so erosion and sediment transport are minimized. Nearby drainages will be protected by appropriate BMPs. Any stockpiled excess cut-material or topsoil will be segregated during construction and appropriate erosion and sediment control BMPs will be utilized to minimize sediment transport during temporary storage.

The pipeline trenches will be excavated to provide a depth of cover required by the USDOT, Williams County, or OE2 Standards. At roadways the pipelines will be bored using standard construction techniques. Temporary BMPs will be implemented to prevent sediment transport from stockpiles where applicable.

Pipe segments will be strung along the ROW parallel to the trench, and will be bent (where required), welded, and lowered into the trench. Once the pipelines are placed in the trench, a bulldozer or other appropriate equipment will backfill the trench with fill or native subsoil. Topsoil that was segregated during grading operations will be placed over the subsoil. The ROW will be re-graded to its preconstruction contour, decompacted and seeded to encourage revegetation. Any excavated materials not used as backfill will be disposed of properly. After installation, the pipelines will undergo hydrostatic testing to ensure its integrity.

Sequencing of construction activities will progress as rapidly as practicable to minimize the amount of time portions of the site are disturbed. Inactive areas, where ground disturbing activity has ceased for more than 14 calendar days, will be stabilized to reduce erosion potential, slow runoff velocity, and promote infiltration and will be temporarily seeded where applicable.

The construction phase will last approximately 12 weeks. All ground disturbing activities will be conducted on the working surface of the construction site during the development phase.

During construction and development, all structural BMPs used for sediment control during the construction phase will be maintained or be replaced, and any necessary additional BMPs will be installed. Possible BMPs include sit fencing, vehicle traction control, timber matting, trench plugs and water bars, and erosion control blankets.

Depending on site conditions, a variety of erosion control practices may be necessary to stabilize areas of disturbed soil that do not have gravel or that have not been surface hardened. Seed and mulch or erosion control blankets should be applied to disturbed areas such as topsoil stockpiles and cut and fill slopes. Slopes may also be track walked to provide soil roughening.

2.1.2 Operation

Once constructed, the pipelines will operate 24 hours a day, 365 days a year. Once operating, there is no intention of removing or terminating use of the pipelines. Should any portion of the facilities require decommissioning, the pipelines would be isolated, cleaned, and abandoned in place per State of North Dakota and local regulations and per the landowner agreement.

The pipelines will be un-manned during operation. The ROW may be periodically driven by one or two employees for regular inspection and/or maintenance. All non-emergency work will take place between 6:00 AM and 5:00 PM, Monday through Friday. Daily visits to the pipeline ROW are not anticipated. During the Operation Phase, appropriate BMPs will be maintained and remain in place until final stabilization is achieved.

2.1.3 Reclamation

Interim or final stabilization activities will begin once all construction and development activities have been completed or will cease for more than 14 days. The slopes and disturbed soils will be re-contoured during the final reclamation stage to match preexisting conditions, stockpiled topsoil should be applied to the slopes and then track walked, disked, seeded, and mulched.

After final stabilization, the site will continue to be monitored on a monthly basis while the vegetation cover is established to ensure that the proposed activities to achieve final stabilization are adequate. Once uniform vegetative cover has been established with a plant density of at least 70 percent of pre-existing conditions on all reclaimed areas, the site will be considered stabilized and inspections may cease. Structural BMPs, if present, may be removed after these conditions have been met.

Seeding can be conducted at any time of the year; however, the middle of winter and the middle of summer can be problematic. If applied in the winter, seed will lie dormant and will be in place to grow as soon as spring arrives accompanied by warmer temperatures and moisture from precipitation or snowmelt. However, seed cannot be applied when there is more than an inch of

snow on the ground. If seed is applied in the middle of summer, extreme heat and limited moisture will reduce effectiveness. Therefore, the recommended times for seeding are spring (after snowmelt begins but generally mid-March to mid-June) and fall (generally from late August until the first heavy snow).

Final stabilization practices for obtaining a minimal 70 percent pre-disturbance vegetative cover will include selecting a seed mix and application methods, soil preparation and amendments when necessary, implementing soil stabilization practices, and utilizing appropriate sediment control BMPs, as needed, until final stabilization is achieved. The temporary ROW will be re-graded to reduce cut and fill slopes and be re-seeded. The seeding and stabilization practices may include drill- or broadcast-seeding, mulching and crimping, erosion control matting, or hydro-seeding. The BMPs implemented may be modified as needed to ensure site reclamation and stabilization leading to 70 percent of pre-disturbance vegetative cover.

2.1.4 Construction Site Dewatering

If groundwater is encountered during proposed activities, a separate groundwater permit may be acquired by OE2 from NDDEQ and monitoring will need to be conducted in accordance with the groundwater permit requirements. Other dewatering activities should include BMPs that remove sediments suspended in the water as well as velocity dissipation devices (for example, rock riprap, sandbags, plastic sheeting, or equivalent) to control erosion during the discharge process.

2.2 Operational Controls

2.2.1 Spill Response

Spills at the site can be largely prevented through proper training and the conscientious efforts of personnel during the performance of routine activities. Efforts should be made to refuel equipment away from drainages and waterways. If possible, attempts should be made to use the same location for refueling activities, such as a designated equipment refueling/staging area. If a release of a hazardous substance does occur during construction activities, construction personnel will take appropriate action to minimize the impact of the spill through the use of absorbent material stored at the construction site. Absorbent material may consist of clay, sawdust, straw, kitty litter, booms, absorbent pads, or other suitable materials.

In the event of a release of fuel, lubricant, or coolant from equipment, efforts will be made to stop the release. Spilled fluids will be cleaned up as soon as possible. All contaminated soils and spent/used clean up materials shall be containerized (drums or dumpsters) and stored on site, until appropriate disposal methods have been identified. **Wade Janecek (OE2) is to be contacted at 970.270.5584, to report any spills over five gallons.** The necessary repairs will be made to the equipment to prevent a continued release of potential pollutants. OE2 will report any spill that may seriously endanger health or the environment as soon as possible, but no later than 24 hours from the time OE2 became aware of the spill.

If this is an emergency, an imminent threat to public health and safety, or for additional assistance, please call the Oil and Gas Division or the Department of Environmental Quality at the numbers below:

- North Dakota Oil and Gas Division: 1-701-328-8020
- North Dakota Department of Environmental Quality, Environmental Health Section: 701-328-5210
- North Dakota Department of Emergency Services: 1-800-472-2121 (24-Hour Hotline)

Complete additional Incident Report Forms at: <https://www.dmr.nd.gov/oilgas/mvc/wincident/>

2.2.2 Good Housekeeping

A list of all potentially toxic or hazardous chemicals used during the Project will be maintained and kept on-site. Warning labels must be attached to all potentially toxic or hazardous chemicals. Safety Data Sheets (SDS) and other safety information will be on file and accessible during all periods in which the chemicals are used or stored. Construction site personnel must follow spill prevention and control practices as outlined in the SPCC plan developed for the existing gas plant.

In addition to maintaining an inventory of potentially toxic, hazardous materials and associated safety information, the following materials management practices will be followed:

- Materials will be handled in accordance with Occupational Safety and Health Administration (OSHA) requirements and manufacturers' instructions.
- Chemicals regulated under the Resource Conservation and Recovery Act (RCRA) will be reported and handled in accordance with relevant regulations.
- Materials stored at the construction site will be covered or otherwise protected from the elements.
- The quantity of fuel and lubricants stored on the construction site will be limited to the amount that is reasonable to support the specific construction or maintenance activity.
- Bulk storage areas for materials not consumed daily will be enclosed and protected from the elements and contained in a manner to prevent release to the environment.
- Petroleum products and fertilizers will be stored at separate facilities or isolated by impermeable barriers.
- General construction site debris will be stored in trash containers and removed from the job site on a regular basis to prevent overflowing.

2.3 Bulk Storage of Petroleum Products

Lubricant, hydraulic, and miscellaneous oils and solvents will be stored in 55-gallon or smaller containers. Pollutants from petroleum products used during construction activities adhere easily to soil particles and other surfaces. In case of a spill or leak, soils contaminated with petroleum products will be contained and removed to a proper disposal site. Proposed soil erosion and

sediment control practices will aid in retention of spills or leaks. Use of secondary containment and drip pans will reduce the likelihood of spills or leaks contacting the ground. Proposed maintenance and safe storage practices will reduce the chance of petroleum products contaminating on-site soils and drainages. Oily wastes such as cans, rags, and paper containing oils will be placed in proper receptacles and disposed of or recycled. Additional sources of petroleum contamination are leaks from equipment and vehicles. Routine daily inspections will be conducted to identify leaks and initiate corrective actions, if needed.

The following guidelines for storing petroleum products will be used:

- All product containers will be clearly labeled.
- Drums will be kept off the ground within secondary containment and stored under cover, if needed.
- Emergency spill response procedures will be available on-site. Persons trained in handling spills will be on call at all times.
- Spill cleanup and containment materials (absorbent, shovels, etc.) will be easily accessible. Spills will be cleaned in a timely manner and reported as required in accordance with applicable regulations.
- Contaminated materials will be properly stored on-site until they can be disposed of in accordance with applicable regulations.

Storage areas and containers will be regularly monitored for leaks and repaired or replaced as necessary. Workers will be reminded about proper storage and handling of materials during safety meetings.

Each of these wastes will be managed so as to not contribute to stormwater pollution.

1) Dedicated Concrete or Asphalt Batch Plants

No concrete or asphalt batch plants are included as part of this project.

2) Vehicle Tracking Controls

Vehicle tracking controls (VTCs) are used to reduce the potential for sediment to leave a construction area. If tracking does become an issue, VTC will be implemented.

3) Concrete Washout

During plant construction, the concrete washout will be addressed by properly containing all waste within a lined pit or manufactured tank facility to prevent concrete wash waters from entering surface waters of the state.

4) Waste Management and Disposal

Construction will generate various other wastes, possibly including the following:

- Vegetation from clearing operations
- Trash and debris from construction materials and workers
- Sanitary sewage

Vegetation may be piled along the toe of fill slopes to provide additional sediment control or be hauled off-site. Construction trash and debris will be collected in containers and hauled off-site for disposal in suitable landfills. Temporary portable toilets will be staked to prevent accidental spillage.

2.4 Employee Training

Scheduled “tail gate” trainings will be provided for on-site personnel. These trainings will review important components of the SWPPP with a focus on general BMP awareness and site controls and maintenance responsibilities.

3 MAINTENANCE

All erosion and sediment control practices and other protective measures included in the SWPPP will be maintained in effective operating condition. Proper selection and installation of BMPs and development of comprehensive inspection and maintenance procedures are planned to meet this condition.

Should inspections reveal that BMPs are not operating in accordance with good engineering, hydrologic, and pollution control practices then maintenance will be initiated. Maintenance activities may include removal of collected sediment outside the acceptable tolerances of the BMPs and other activities for preparation for post-construction stormwater control. BMP maintenance is intended to be proactive, not reactive. Equipment used on-site is to be maintained in accordance with applicable manufacturer and/or industry standards.

Temporary and permanent sedimentation ponds or basins, if used, must be drained and sediment removed when the depth of sediment collected in the basin reaches $\frac{1}{2}$ the sediment storage volume. Drainage and removal must be completed for active construction site within 72 hours and on inactive construction sites within 14 days of discovery, or as soon as field conditions allow access.

Construction site egress locations must be inspected for evidence of sediment being tracked off-site by vehicles or equipment onto paved surfaces. Accumulation of tracked and deposited sediment must be removed from paved surfaces within 24 hours of discovery.

Observations resulting in BMP maintenance activities can be made during a site inspection or during general observations of site conditions. The BMP maintenance standards are outlined in the BMP details located in **Appendix D**.

Adequate site assessment will be performed as part of a comprehensive inspection and maintenance procedures. Site assessment evaluates the adequacy of BMPs at the site and the necessity of changes to those BMPs to assure continued effective performance. Where BMPs have failed, resulting in non-compliance with the Permit, they must be addressed as soon as possible, (that is, immediately in most cases), to minimize the discharge of pollutants. When new BMPs are installed or replaced with different BMPs, the SWPPP must be updated.

4 INSPECTION

To meet requirements of the Permit, inspection and maintenance of erosion and sediment controls must occur during the project construction or until a Notice of Termination is submitted to NDDEQ. Continued inspection and maintenance are required for specific structures after construction is completed. The inspection program will include the following:

- 1) A qualified person familiar with the SWPPP and control measures will conduct the inspections.
- 2) Inspections will cover these areas of the construction site:
 - Disturbed areas
 - Material storage areas
 - BMPs
 - Surface water diversions
 - Up-gradient and down gradient areas (run-on and run-off)
- 3) A log of inspections will be kept at the site when practical, a copy of all inspection reports will be filed in **Appendix F** of the SWPPP.
- 4) Sediment control BMPs will be inspected for evidence of deterioration, under-cutting, and buildup of sediment.
- 5) Following each inspection, the SWPPP will be updated as necessary to include additional controls designed to correct problems. Revisions to the SWPPP will be made after the changes to BMP installations or implementations occur to the site within 30 days following the inspection.
- 6) A signed inspection report summarizing the scope of the inspection, the name of the person conducting the inspection, date of inspection, and observations will be prepared and placed into the SWPPP. Inspection reports will be retained by the Impact SWPPP Administrator for at least 3 years from the date that the site is finally stabilized.
- 7) Actions taken to modify any stormwater control measure will be recorded and maintained with the SWPPP. Once adequate corrective action(s) have been taken, or where an inspection report does not indicate incidents requiring corrective action, the report shall be signed by a qualified person indicating the site is in compliance. An updated site map will accompany each inspection report.

4.1 Minimum Inspection Schedule

The stormwater inspections will be conducted in accordance with the following inspection schedule to meet the requirements of the Permit. The minimum inspection schedules are allowed:

- 1) Active Construction Sites/Areas

During active construction, qualified personnel shall inspect disturbed areas, control measures, and locations where vehicles enter or exit the site at least once every 14 calendar days and within 24 hours of any precipitation and/or snow melt event which exceeds 0.5 inches. The permittee must either maintain a rain gauge at the site or use the nearest National Weather Service precipitation gauge station. Any rain measurement shall be taken from an area within 10 miles of the construction project, or at least once every 7 days.

2) Inspections at Completed Sites/Areas

For sites, or portions of sites, that meet the following criteria but where final stabilization has not yet been achieved due to a vegetative cover that has not become established, an inspection will be conducted at least once every month and post-storm event inspections are not required. This reduced inspection schedule is allowed *only* if:

- All construction activities that will result in surface ground disturbance are completed.
- All activities required for final stabilization, in accordance with the SWPPP, have been completed, with the exception of the application of seed that has not occurred due to seasonal conditions or the necessity for additional seed application to augment previous efforts.
- The SWPPP must be amended to indicate those areas that will be inspected in accordance with the reduced schedule allowed for in this subsection.

3) Inactive Construction Sites/Areas

During seasonal shutdowns and periods following completion of construction, but before the site has achieved “final stabilization” conditions and termination of coverage under the General Permit, qualified personnel is required to inspect the site at least once each month.

4) Weather-Related Delays

Operators of projects in remote, rural sites that do not have “all season” road access may delay inspections until site conditions are appropriate for access. The reason for such a delay must be documented in the SWPPP. Inspections must occur as soon as access is feasible.

5) Alternative Inspection Plans and Schedules

A permittee may submit an alternative inspection plan for long, narrow, linear construction projects such as pipelines or utility line installation, and other projects in remote areas where vehicle traffic is restricted or could compromise native vegetation or stabilization measures. A copy of the SWPPP and alternative inspection plan must be submitted to the Department at least 30 days prior to implementing the plan. An alternative plan must provide for the timely recognition and repair of erosion or sedimentation. For an alternative inspection plan to be valid, it must be approved in writing by NDDEQ.

6) Winter Conditions Inspections Exclusion

Inspections will not be performed at sites where construction activities are temporarily halted, snow cover exists over the entire site for an extended period, and melting conditions posing a risk of surface erosion do not exist. This exception is applicable *only* during the period where melting conditions do not exist and applies to the routine 14-day and monthly inspections as well as post-storm event inspections. The following information will be documented in the inspection record for use of this exclusion:

- Dates when snow cover occurred
- Date when construction ceased
- Date melting conditions began

7) Completed Construction

Where there are areas that have achieved final stabilization, the operator may document such in the facility SWPPP and omit those areas from further routine inspections. Examples of where this provision may apply include specific well pads or pipeline segments that have been stabilized that are part of a larger plan of development covered under a single stormwater permit. Or the earlier phases of a large, phased development which may be stabilized before the later phases are completed.

4.2 Inspection Requirement

1) Inspection Scope

The construction site perimeter, all disturbed areas, material or waste storage areas that are exposed to precipitation, discharge locations, and locations where vehicles access the site will be inspected for evidence of, or the potential for, pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to waters of the state. All erosion and sediment control practices identified in the SWPPP will be evaluated to confirm that they are operating correctly.

The stormwater inspector will be trained and knowledgeable about implementing the practices and controls included in the SWPPP such as spill response, good housekeeping and sediment controls. Employee training will be provided at least annually, as new employees are hired, as site conditions change, or as necessary to ensure compliance with the SWPPP and General Permit.

2) Inspection Report/Records

A record will be kept of inspections. Measurable quantities of sediment or other pollutants that have been transported off site are to be included in inspection record. Inspection reports will identify any incidents of non-compliance with the terms and conditions of the Permit and a diagram will accompany each report. The measures taken to correct deficiencies are to be recorded.

Copies of the inspection reports shall be retained with the SWPPP (**Appendix F**) at OE2's Denver, Colorado, offices and at the construction trailer at the Site during construction,

interim and final reclamation operations and for a minimum of three years following the completion of the activities. The most current version of the SWPPP and inspection records shall be retained at the construction site during active construction unless infeasible. If keeping a copy of the SWPPP and inspection records on-site is infeasible (such as on a site where there is no construction trailer or other structure where the SWPPP can be kept), the permittee shall provide the location of an off-site SWPPP to the NDDEQ either by letter or e-mail. Such notice must include the facility stormwater permit authorization number, location of the SWPPP and the name, address and a contact telephone number for a person with access to the SWPPP. All reports will be provided to the Administrator upon request.

The inspection reports will include:

- The inspection date
- Names and title of the personnel making the inspection
- Location of discharges of sediment or other pollutants from the site
- Location of BMPs that need to be maintained
- Location of BMPs that failed to operate as designed or proved inadequate for a particular location
- Location where additional BMPs are needed that were not in place at the time of the inspection
- Deviations from the minimum inspection schedule
- Description of corrective action for above items, date corrective action taken, and measures taken to prevent future violations, including requisite changes to the SWPPP as necessary
- Dates and amount of all rainfall events greater than 0.5 inches in a 24-hour period for active construction projects that are inspected under the 14-day inspection schedule
- Documentation of any changes made to the SWPPP and SWPPP site map as a result of the inspection
- After corrective action has been taken, or where a report does not identify any incidents requiring corrective action, the report will contain a signed statement indicating that it is in compliance with the SWPPP and the General Permit to the best of the signatory's knowledge and belief

4.3 Required Actions Following Site Inspections

Where site inspections note the need for BMP maintenance activities, BMPs will be maintained in accordance with the SWPPP. Repair, replacement, or installation of new BMPs determined necessary during site inspections to address ineffective or inadequate BMPs will be conducted

as described below. Guidelines for specific BMP installation and maintenance are included in **Appendix D**.

Upon written request from the Administrator of the Water Quality Division of NDDEQ or his agent, stormwater effluent or ambient water quality data will be collected of the type and at the frequency specified. Monitoring records shall include the following information:

- The date, exact place, and time of sampling or measurements
- The initials or name(s) of the individual(s) who performed the sampling or measurements
- The date(s) analyses were performed
- The time(s) analyses were initiated
- The initials or name(s) of the individual(s) who performed the analyses
- References and written procedures for the analytical techniques or methods used
- The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results

Monitoring will be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in the general NPDES permit NDR11-0000.

APPENDIX A
NDPDES STORMWATER GENERAL PERMIT NDR11-0000

Permit No: NDR11-0000
Effective Date: April 1, 2020
Expiration Date: March 31, 2025

AUTHORIZATION TO DISCHARGE UNDER THE
NORTH DAKOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with Chapter 33.1-16-01 of the North Dakota Department of Environmental Quality rules as promulgated under Chapter 61-28 (North Dakota Water Pollution Control Act) of the North Dakota Century Code,

Facilities both qualifying for and satisfying the requirements identified in Part I of the permit

are authorized to discharge stormwater associated with construction activity

to waters of the state

provided all the conditions of this permit are met.

This permit and the authorization to discharge shall expire at midnight,
March 31, 2025.

Signed this 30 day of March, 2020.



Karl H. Rockeman, P.E.
Director
Division of Water Quality

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I. PERMIT COVERAGE AND LIMITATIONS

A. Discharges Covered

1. This permit applies to all areas within the state of North Dakota, except for those areas defined as Indian Country. Construction activity located within Indian Country within the state of North Dakota must obtain a permit through the United States Environmental Protection Agency. If the construction activity is located with the jurisdiction of the state of North Dakota, and the United States Environmental Protection Agency, a permit must be obtained from both regulatory entities.
2. This permit applies to stormwater discharges associated with construction activity and small construction activity as defined in Title 40 of the Code of Federal Regulations (CFR), Parts 122.26(b)(14)(x) and (b)(15), respectively. The reference to construction activity in this permit includes both large construction activity and small construction activity as described below.
 - a. Large construction activity includes clearing, grading and excavation, that disturbs land of equal to or greater than five (5) acres and includes the disturbance of less than five (5) acres of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five (5) acres or more.
 - b. Small construction activity includes clearing, grading and excavation, that disturbs land of equal to or greater than one (1) acre, and includes the disturbance of less than one (1) acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one (1) and less than five (5) acres.
3. This permit applies to discharges of stormwater from construction activity identified in Part I(A)(1)-(2) associated with oil and gas exploration, production, processing or treatment operations, or transmission facilities resulting in the discharge of a reportable quantity for which notification is required pursuant to 40 CFR 110.6, 40 CFR 117.21, or 40 CFR 302.6 or contributes to a violation of a water quality standard.
4. Stormwater discharges from support activities (e.g., equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) may be covered by this permit as part of a related construction site. The support activities may only be in association with one project. If the support activity is associated with more than one project, a separate stormwater permit (Industrial or mining, extraction or paving material preparation) is required.
5. Certain non-stormwater discharges from facilities covered by this permit and meeting the requirements specified in Part II(A).
6. Stormwater discharges from construction activity covered by the previous permit, issued April 1, 2015, where a notice has been submitted to obtain coverage under this permit.
7. Projects which have obtained coverage under this permit shall amend and implement a Stormwater Pollution Prevention Plan (SWPPP) that meets the requirements of this permit within ninety (90) days of the effective date of this permit.
8. Discharges from dewatering activities related to construction activities (discharges of uncontaminated stormwater, uncontaminated groundwater, and uncontaminated surface water).
9. Local Authority. This permit does not preempt or supersede the authority of local agencies or operators of municipal separate storm sewer systems to prohibit, restrict, or control discharges of stormwater to storm sewer systems or other water courses within their jurisdiction.

B. Discharges Not Covered

1. Stormwater discharges associated with industrial activity from any source other than construction activities described in Part I(A).
2. Post-construction discharges from industrial activity that originate from the site after construction activities have been completed at the site. Industrial and post-construction stormwater discharges may need to be covered by a separate stormwater permit.
3. The placement of fill into waters of the state requiring local, state, or federal authorizations (such as U.S. Army Corps of Engineers Section 404 permits).
4. This permit does not substitute for obligations under the National Environmental Policy Act (NEPA), Endangered Species Act (ESA), Wild and Scenic Rivers Act, or National Historic Preservation Act (NHPA), it is the permittees responsibility to ensure the project and resulting discharges comply with the respective requirements.
5. Discharges to waters for which there is a total maximum daily load (TMDL) allocation are not covered unless you develop a Stormwater Pollution Prevention plan (SWPPP) that is consistent with the assumptions and requirements in the approved TMDL. To be eligible for coverage under this general permit, the SWPPP must incorporate the conditions applicable to the discharge necessary for consistency with the assumptions, allocations and requirements of the TMDL. If a specific numeric wasteload allocation has been established that would apply to discharges from construction activity, the permittee must incorporate that allocation into the SWPPP and implement necessary steps to meet that allocation. Information about TMDL allocations may be found at the following website: deq.nd.gov/WQ.
6. Stormwater discharges that the department determines will cause or have the reasonable potential to cause or contribute to a violation of the standards for quality for waters of the state (North Dakota Administrative Code [NDAC] 33.1-16-02.1).
7. Discharges from hydrostatic testing, well points, water line disinfection, treatment of refined petroleum contaminated groundwater or surface water, treatment of crude oil contaminated groundwater or surface water, and oil and gas production water.
8. Discharges of wash water using detergents, wastewater, and sanitary waste.

C. Obtaining Coverage and Authorization Effective Date

1. To obtain authorization under this general permit for stormwater discharges you must submit a complete notice of intent (NOI) and develop a SWPPP in accordance with Part II(C) of this permit. A SWPPP must be in place as a condition of the permit and a copy of the SWPPP must be retained by the permittee.
2. Permit coverage will become effective seven (7) days after you submit a complete NOI unless otherwise notified by the department (based on the department receipt date).
3. Upon the effective date of permit coverage, permittees are authorized to discharge stormwater from eligible activities under the terms and conditions of this permit.

D. Notice of Intent Process

1. Applicants must use a NOI form or electronic NOI to complete the application. The NOI form or electronic NOI can be found at: deg.nd.gov/WQ. Submission of data contained within the NOI must be in compliance with the electronic reporting requirements found in 40 CFR 127.
2. NOI Content and Conditions.
 - a. The owner, or owner jointly with the operator (usually the general contractor), shall submit a completed NOI for this permit. The owner is responsible for compliance with all terms and conditions of this permit. The operator has day to day supervision of construction activities and is jointly responsible with the owner for compliance with the permit conditions as they pertain to the construction activities delegated to the operator.
 - b. The NOI shall contain, at a minimum, the following information:
 - 1) Owner name, mailing address, and phone number;
 - 2) Project contact name, phone number, and e-mail address;
 - 3) Project/site name;
 - 4) Project/site location (street address; section, township, range) and county;
 - 5) Project/site latitude and longitude;
 - 6) A brief description of the construction activity;
 - 7) The anticipated start date and the anticipated completion date for the project (if known);
 - 8) The estimated total area of the site and the total area of disturbance in acres;
 - 9) The name of receiving water(s), or the name of the municipal storm sewer system and receiving water; and
 - 10) The signature of the applicant(s), owner (and operator if co-applicants) signed in accordance with the Signatory Requirements in Part IV(A)(6) of this permit.
 - c. A SWPPP (Part II(C)) for the project must be prepared and available for review, upon request, by the department at the time of application. Permittees are not required to submit the SWPPP with the NOI unless otherwise notified by the department.
3. For residential construction activity occurring within a common plan of development (such as a subdivision) subject to the permit requirements, coverage may be obtained by the following:
 - a. The owner of the lot(s) shall submit one NOI for all of the owner's construction activity within the common plan of development, or
 - b. The operator, such as a homebuilder who may represent one or more lot owners, shall submit one NOI for all of the operator's construction activity within the common plan of development. Additional phases of the common plan of development may be included under the initial NOI and permit coverage.

In addition, a SWPPP must be developed and implemented for the permittee's activities within the common plan of development. Additional phases of the common plan of development may be included provided the SWPPP is amended to include the additional area or phases.

4. For construction activity associated with oil and gas exploration, production, processing, treatment operations, or transmission facilities, which discharge contaminated stormwater, an NOI may be submitted for individual project sites or for an area of operations such as well field or by county.

E. Notice of Termination (NOT)

1. Permittees wishing to terminate coverage under this permit must submit a Notice of Termination (NOT) signed in accordance with Part IV(A)(6) of this permit. Submission of data contained within the NOT must be in compliance with the electronic reporting requirements found in 40 CFR 127. Compliance with the conditions of this permit is required until a NOT is submitted to the department.
2. Permittees may only submit a NOT after one of the following conditions have been met:
 - a. Final stabilization (Part II(E)) has been achieved on all portions of the site for which the permittee is responsible.
 - b. Another owner/operator/permittee has assumed control in accordance with the transfer provisions (Part I(F)) over all areas of the site that have not achieved final stabilization.
 - c. For residential construction only, a NOT is not required for each lot that is sold, transferred, or has achieved final stabilization. The permittee must modify the SWPPP to indicate that permit coverage is no longer required for that lot. The SWPPP shall indicate the reason why coverage is no longer needed and the date the lot was sold, transferred, or achieved final stabilization. In order to terminate coverage, all lots under the control of the owner or operator must be sold, transferred, or achieved final stabilization (Part II(E)).

F. Transfer of Ownership or Control

1. When the owner or operator of a construction project changes, the new owner or operator must submit a written request for permit transfer/modification within fourteen (14) days of assuming control of the site or commencing work on-site, or of the legal transfer, sale or closing on the property; except as provided in Part I(F)(2). Late submittals will not be rejected; however the department reserves the right to take enforcement for any unpermitted discharges or permit noncompliance. For stormwater discharges from construction activities where the owner or operator changes, the new owner or operator can implement the original SWPPP created for the project or develop and implement their own SWPPP. Permittees shall ensure either directly or through coordination with other operators that their SWPPP meets all terms and conditions of this permit and that their activities do not interfere with another party's SWPPP.
2. A permit transfer/modification request is not required for the legal transfer, sale or closing on a property between permittees covered by this permit. Examples include the sale of a property parcel from a developer to a builder, or the transfer of an easement from a developer to a local government authority. If the new party is not covered by this permit at the time of transfer or sale, then the new owner/operator must submit a completed NOI within fourteen (14) days of assuming control of the site.

II. STORMWATER DISCHARGE REQUIREMENTS

A. Prohibition of Non-Stormwater Discharges

The discharge of wastewater is not authorized by this permit. The following sources of non-stormwater discharges are allowed if they are not a significant source of pollution and are identified in the SWPPP: fire-fighting activity, fire hydrant flushing, potable water line flushing, equipment wash down without detergents or hazardous cleaning products, uncontaminated foundation drains, springs, surface water, lawn watering, chemical treatment of stormwater, and air conditioning condensate. Impervious surface wash water may not be directed into any surface water or storm drain inlet unless appropriate pollution prevention measures have been implemented. Non-stormwater discharges may not come into contact with oil and grease deposits or any other toxic or hazardous materials (unless cleaned up using dry clean-up methods). The SWPPP must include a description of the pollution prevention measures to be implemented while non-stormwater discharges are occurring.

B. Releases in Excess of Reportable Quantities

This permit does not relieve the permittee of the reporting requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302, nor the reporting requirements found in NDAC 33.1-16-02.1. Any release which meets any reporting requirement shall be reported to the department in accordance with Part IV(A)(7).

C. Stormwater Pollution Prevention Plans

All permittees shall implement a SWPPP for any construction activity requiring this permit until final stabilization is achieved. The SWPPP and revisions are subject to review by the department. The objectives of the SWPPP are to identify potential sources of sediment and other sources of pollution associated with construction activity, and to ensure practices are implemented and maintained to reduce the contribution of pollutants in stormwater discharges from the construction site to waters of the state and storm sewer systems. Stormwater management documents developed under other regulatory programs may be included or incorporated by reference in the SWPPP or used in whole as a SWPPP if it meets the requirements of this part. A partially complete SWPPP is acceptable when it clearly identifies the item(s) to be completed, the person(s) responsible for completing the item(s) and the deadline for completing the item(s). The SWPPP must be completed prior to the start of construction (or the applicable construction phase).

The SWPPP may identify more than one permittee and may specify the responsibilities of each permittee by task, area, and/or timing. Permittees may coordinate and prepare more than one SWPPP to accomplish this. However, in the event there is a requirement under the SWPPP for which responsibility is ambiguous or is not included in the SWPPP, each permittee shall be responsible for implementation of that requirement. Each permittee is responsible for assuring that their activities do not render another permittee's controls ineffective.

The SWPPP must incorporate the requirements provided in Appendix 1 and shall include the following information.

1. **Site Description.** Each SWPPP shall provide a description of the construction activity and potential sources of pollution as indicated below:
 - a. A description of the overall project and the type of construction activity;
 - b. Estimates of the total area of the site and the total area that is expected to be disturbed by excavation, grading, grubbing, or other activities during the life of the project;

- c. A proposed timetable/schedule, or chart, of activities that includes major phases/stages, BMP implementation, BMP removal, disturbances, and stabilization for major portions of the site;
- d. A description of the soil within the disturbed area(s);
- e. The name of the surface water(s) and municipal storm sewer system at or near the disturbed area that will receive stormwater runoff from the project site; and
- f. A site map which indicates the following items as applicable (more than one (1) map may be needed). If an item is not applicable, provide rationale describing why the item is not applicable to the construction activity:
 - 1) Location of project;
 - 2) Project boundaries;
 - 3) Areas of ground disturbance during each phase/stage of the project;
 - 4) Areas where disturbance will not occur, such as avoidance areas (e.g. wetlands, critical habitat, Threatened and Endangered Species, etc);
 - 5) Drainage patterns including flow direction (run-on and runoff);
 - 6) Discharge points and storm sewer system inlets which the site drains to or may be affected by the activity;
 - 7) Location of all temporary and permanent sediment and erosion controls during each particular phase;
 - 8) Location of any stormwater conveyances such as retention ponds, detention ponds, ditches, pipes, swales, stormwater diversions, culverts, and ditch blocks;
 - 9) Location of potential sources of pollution (e.g. portable toilets, trash receptacles, etc.) or areas where potential sources of pollution cannot be located;
 - 10) Location of soil stockpiles;
 - 11) Identify steep slopes;
 - 12) Surface waters, including an aerial extent of wetlands;
 - 13) Location of surface water crossings;
 - 14) Locations where stormwater is discharged to surface waters;
 - 15) Location of dewatering discharge points;
 - 16) Locations where chemical treatment of stormwater will be performed, including discharge points;
 - 17) Fueling locations and storage, vehicle and equipment maintenance areas, designated wash water collection site, lubricant and chemical storage, paint storage, material storage, staging areas, and debris collection area;
 - 18) Location of any impervious surfaces upon completion of construction; and
 - 19) Where included as part of the project, the site maps for off-site concrete/asphalt batch plants, equipment staging areas, borrow sites or excavated fill material disposal sites. Site maps must show items 1 through 18 of this section.
- g. Projects that discharge stormwater which flows to a water body listed as impaired under section 303(d) of the Federal Clean Water Act due to sediment, suspended solids or turbidity must identify the water body and impairment in the SWPPP. The department's 303(d) list may be found at the following website under Integrated Reports: deq.nd.gov/WQ
- h. For water bodies which have a TMDL, the SWPPP must describe and conform to the Waste Load Allocations (WLA) of the water body. Information about TMDL allocations may be found at the following website: deq.nd.gov/WQ

2. **Narrative.** The SWPPP must include a narrative description of the selected operational controls and sediment and erosion controls as outlined in Part II(C)(3), Part II(C)(4), and Appendix 1 of this permit. When applicable, a description of the requirements for any additional environmental regulations and local requirements related to the project, as it relates to waters of the state, must also be included or incorporated by reference (e.g. The Wild and Scenic Rivers Act, The National Historic Preservation Act, The Endangered Species Act, Fish and Wildlife Coordination Act, National Environmental Policy Act, Section 404 of the Clean Water Act, etc.).

The narrative shall describe at a minimum:

- a. The installation, removal (if applicable), and maintenance requirements of selected Best Management Practices (BMPs) for each phase/stage of construction activity;
 - b. The rationale for the selection of all BMPs (the design should be included where appropriate);
 - c. Whether selected BMPs are temporary or permanent;
 - d. Any descriptions of infeasibility or explanations as required in Part II of this permit.
3. **Operational Controls.** The SWPPP shall describe the BMPs used in day to day operations on the project site that reduce the contribution of pollutants in stormwater runoff.
- a. The SWPPP must identify a person knowledgeable and experienced in the application of erosion and sediment control BMPs who will oversee the implementation of the SWPPP, and the installation, inspection, and maintenance of the erosion and sediment control BMPs before and during construction until a NOT is filed or the permit is transferred. A knowledgeable and experienced person is someone who meets the requirements of Part II(C)(3)(e) of this permit.
 - b. The owner shall develop a chain of responsibility with all operators on the site to ensure that the SWPPP will be implemented and stay in effect until the construction project is complete, the entire site has undergone final stabilization, and a NOT has been submitted to the department.
 - c. The SWPPP must include a description of good housekeeping practices used to maintain a clean and orderly site. The SWPPP shall describe how litter, debris, chemicals and parts will be handled to minimize exposure to stormwater. The SWPPP also shall describe what measures will be used to reduce and remove sediment tracked off site by vehicles or equipment. In addition, the SWPPP shall describe methods which will be used to reduce the generation of dust that could be discharged in stormwater from the project.
 - d. The SWPPP shall describe spill prevention and response procedures where potential spills can occur. Specific handling procedures, storage requirements, spill containment, cleanup procedures, and disposal must be identified. Storage structures for petroleum products and other chemicals shall have adequate leak and spill protection to prevent any spilled materials from entering waters of the state or storm sewer systems.

The potential discharge of hazardous substances in stormwater discharges shall be minimized by including measures detailed in the SWPPP to prevent and respond to releases of hazardous substances. If a reportable quantity release occurs, the SWPPP shall be revised to prevent the reoccurrence of such a release.

- e. The SWPPP shall outline how employees and responsible parties shall be trained on the implementation of the SWPPP. Training must be provided at least annually, as new employees or responsible parties are hired, or as necessary to ensure compliance with the SWPPP and the general permit. Employees and responsible parties include individuals who are responsible for design, installation, maintenance, and repair of stormwater controls and conducting inspections.

- 1) On-site personnel must understand the requirements of this permit as it pertains to their role in implementing the SWPPP. On-site personnel must know:
 - a. The purpose of the SWPPP, requirements of the SWPPP, and how the SWPPP will be implemented;
 - b. The location of all BMPs identified in the SWPPP; and
 - c. Correct installation, function, maintenance, and removal (if applicable) of BMPs identified in the SWPPP.
 - 2) Personnel responsible for performing site inspections must understand when inspections must be conducted (Part III(A)), what must be inspected (Part II(C)(7)), how to record findings, and when to initiate and properly document corrective actions.
 - 3) Maintenance personnel must understand when maintenance must be performed on BMPs in order to maintain properly functioning BMPs and what needs to be recorded for corrective actions/maintenance records in accordance with Part III(A)(5) of this permit.
- f. The SWPPP must describe how concrete grindings and slurry will be managed. Wastewater from concrete washout, cleanout or washout from stucco, paint, joint compound, and other building materials shall not be discharged to waters of the state, storm sewer systems, or curb and gutter systems.
- 1) Wash water must be collected in leak-proof containers or leak-proof pits. Containers or pits must be designed and maintained so that overflows cannot occur due to inadequate sizing, precipitation events, or snowmelt.
- g. The SWPPP shall describe any dewatering activities planned at the site. Dewatering or basin draining (e.g., pumped discharges, trench/ditch cuts for drainage) related to the permitted activity must be managed with appropriate BMPs, such that the discharge does not adversely affect the receiving water. The following conditions apply to dewatering activities:
- 1) Dewatering is limited to uncontaminated stormwater, surface water, and groundwater that may collect on-site and those sources identified in Part II(A), if they are not a significant source of pollution. A separate permit must be obtained to discharge water from other sources such as hydrostatic testing of pipes, tanks, or other similar vessels; disinfection of potable water lines; pump testing of water wells; and the treatment of refined petroleum contaminated groundwater or surface water.
 - 2) The permittee(s) must operate the discharge to minimize the release of sediment and provide adequate BMPs where necessary to minimize erosion due to the discharge. Discharges must not lead to the deposition of sediment within stormwater conveyance systems or surface waters. Discharges must not cause or potentially cause a visible plume within a surface water body.
 - 3) When dewatering, utilize structures or BMPs which allow for draw down to occur from the surface of the water, unless infeasible. If infeasible, documentation must be provided in the SWPPP. In addition, you must describe what BMP(s) will be used in its place.

- 4) Chemical treatment of dewatering activities for sediment removal must be conducted in accordance with the chemical manufacturer's specifications. Treatment chemicals must be appropriately selected for the anticipated soil particle size and characteristics of the stormwater (pH, turbidity, flow rate of stormwater flowing into the chemical treatment system, etc.). A description of the chemical treatment process must be included in the SWPPP. Permittees shall ensure the selection and management of chemicals minimize the potential for harmful effects in the discharge. The following information must be included in the SWPPP.
 - a. Material Safety Data Sheet/Safety Data Sheet (MSDS/SDS);
 - b. Proposed water additive discharge concentration;
 - c. Discharge frequency (i.e., number of hours per day and number of days per year);
 - d. Monitoring point for product discharge;
 - e. Type of removal treatment, if any, that the water additive receives prior to discharge;
 - f. Product function (e.g., coagulant, flocculant, etc.);
 - g. A 48-hour LC₅₀ or EC₅₀ for a North American freshwater planktonic crustacean (*Ceriodaphnia* sp., *Daphnia* sp., or *Simocephalus* sp.); and
 - h. Results for a toxicity test for one other North American freshwater aquatic species (other than a planktonic crustacean).
 - 5) Local authorities may require specific BMPs for discharges affecting their storm sewer system.
4. **Erosion and Sediment Controls.** Erosion and sediment controls and stabilization requirements must be implemented for each major phase of site activity (e.g., clearing, grading, building, and landscaping phases). A description of the erosion and sediment controls and site stabilization methods must be provided in accordance with Part II(C)(2) of this permit. Erosion and sediment controls, and site stabilization must conform to the requirements provided in Appendix 1. The description and implementation of controls shall address the following minimum components:
- a. The selection of erosion and sediment controls, and site stabilization shall consider the following:
 - 1) The expected amount, frequency, intensity, and duration of precipitation events. Permittees may state that selected erosion and sediment controls and site stabilization methods are industry standards;
 - 2) The nature of stormwater run-on and runoff from the site as well as changes during, and as a result of, construction activity. This includes changes to impervious surfaces, slopes, seasonal changes, and drainage features on-site;
 - 3) Channelized flow must be handled in order to minimize erosion at outlets and to minimize impacts to downstream receiving waters;
 - 4) Soil types (wind and water erodibility, and settling time); and
 - 5) Seasonal conditions.
 - b. Sediment basins, or an appropriate combination of equivalent sediment controls such as smaller sediment basins and/or sediment traps, silt fences, fiber logs, vegetative buffer strips, berms, etc., are required for all down slope boundaries of the disturbance area and for those side slope boundaries as may be appropriate for site conditions.

- c. Temporary or permanent erosion protection and stabilization (such as cover crop planting or mulching) must be initiated immediately, as described in Appendix 1(A), for all exposed soil areas where activities have been completed or temporarily ceased.
- d. All control measures must be properly selected, installed and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee must replace or modify the control for site situations. Corrective actions must be made prior to the next anticipated rainfall event or within 24 hours of discovery (whichever comes first) or as soon as field conditions allow. Documentation must be provided in the maintenance records if field conditions do not allow access along with a plan of action for performing maintenance activities.

The permittee may deviate from the manufacturer's specifications and erosion and sediment control requirements in Appendix 1 if they provide justification for the deviation and document the rationale for the deviation in the SWPPP. Any deviation must provide equivalent erosion and sediment control.

- e. If sediment escapes from the site, off-site accumulations of sediment must be removed in a manner and frequency sufficient to minimize off-site impacts as outlined in Appendix 1(B). The SWPPP must be modified to prevent further sediment deposition off site.
 - f. Stormwater controls are expected to withstand and function properly during precipitation events of up to the 2-year, 24-hour storm event. Visible erosion and/or off-site sediment deposition from such storm events should be minimal. The 2-year, 24-hour rainfall event in North Dakota ranges from about 1.76 inches in the west to 2.50 inches in the east ([NOAA Atlas 14, Volume 8, Version 2, Midwestern States 2013](#)).
 - g. For projects that discharge stormwater which flows to a water body for which there is a TMDL allocation the SWPPP must be consistent with the assumptions, allocations, and requirements in the approved TMDL. If a TMDL specifies certain BMPs or controls to meet a WLA applicable to the project's discharges, the BMPs or controls must be incorporated into the SWPPP. Information about TMDL allocations may be found at the following website: deq.nd.gov/WQ
5. **Stormwater Management.** The SWPPP must identify permanent practices incorporated into the project to control pollutants in stormwater discharges occurring after construction operations have been completed.
- a. Identify stormwater ponds; flow reduction methods; infiltration of runoff on-site; sequential systems which combine several practices or other post-construction stormwater management features.
 - b. Identify velocity / energy dissipation devices placed at discharge locations and appropriate erosion protection for outfall channels and ditches.
 - c. Maintenance for on-site stormwater management features is the responsibility of the permittee until the NOT is submitted or the feature is accepted by the party responsible for long term maintenance.
 - d. The design, installation and use of stormwater management features must comply with applicable local, state or federal requirements.

6. **Maintenance.** The SWPPP shall describe preventative maintenance practices used to ensure the proper operation of erosion and sediment control devices and equipment used or stored on site. All erosion and sediment control measures and other protective measures identified in the SWPPP must be maintained in effective operating condition. The SWPPP must indicate, as appropriate, the maintenance or clean out interval for sediment controls. If site inspections, required in Part III of this permit, identify BMPs that are not operating effectively, maintenance shall be arranged and accomplished in accordance to Appendix 1 or as soon as practicable.
7. **Inspections.** The SWPPP must provide for site inspections as outlined in Part III. The permittee shall ensure that personnel conducting site inspections are familiar with permit conditions and the proper installation and operation of control measures. Inspectors must be knowledgeable in their role of the SWPPP, as outlined in Part II(C)(3)(e) of this permit. The erosion and sediment control measures and stabilized areas identified in the SWPPP shall be observed to ensure they are operating correctly and in serviceable condition. Inspections shall include areas used for storage of materials, permanent stormwater control measures, vehicle maintenance areas, and dewatering activities. These areas shall be inspected for evidence of, or the potential for, pollutants entering a drainage system. If necessary, the plan shall be revised based on the observations and deficiencies noted during the inspection.
8. **SWPPP Review and Revisions.**
 - a. The SWPPP shall be signed in accordance with the Signatory Requirements, Part IV(A)(6), and retained on-site for the duration of activity as outlined in Part III(B). The owner, or owner jointly with the operator (usually the general contractor), shall sign the SWPPP.
 - b. The permittee shall make the SWPPP available upon request to the department, EPA, or, in the case of discharges to a municipal storm sewer system, the operator of the municipal system.
 - c. The permittee shall amend the SWPPP whenever there is a change in design, construction, operation, maintenance, or BMPs. The SWPPP shall be amended if the plan is found to be ineffective in controlling pollutants present in stormwater. The SWPPP shall include a description of the amendment process.

D. Local Requirements

All stormwater discharges must comply with the requirements, policies, or guidelines of municipalities and other local agencies as applicable to the construction site. Any discharges to a storm sewer, ditch or other water course under the jurisdiction of a municipality must comply with any specific conditions or BMPs required by the municipality or agency.

E. Final Stabilization

The permittee(s) must ensure final stabilization of the site. Permittees should submit a NOT within 30 days after final stabilization has been achieved, or another owner/operator (permittee) has assumed control according to Part I(F) for all areas of the site that have not undergone final stabilization. Final stabilization can be achieved in one of the following ways.

1. All soil disturbing activities at the site have been completed and all soils must be stabilized by a uniform perennial vegetative cover with a density of 70 percent of the pre-existing cover over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions and;

- a. All drainage ditches, constructed to drain water from the site after construction is complete, must be stabilized to preclude erosion;
 - b. All temporary erosion prevention and sediment control BMPs (such as silt fence) must be removed as part of the site final stabilization; and
 - c. The permittee(s) must remove all sediment from conveyances and temporary sedimentation basins that will be used as permanent water quality management basins. Sediment must be stabilized to prevent it from being washed into basins, conveyances or drainage ways discharging off-site or to surface waters. The cleanout of permanent basins must be sufficient to return the basin to design capacity.
2. For areas of the state where the average annual rainfall is less than 20 inches, all soil disturbing activities at the site have been completed and erosion control measures (e.g., degradable rolled erosion control product) and stabilization methods are selected, designed, and installed along with an appropriate seed base to provide erosion control for at least three years and achieve 70 percent of the pre-existing vegetative cover within three (3) years without active maintenance. Sites must meet the criteria outlined in items 1(a), (b), and (c) above.
 3. Disturbed areas on land used for agricultural purposes that are restored to their pre-construction agricultural use are not subject to these final stabilization criteria. If the construction activity removed standing crop, the area must be restored in accordance with the landowner.

Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to waters of the state, and areas which are not being returned to their pre-disturbance use must meet the final stabilization criteria in (1) or (2) above.

4. For residential construction only, final stabilization may be achieved when soil is stabilized (see Appendix 1(A)(3)) and down gradient perimeter control for individual lots has been implemented and the residence has been transferred to the homeowner. Additionally, the permittee must distribute a "homeowner fact sheet" to the homeowner to inform the homeowner of the need for, and benefits of, final stabilization. The permittee also must demonstrate that the homeowner received the fact sheet.

III. SELF MONITORING AND REPORTING

A. Inspection and Maintenance Requirements

1. Inspections shall be performed by or under the direction of the permittee at least once every 14 calendar days and within 24 hours after any storm event of greater than 0.25 inches of rain per 24-hour period. Rainfall inspections do not take the place of the scheduled once every 14-calendar day inspection unless the rainfall inspection occurs on the same day as the once every 14-calendar day inspection. Inspections are only required during normal working hours. The permittee shall use a rain gauge on-site or utilize the nearest National Weather Service precipitation gauge station. Rain gauge locations or stations must be representative of the site.
 - a. "Within 24 hours after any storm event greater than 0.25 inches rain per 24-hour period" means that you are required to conduct an inspection within 24 hours once a storm event has produced 0.25 inches, even if the storm event is still continuing. If there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.25 inches or more rain, you are required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

2. There may be times when a site inspection may not be practical at the specified time. Adverse climatic conditions, such as flooding, high winds, tornadoes, electrical storms, site access constraints, etc., may prohibit inspections. The permittee must include a description of why the inspection(s) could not be performed at the designated time in the next inspection record. If an inspection is delayed due to adverse weather conditions or rain events outside normal working hours, an inspection must be conducted during the next working day, or as conditions allow.
3. Some erosion and sediment control measures may require more frequent inspection based on location (e.g., sensitive areas or waters of the state) or as a result of recurring maintenance issues. Erosion or sediment control measures found in need of maintenance between inspections must be repaired or replaced with appropriate measures as soon as practicable. Erosion and sediment control measures which require more frequent inspection based on location or as a result of recurring maintenance issues must be identified in the SWPPP.
4. All inspections conducted during construction must be recorded. These records (or reports) must be retained in accordance with Part III(B). Records (or reports) of each inspection activity shall include:
 - a. Date of inspections;
 - b. Name of person(s) conducting inspections;
 - c. Findings of inspections, including recommendations and schedule for corrective actions;
 - d. Date and amount of all rainfall events greater than 1/4 inch (0.25 inches) in 24 hours;
 - e. Documentation that the SWPPP has been amended when changes are made to BMPs in response to inspections; and
 - f. Signature of person(s) conducting the inspection or other means used to verify an inspector (e.g., work order or preventative maintenance schedule completion).
5. Corrective actions (maintenance activities) performed during construction must be recorded and these records must be retained in accordance with Part III(B). Records for maintenance activity shall include:
 - a. Best Management Practice corrected;
 - b. Date of corrective action;
 - c. Name of person(s) performing corrective actions;
 - d. Corrective actions taken; and
 - e. Corrective actions/maintenance records shall be signed or use another means to verify corrective actions/maintenance were completed (e.g., work order or preventative maintenance schedule completion).
6. Completed areas that have been stabilized but do not meet the 70 percent perennial vegetative cover criteria for final stabilization may be inspected once per month. Inspections may be suspended for parts of the construction site that meet final stabilization requirements of Part II(E) of this permit. The SWPPP must update to identify any areas which meet this condition.

7. Inspections may be suspended where earthwork has been suspended due to frozen ground conditions. The required inspections and maintenance must resume as soon as runoff occurs or the ground begins to thaw at the site. The permittee must record freeze/thaw and runoff dates as part of the inspection records.
8. Dewatering activities shall be inspected daily. The inspection must include the dewatering site, areas where BMPs are being implemented and the discharge location. A record (or report) shall be maintained to document the inspections of the dewatering operation and actions taken to correct any problems that may be identified. Records shall contain at a minimum:
 - a. Date of inspections;
 - b. Name of person(s) conducting inspections;
 - c. Approximate volume of water discharged;
 - d. Findings of the inspection, including recommendations and schedule for corrective actions;
 - e. Corrective actions taken (including dates and party completing maintenance activities);
 - f. Documentation that the SWPPP has been amended when changes are made to the dewatering activity in response to inspections; and
 - g. Signature of person(s) conducting inspections and maintenance or other means used to verify an individual (e.g., work order or preventative maintenance schedule completion).

B. Records Location

A copy of the completed and signed NOI, coverage letter from the department, SWPPP, site inspection records, corrective actions/maintenance records, and this general permit shall be kept at the site of the construction activity in a field office, trailer, shed, vehicle that is on-site during normal working hours, or other reasonable on-site location. If the site does not have a reasonable on-site location, then the documents must be retained at a readily available alternative location; preferably with the individual responsible for overseeing the implementation of the SWPPP. Electronic copies of records are acceptable if the records can be accessed on-site. If the site is inactive, then the documents may be stored at a local office. Permittees should avoid using personal electronic devices for storing electronic records.

IV. STANDARD CONDITIONS

A. COMPLIANCE RESPONSIBILITIES BP 2019.05.29

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

2. Proper Operation and Maintenance

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. If necessary to achieve compliance with the conditions of this permit, this shall include the operation and maintenance of backup or auxiliary systems.

3. Planned Changes

The department shall be given advance notice of any planned changes at the permitted facility or of an activity which may result in permit noncompliance. Any anticipated facility expansions, production increase, or process modifications which might result in new, different, or increased discharges of pollutants shall be reported to the department as soon as possible. Changes which may result in a facility being designated a "new source" as determined in 40 CFR 122.29(b) shall also be reported.

4. Duty to Provide Information

The permittee shall furnish to the department, within a reasonable time, any information which the department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the department, upon request, copies of records required to be kept by this permit. When a permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in a permit application or any report, it shall promptly submit such facts or information.

5. Records Retention

All records and information (including calibration and maintenance) required by this permit shall be kept by the permittee for at least three years from the date that permit coverage expires or is terminated or longer if requested by the department or EPA.

6. Signatory Requirements

All applications, reports, or information submitted to the department shall be signed and certified.

All permit applications shall be signed by a responsible corporate officer for a corporation; a general partner or the proprietor for a partnership or sole proprietorship; or a principal executive officer or ranking elected official for a municipality, State, Federal, or other public agency.

All reports required by the permit and other information requested by the department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- a. The authorization is made in writing by a person described above and included in the SWPPP; and
- b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

A copy of the written authorization must be submitted to the department upon request. If an authorization under 6. Signatory Requirements is no longer accurate for any reason, a new authorization satisfying the above requirements must be included in the SWPPP.

Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

7. Twenty-four Hour Notice of Noncompliance Reporting

- a. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of the circumstances. The oral report shall be made the department at 701.328.5210.
- b. A written submission shall also be provided within five days of the time that the permittee became aware of the circumstances. The written submission shall contain:
 - 1) A description of the noncompliance and its cause;
 - 2) The period of noncompliance, including exact dates and times;
 - 3) The estimated time noncompliance is expected to continue if it has not been corrected; and
 - 4) Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

Reports shall be submitted to the department at the following address:

ND Department of Environmental Quality
Division of Water Quality
918 East Divide Ave
Bismarck ND 58501-1947

The department may waive the written report on a case by case basis if the oral report has been received within 24 hours by the department at 701.328.5210 as identified above.

8. Bypass of Treatment Facilities

- a. Prohibition of Bypass. Bypass is prohibited, and the department may take enforcement action against a permittee for bypass, unless:
 - 1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - 2) There were no feasible alternatives to the bypass. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of preventive maintenance; and

The department may approve an anticipated bypass, after considering its adverse effects, if the department determines that it will meet the two (2) conditions listed above.

9. Upset Conditions

An upset constitutes an affirmative defense to an action brought for noncompliance with erosion and sediment or site stabilization methods if the requirements of the following paragraph are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- a. An upset occurred and the permittee can identify its cause(s);
- b. The permitted facility was, at the time being, properly operated;

- c. The permittee submitted notice of the upset as required under 7. Twenty-four Hour Notice of Noncompliance Reporting and
- d. The permittee complied with any remedial measures required under 10. Duty to Mitigate.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

10. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. The permittee, at the department's request, shall provide accelerated or additional monitoring as necessary to determine the nature and impact of any discharge.

11. Removed Materials

Collected screenings, grit, solids, sludges, or other pollutants removed in the course of treatment shall be buried or disposed of in such a manner to prevent any pollutant from entering any waters of the state or creating a health hazard.

12. Duty to Reapply

Any request to have this permit renewed should be made fifteen days prior to its expiration date.

B. GENERAL PROVISIONS

1. Inspection and Entry

The permittee shall allow department and EPA representatives, at reasonable times and upon the presentation of credentials if requested, to enter the permittee's premises to inspect the construction activity and monitoring equipment, to sample any discharges, and to have access to and copy any records required to be kept by this permit.

2. Availability of Reports

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the department and EPA. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

3. Transfers

This permit is not transferable except upon the filing of a Transfer/Modification request (Part I(F)) by the new party. The current permit holder should inform the new controller, operator, or owner of the existence of this permit and also notify the department of the possible change.

4. New Limitations or Prohibitions

The permittee shall comply with any effluent standards or prohibitions established under Section 306(a), Section 307(a), or Section 405 of the Act for any pollutant (toxic or conventional) present in the discharge or removed substances within the time identified in the regulations even if the permit has not yet been modified to incorporate the requirements.

5. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. This includes the establishment of limitations or prohibitions based on changes to Water Quality Standards, the development and approval of waste load allocation plans, the development or revision to water quality management plans, or the establishment of prohibitions or more stringent limitations for toxic or conventional pollutants and/or sewage sludges. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

6. **Need to Halt or Reduce Activity Not a Defense**

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

7. **State Laws**

Nothing in this permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation preserved under Section 510 of the Act.

8. **Oil and Hazardous Substance Liability**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

9. **Property Rights**

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

10. **Severability**

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

V. DEFINITIONS

“303(d) list” or **“section 303(d) list”** means a list of North Dakota’s water quality-limited waters needing total maximum daily loads or TMDLs developed to comply with section 303(d) of the Clean Water Act. A copy of the list is available on the state’s web site at: deq.nd.gov/WQ

“Act” means the Clean Water Act.

“Bankfull” means the channel is filled to the top of one or both of its banks.

“BMP” or **“best management practices”** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements, operating procedures and practices to control construction site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

“Bypass” means the intentional diversion of waste streams from any portion of a treatment facility.

“Common plan of development or sale” means a contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. One plan is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land-disturbing activities may occur.

“Construction activity” means construction activity as defined in 40 CFR part 122.26(b)(14)(x) and small construction activity as defined in 40 CFR part 122.26(b)(15). This includes a disturbance to the land that results in a change in topography, existing soil cover (both vegetative and non-vegetative), or the existing soil topography that may result in accelerated stormwater runoff, leading to soil erosion and movement of sediment into surface waters or drainage systems. Examples of construction activity may include clearing, grading, filling and excavating. Construction activity includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb one (1) acre or more. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

“Department” means the North Dakota Department of Environmental Quality, Division of Water Quality.

“Energy dissipation” means methods employed at pipe outlets to prevent erosion. Examples include, but are not limited to: concrete aprons, riprap, splash pads, and gabions that are designed to prevent erosion.

“Indian country” means (1) All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservations; (2) All dependent Indian communities within the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and (3) All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

“Infeasible” means not technologically possible or not economically practicable and achievable in light of best industry practices.

“Immediately” means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.

“Large construction activity” means land disturbance of equal to or greater than five (5) acres. Large construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan will ultimately disturb equal to or greater than five acres.

“Normal wetted perimeter” means the area of a conveyance, such as a ditch, channel, or pipe that is in contact with water during flow events that are expected to occur once every year.

“Non-stormwater discharges” means discharges other than stormwater. The term includes both process and non-process sources. Process wastewater sources that require a separate NDPDES permit include, but are not limited to industrial processes, domestic facilities and cooling water. Non-stormwater sources that may be addressed in this permit include, but are not limited to: fire-fighting, fire hydrant flushing, potable water line flushing, equipment wash down without detergents or hazardous cleaning products, uncontaminated foundation drains, springs, surface water, lawn watering, chemical treatment of stormwater and air conditioning condensate.

“Operator” means the person (usually the general contractor) designated by the owner who has day to day operational control and/or the ability to modify project plans and specifications related to the SWPPP. The person must be knowledgeable in those areas of the permit for which the operator is responsible and must perform those responsibilities in a workmanlike manner.

“Owner” means the person or party possessing the title of the land on which the construction activities will occur; or if the construction activity is for a lease holder, the party or individual identified as the lease holder; or the contracting government agency responsible for the construction activity.

“Permanently ceased” means clearing and excavation within any area of your construction site that will not include permanent structures has been completed.

“Permanent Cover” means final stabilization. Examples include grass, gravel, asphalt, and concrete.

“Severe property damage” means substantial physical damage to property, damage to best management practices which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in construction.

“Significant materials” includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; hazardous substances designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

“Significant spills” includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (see 40 CFR 110.10 and CFR 117.21) or Section 102 of CERCLA (see 40 CFR 302.4).

“Small construction activity” means land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan will ultimately disturb equal to or greater than one and less than five acres.

“Stabilized” means the exposed ground surface has been covered by appropriate materials such as mulch, staked sod, riprap, erosion control blanket, or other material that prevents erosion from occurring. Grass seeding alone is not stabilization. Snow cover and frozen ground conditions are not considered stabilized.

“Steep Slopes” means slopes which are 3:1 (Horizontal:Vertical) or greater in grade.

“Stormwater” means stormwater runoff, snow melt runoff, and surface runoff and drainage.

“Stormwater associated with industrial activity” means stormwater runoff, snow melt runoff, or surface runoff and drainage from industrial activities as defined in 40 CFR 122.26(b)(14).

“Stormwater associated with small construction activity” means the discharge of stormwater from:

(i) Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

(ii) Any other construction activity designated by EPA or the Department, based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the state.

“Temporarily ceased” means clearing, grading, and excavation within any area of the site that will not include permanent structures, will not resume (i.e., the land will be idle) for a period of 14 or more calendar days, but such activities will resume in the future.

“Temporary erosion protection” means methods employed to prevent erosion. Examples of temporary cover include; mulch, straw, erosion control blanket, wood chips, tackifiers, and erosion netting.

“Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with permit requirements because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed erosion and sediment controls or site stabilization methods, inadequate erosion and sediment controls or site stabilization methods, lack of preventive maintenance, or careless or improper operation.

“Waters of the state” means any and all surface waters that are contained in or flow in or through the state of North Dakota as defined in NDCC 61-28-02. This definition includes all water courses, even if they are usually dry.

Appendix 1 – Erosion and Sediment Control Requirements

Requirements for designing, implementing and maintaining erosion and sediment controls.

A. Erosion and Sediment Control Practices

1. Sites using temporary (or permanent) sediment basins must meet the following requirements:
 - a. Sediment basins shall be designed for a calculated volume of runoff from a 2-year, 24-hour storm per acre drained to the basin and provides not less than 1,800 cubic feet of sediment storage below the invert of the outlet pipe from each acre drained to the basin; or
 - b. Basins shall be sized to provide 3,600 cubic feet of sediment storage below the invert of the outlet pipe per acre drained to the basin if calculations are not performed.
 - c. Basin outlets must be designed to avoid short-circuiting and the discharge of floating debris. Basins must be designed with the ability to allow complete basin drawdown for maintenance activities. Basins must release the storage volume in at least 24 hours. Outlet structures must be designed to withdraw water from the surface, unless not practicable. If not practicable, rationale must be provided in the SWPPP. The basin must have a stabilized emergency overflow to prevent failure of pond integrity. Energy dissipation must be provided for the basin outlet.
2. Erosion, sediment, and stabilization practices shall be provided. Erosion, sediment, and stabilization practices include such things as: silt fences, fiber logs, stabilized earth berms, vegetative buffer strips, erosion control blankets, mulch, hydro-seeding combined with mulch or tackifiers, etc.
3. All exposed soil areas must be stabilized (see definitions). Stabilization must be initiated immediately where activities have been permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding fourteen (14) calendar days. Stabilization must be completed as soon as practicable, but no later than fourteen (14) calendar days after the initiation of soil stabilization. Temporary stockpiles without significant silt, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) are exempt from this requirement.
 - a. For slopes with a grade of 3:1 or greater, stabilization must be initiated immediately once activities have been completed or temporarily ceased. Stabilization must be completed as soon as practicable, but no later than seven (7) calendar days after the initiation of soil stabilization.
4. Temporary soil stockpiles must have effective sediment controls, and cannot be placed in surface waters, including stormwater conveyances such as curb and gutter systems, or conduits and ditches.
5. The normal wetted perimeter of any temporary or permanent drainage ditch that drains water from a construction site, or diverts water around a site, must be stabilized at least 200 linear feet from the property edge, or from the point of discharge to any surface water. Stabilization shall be completed prior to connection with a surface water. Any remaining portion of the temporary or permanent drainage ditch must be stabilized within fourteen (14) calendar days for portions which construction activities have temporarily or permanently ceased.
6. If stabilization requirements cannot be met due to circumstances beyond the control of the permittee, the permittee may comply with following:
 - a. If vegetative stabilization is to be used, immediately initiate, and within 14 calendars days complete, the installation of temporary non-vegetated stabilization; or
 - b. Complete all methods of initiating stabilization as soon as conditions or circumstances allow.

If any conditions in parts (a) or (b) above are encountered, the permittee must document in the SWPPP the circumstances which prevented the stabilization requirements from being met and provide a schedule in the SWPPP which will be followed in order to meet the stabilization requirements.

Permittees are responsible for implementing winter stabilization methods during frozen ground conditions if the site was not stabilized prior to the ground freezing.

7. Stream diversions, or any temporary or permanent drainage ditch or trench which will have continuous flow, shall be stabilized with appropriate controls prior to connection with any surface water. The entire area (channel and bank) of the stream diversion or temporary or permanent drainage ditch, or trench, must be appropriately stabilized to bankfull height.
8. While working in or around surface waters, sediment and erosion controls must be used above the anticipated level of the surface water. Floating silt curtain does not satisfy the down slope and side slope boundary requirements in Part II(C)(4)(b) of this permit, unless the construction activity is on or below the elevation of the surface water. Floating silt curtain must be placed as close to shore as possible. Sediment controls must be installed where exposed soils drain to the surface water immediately after construction activity along the waterline has been completed.
9. Pipe and culvert outlets must be provided with energy dissipation prior to connection with a surface water.
10. Splash pads and/or downspout extensions must be provided for roof drains to prevent erosion from roof runoff.
11. All storm drain inlets in the immediate vicinity of the construction site must be protected by appropriate BMPs during construction until all disturbed areas and stockpiles with the potential to discharge to the inlet have been stabilized. This includes storm drain inlets which may be affected by sediment tracked onto paved surfaces by vehicles or equipment.
12. Inlet protection devices are a last line of control – erosion and sediment control practices must be used on site. Inlet protection devices must conform to local ordinances or regulations. In general, inlet protection devices need to provide for adequate drainage to prevent excessive roadway flooding. Inlet protection may be removed for a particular inlet if a specific concern (i.e., street flooding/freezing, snow removal) has been identified and documented in the SWPPP. In this situation, additional erosion and sediment control practices, or stabilization methods must be used to supplement the loss of the inlet protection device to prevent sediment from entering the storm sewer system.
13. Vegetated buffers must have a minimum width of 1 foot for every 5 feet of disturbed area that drains to the buffer. The width of the buffer shall have a slope of 5 percent or less and the area draining to the buffer shall have a slope of 6 percent or less. Concentrated flows should be minimized throughout the buffer.

Buffers shall consist of dense grassy vegetation, 3 to 12 inches tall with uniform coverage over 90 percent of the buffer. Woody vegetation shall not be counted for the 90 percent coverage. No more than 10 percent of the overall buffer may be comprised of woody vegetation.
14. A 50-foot natural buffer or equivalent erosion and sediment controls must be provided when a project is within 50 feet of a surface water and stormwater flows to the surface water. If equivalent erosion and sediment controls are used, rationale for using equivalent controls must be provided in the SWPPP.

If working within 100 feet of a surface water listed as impaired for sediment, suspended solids or turbidity, a 100-foot natural buffer or equivalent sediment and erosion controls must be provided. If equivalent erosion and sediment controls are to be used, rationale for using equivalent controls must be provided in the SWPPP.

15. Discharges from the chemical treatment of stormwater must not cause a violation of the standards of quality for waters of the state (NDAC 33.1-16-02.1). The discharge must meet the dewatering or basin draining requirements provided in Part II(C)(3)(g) of this permit.
16. Minimize the duration of exposed soils on steep slopes.

B. Maintenance Requirements for Erosion and Sediment Controls

1. All erosion prevention and sediment control BMPs must be inspected to ensure integrity and effectiveness. All nonfunctional BMPs must be repaired, maintained, or replaced with functional BMPs. Corrective actions must be made prior to the next anticipated rainfall event or within 24 hours of discovery (whichever comes first), or as soon as field conditions allow access. Documentation must be provided in the maintenance records if field conditions do not allow access along with a plan of action for performing maintenance activities.

Permittees must investigate and comply with the following inspection and maintenance requirements:

- a. All control devices similar to, and including, silt fence or fiber rolls must be repaired, replaced, maintained or supplemented when they become nonfunctional (torn from posts, visible tears, etc.). Collected sediment must be removed as it approaches 1/2 of the above ground capacity of the control device.
 - b. Fiber rolls must be replaced when 1/2 of the original above ground height of the device when it was installed has been lost as a result of flattening or other damage.
 - c. Sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches 1/2 the storage volume. Drainage and removal must be completed within 72 hours of discovery, or as soon as field conditions allow access. Documentation must be provided in the maintenance records if field conditions do not allow access along with a plan of action for performing maintenance activities.
 - d. Maintenance and cleaning of inlet protection devices must be performed when sediment accumulates, the filter becomes clogged, and/or performance is compromised.
2. Surface waters, including drainage ditches and conveyance systems, must be inspected for evidence of sediment deposited by erosion. Permittees must remove all deltas and sediment deposits in surface waters, drainage ways, catch basins, and other drainage systems. Areas where sediment removal results in exposed soil must be stabilized. Removal and stabilization must take place immediately, but no more than, seven (7) calendar days after the discovery unless precluded by legal, regulatory or physical access constraints. Permittees shall use all reasonable efforts to obtain access. If precluded, removal and stabilization shall take place immediately, but no more than, seven (7) calendar days after obtaining access. Permittees are responsible for contacting all local, regional, state, and federal authorities, and receiving any applicable permits prior to conducting any work.
 3. Vehicle tracking of sediment from the site must be minimized by BMPs. This may include having a designated egress with aggregate surfacing from the site or by designating off-site parking. Permittees are responsible for (or making the arrangements for) street sweeping and/or scraping if BMPs are not adequate to prevent sediment from being tracked onto the street from the site.

Construction site egress locations must be inspected for evidence of sediment being tracked offsite by vehicles or equipment onto paved surfaces. Accumulations of tracked and deposited sediment must be removed from all off-site paved surfaces by the end of the work day, shift or if applicable, within a shorter time specified by local authorities or the department.

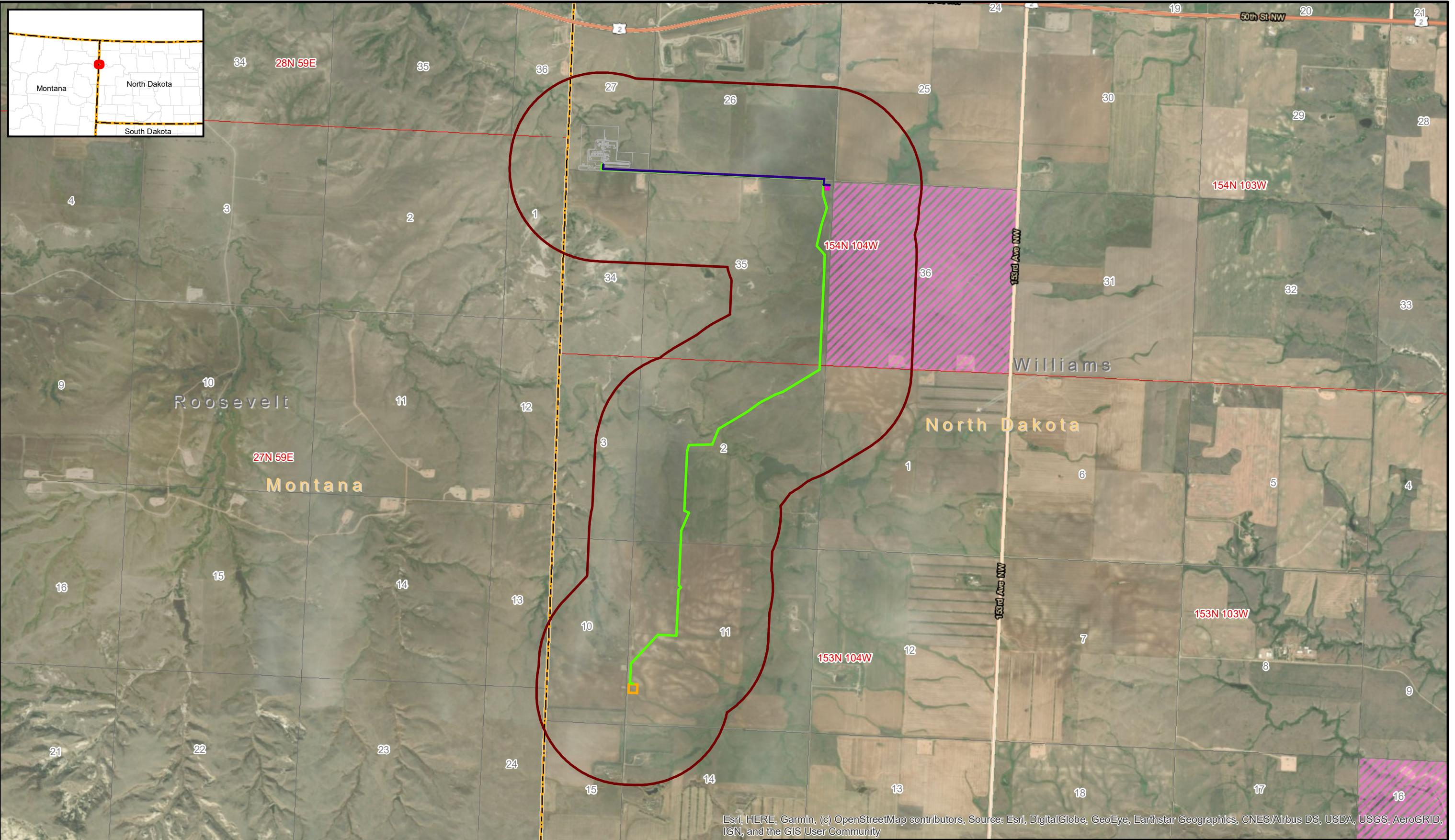
4. If sediment escapes the construction site, off-site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off-site impacts (e.g., fugitive sediment in streets could be washed into storm sewers by the next rain event and/or pose a safety hazard to users of public streets). BMPs shall be used to minimize further impacts of off-site accumulations of sediment until the off-site accumulations are removed. Impervious surface wash water may not be directed into any surface water or storm drain inlet unless appropriate pollution prevention measures have been implemented.
5. Vegetative buffers must be inspected for proper distribution of flows, sediment accumulation and signs of rill formation. If a buffer becomes silt covered, contains rills, or is otherwise rendered ineffective, other control measures shall be implemented. Eroded areas shall be repaired and stabilized within 24 hours of discovery, or as soon as conditions allow access. Documentation must be provided in the maintenance records if field conditions do not allow access along with a plan of action for performing maintenance activities.

C. Operational Controls

1. Properly handle construction debris and waste materials.
 - a. Debris and waste must be handled appropriately until disposal. Litter and debris shall be collected and stored to reduce the potential for wind and water to carry the materials off-site or leachate discharging from a site. Collected material shall be taken to the appropriate facility for disposal or recycling.
 - b. Liquid or soluble materials including oil, fuel, paint, and any other hazardous substances must be properly stored, to prevent spills, leaks or other discharges. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of liquid or soluble material must be in compliance with applicable regulations.
2. Wash water containments must be cleaned out (solids and liquid) before 80 percent of storage capacity is attained.
3. BMPs used in surface waters must be cleaned immediately upon removal from surface waters to prevent the transfer of aquatic nuisance species.
4. Fueling operations must be managed to minimize spills or leaks. Collected spill or leak material must be disposed in compliance with applicable regulations.

APPENDIX B
PROJECT OVERVIEW MAP

Date: 5/6/2020 User: ALeonard Path: \\azrgis\storp01\GIS_Projects\Client\OutriggerEnergy\20203533_SandersonGasPlant\MXD\IPSC\IOE_AppA_Fig1_Overview.mxd



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LEGEND			
	NGL 8in Steel Pipeline		State Land
	Residue 20in Steel Pipeline		County Boundary
	NGL Meter Site		Township/Range
	Residue Meter Site		Section
	Study Area		

0 0.25 0.5 1
Miles

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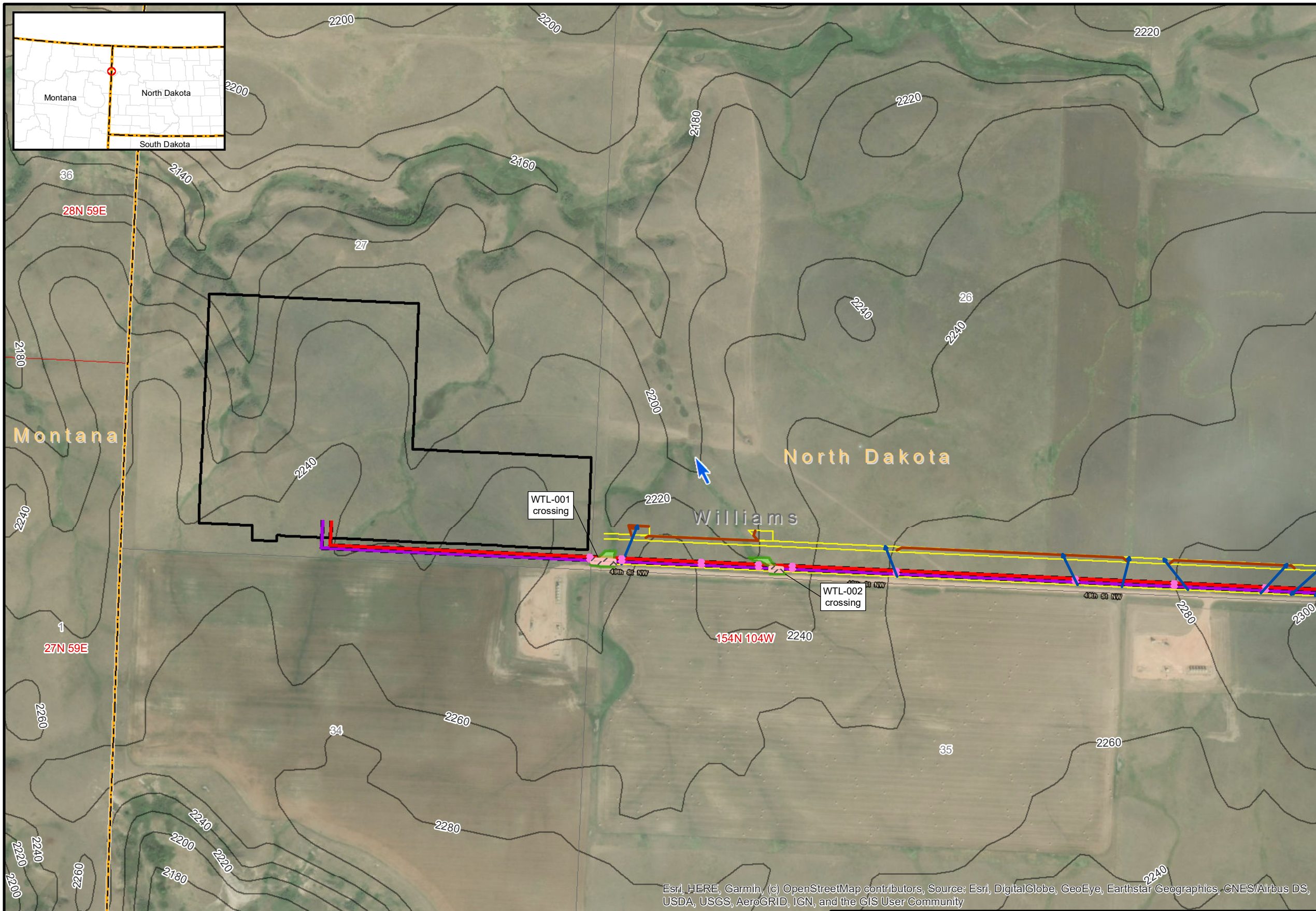
PROJECT NO.	20203533
CREATED:	5/6/2020
CREATED BY:	A. Leonard
CHECKED BY:	A. Daniel
FILE NAME:	OE_AppA_Fig1_Overview.mxd

Project Overview Map	
OE2 North, LLC Pipeline Project	
Secs. 26, 27, & 35, T154N, R104W Secs. 11 & 2, T153N, R103W Williams County, North Dakota	

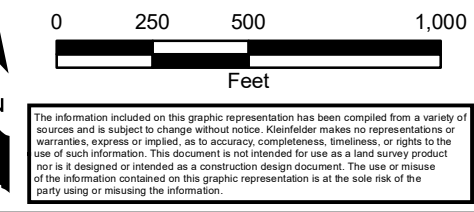
FIGURE
1

APPENDIX C
SWPPP SITE MAPS

Date: 5/29/2020 User: ALeonard Path: \\azrgis\storp01\GIS_Projects\Client\Outrigger\Energy\20203533_SandersonGasPlant\MXD\PSC\IOE_PSC_SWPPP.mxd



LEGEND			
	NGL 8in Steel Pipeline		Proposed ONEOK Meter Site
	Residue 20in Steel Pipeline Centerline		Limits of Disturbance
	Proposed Northern Border Meter Site		Facility Boundary
	Surface Water Flow Direction		Potential WOTUS Avoidance Area
	County Boundary		Elevation Contour
	State Boundary		Township/Range
	Section		Site Features



PROJECT NO.	20203533
CREATED:	5/29/2020
CREATED BY:	A. Leonard
CHECKED BY:	A. Daniel
FILE NAME:	OE_PSC_SWPPP.mxd

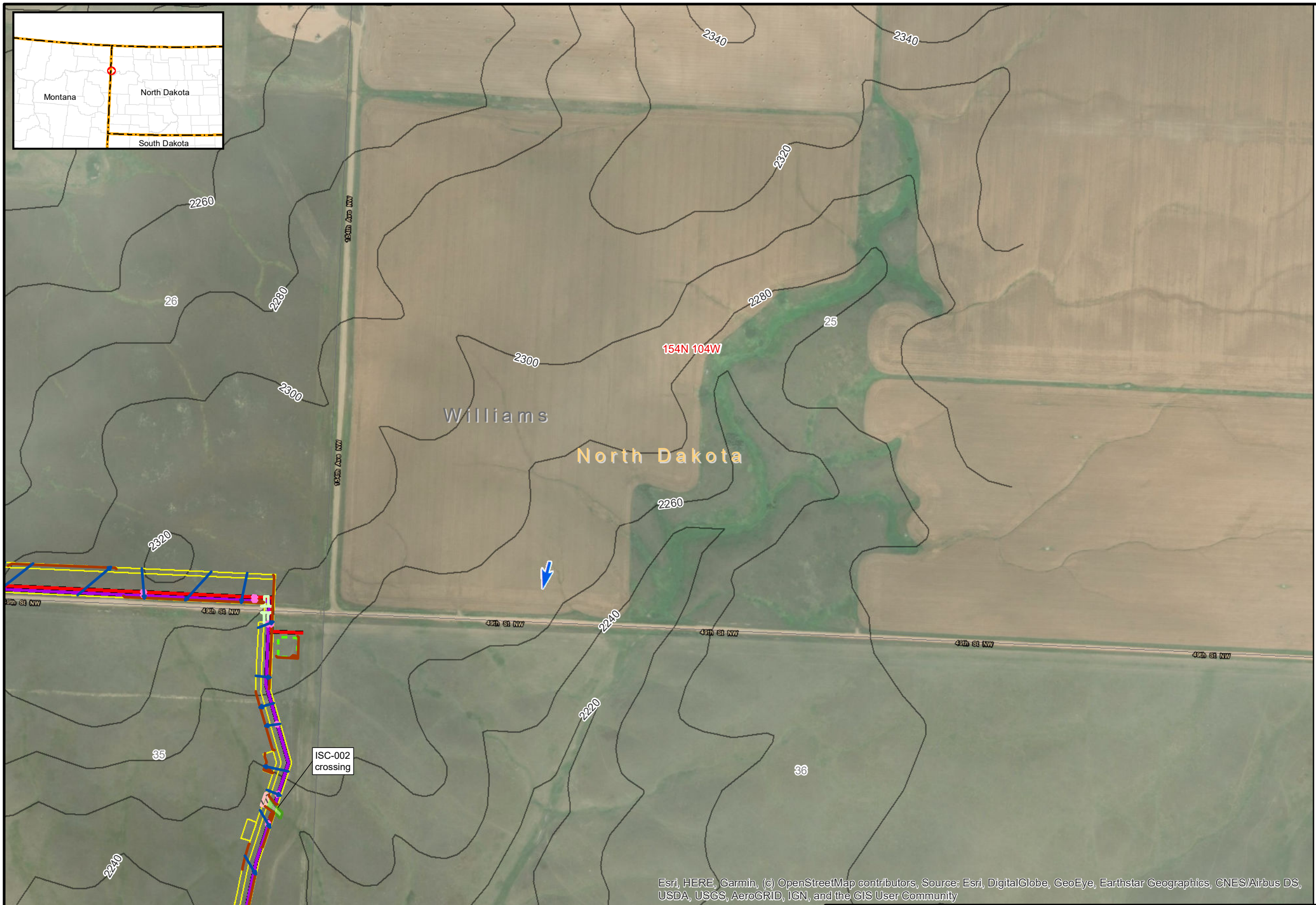
SWPPP Map	
OE2 North, LLC Bill Sanderson Residue and NGL Pipelines Project Sec. 27, T154N, R104W Williams County, North Dakota	

FIGURE
1

- NOTES:**
- The contractor shall be responsible for all site preparation, grading, fence installation, and environmental controls. Contractor shall install all soil erosion and sediment controls at the commencement of construction and shall provide maintenance and ensure effectiveness throughout the life of the Project.
 - BMP locations will be determined in the field based on in-field conditions.
 - Hand-written living document changes (mark-ups) on SWPPP Site Maps are needed to document changes in field conditions as required by the Project. Living document changes are useful for documenting the status of BMPs drawn on the Site Maps but are especially important for documenting ever-changing features. When markups become too extensive, individual copies of Site Map sheets can be retired with their applicable date range marked on them.
 - Existing work site conditions and environmental features shall be retained and protected with minimal disturbance to the maximum extent practical, this effort includes maintaining existing drainage features, contours, slopes, soil conditions, and vegetation patterns as far as development and local conditions permit and otherwise minimizing disturbances and damages to the work site and adjoining lands. Vegetation shall be left in place wherever possible within construction areas.
 - All waters to be avoided and other environmentally sensitive areas that are not permitted for impacts shall be clearly marked (e.g., mandatory keep-out signage and brightly colored snow fence or other clear visual boundary marker) in the field, and all site personnel shall be trained to avoid unpermitted activities in these areas.
 - Postponing work during wet, rainy conditions will be done as much as possible to prevent vehicle wheel ruts and soil erosion.
 - Filter bags, or other temporary sediment control BMPs, will be placed down-gradient of soil disturbances as needed when stabilization is not completed immediately (e.g. overnight, over weekends, or during inclement weather).
 - Seeding and straw mulching will be used to stabilize disturbed surfaces as needed to prevent soil erosion within the limits of disturbance. Seed mixes will follow North Dakota State University Extension and Natural Resources Conservation Service recommendations unless the landowner specifies otherwise. Please see the appropriate district seed mix storm water BMP detail.
 - Spoils, topsoil, and other materials from construction activities shall be stockpiled outside of any floodways and at least 50 feet away from surface waters and drainage areas.
 - Construction entrances shall be properly stoned to adequately clean tires when transitioning from dirt roads to public roadways.
 - Inlet protection is required at all sewer inlets, grates, and manholes for sediment control.
 - The contractor shall restore/repair all access roads, both public and private, state and local roads, and areas outside of the construction area to their preconstruction conditions or better to the satisfaction of the owner and in accordance with any landowner agreements and/or permits.
 - Trash and construction debris will be properly disposed on by the Contractor. Locations of dumpsters will be marked on the Site maps.

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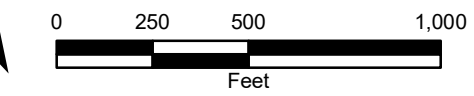
Date: 5/29/2020 User: ALeonard Path: \\azrgis\corp01\GIS_Projects\Client\OutriggerEnergy\20203533_SandersonGasPlant\MXD\PSC\IOE_PSC_SWPPP.mxd



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- NOTES:**
- 1.The contractor shall be responsible for all site preparation, grading, fence installation, and environmental controls. Contractor shall install all soil erosion and sediment controls at the commencement of construction and shall provide maintenance and ensure effectiveness throughout the life of the Project.
 - 2.BMP locations will be determined in the field based on in-field conditions.
 - 3.Hand-written living document changes (mark-ups) on SWPPP Site Maps are needed to document changes in field conditions as required by the Project. Living document changes are useful for documenting the status of BMPs drawn on the Site Maps but are especially important for documenting ever-changing features. When markups become too extensive, individual copies of Site Map sheets can be retired with their applicable date range marked on them.
 - 4.Existing work site conditions and environmental features shall be retained and protected with minimal disturbance to the maximum extent practical, this effort includes maintaining existing drainage features, contours, slopes, soil conditions, and vegetation patterns as far as development and local conditions permit and otherwise minimizing disturbances and damages to the work site and adjoining lands. Vegetation shall be left in place wherever possible within construction areas.
 - 5.All waters to be avoided and other environmentally sensitive areas that are not permitted for impacts shall be clearly marked (e.g., mandatory keep-out signage and brightly colored snow fence or other clear visual boundary marker) in the field, and all site personnel shall be trained to avoid unpermitted activities in these areas.
 - 6.Postponing work during wet, rainy conditions will be done as much as possible to prevent vehicle wheel ruts and soil erosion.
 - 7.Filter bags, or other temporary sediment control BMPs, will be placed down-gradient of soil disturbances as needed when stabilization is not completed immediately (e.g. overnight, over weekends, or during inclement weather).
 - 8.Seeding and straw mulching will be used to stabilize disturbed surfaces as needed to prevent soil erosion within the limits of disturbance. Seed mixes will follow North Dakota State University Extension and Natural Resources Conservation Service recommendations unless the landowner specifies otherwise. Please see the appropriate district seed mix storm water BMP detail.
 - 9.Spoils, topsoil, and other materials from construction activities shall be stockpiled outside of any floodways and at least 50 feet away from surface waters and drainage areas.
 - 10.Construction entrances shall be properly stoned to adequately clean tires when transitioning from dirt roads to public roadways.
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LEGEND		
NGL 8in Steel Pipeline	Proposed ONEOK Meter Site	Surface Water Flow Direction
Residue 20in Steel Pipeline Centerline	Limits of Disturbance	Potential WOTUS Avoidance Area
Proposed Northern Border Meter Site	Facility Boundary	Elevation Contour
	Site Features	
	County Boundary	
	State Boundary	
	Township/Range	
	Section	



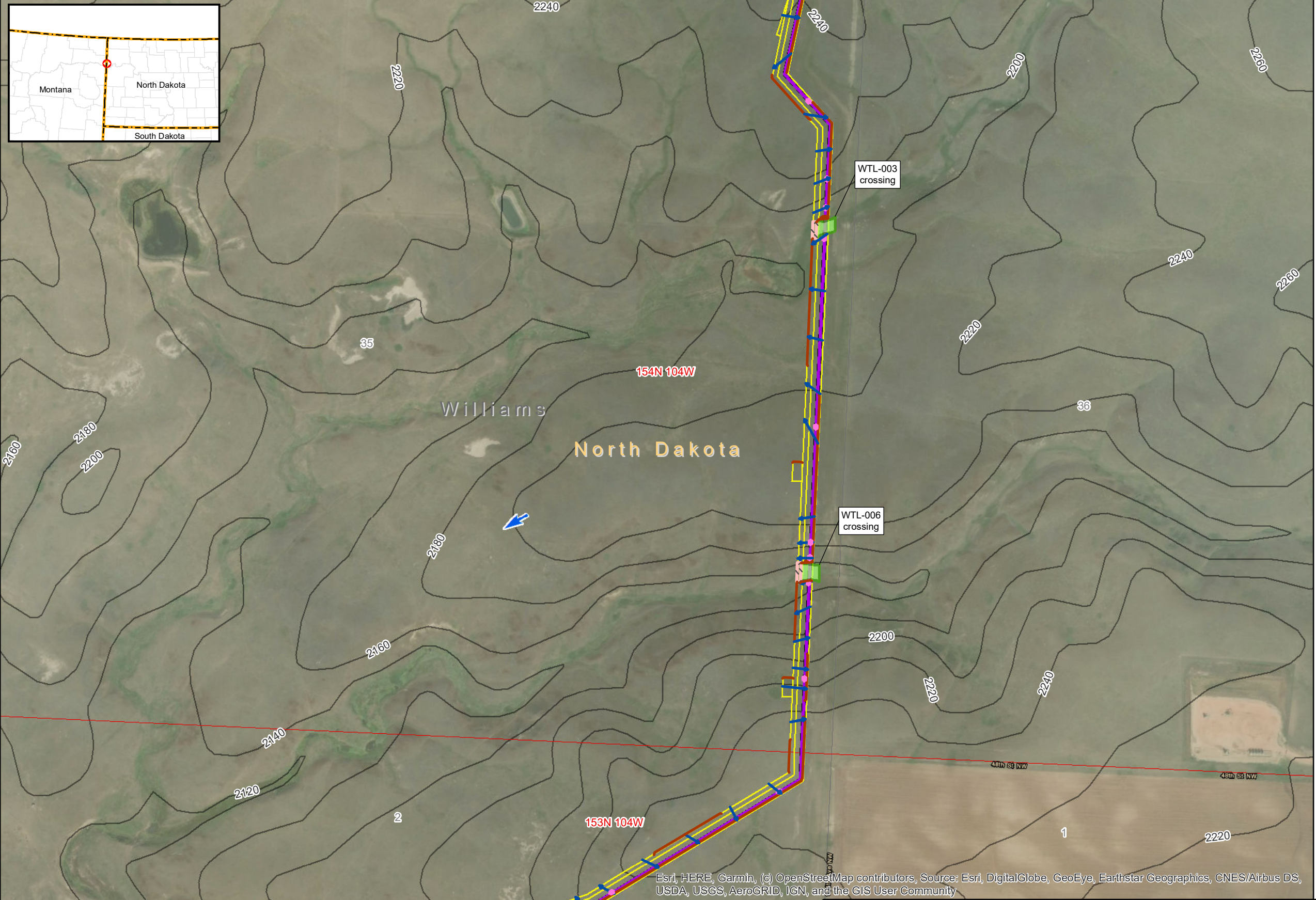
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PROJECT NO.	20203533
CREATED:	5/29/2020
CREATED BY:	A. Leonard
CHECKED BY:	A. Daniel
FILE NAME:	OE_PSC_SWPPP.mxd

SWPPP Map	
OE2 North, LLC Bill Sanderson Residue and NGL Pipelines Project Sec. 27, T154N, R104W Williams County, North Dakota	

FIGURE
1

Date: 5/29/2020 User: ALeonard Path: \\azrgis\corp01\GIS_Projects\Client\OutriggerEnergy\20203533_SandersonGasPlant\MXD\PSC\IOE_PSC_SWPPP.mxd



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LEGEND

NGL 8in Steel Pipeline	Proposed ONEOK Meter Site	Surface Water Flow Direction	County Boundary
Residue 20in Steel Pipeline Centerline	Limits of Disturbance	Potential WOTUS Avoidance Area	State Boundary
Proposed Northern Border Meter Site	Facility Boundary	Elevation Contour	Township/Range
	Site Features		Section

0 250 500 1,000
Feet

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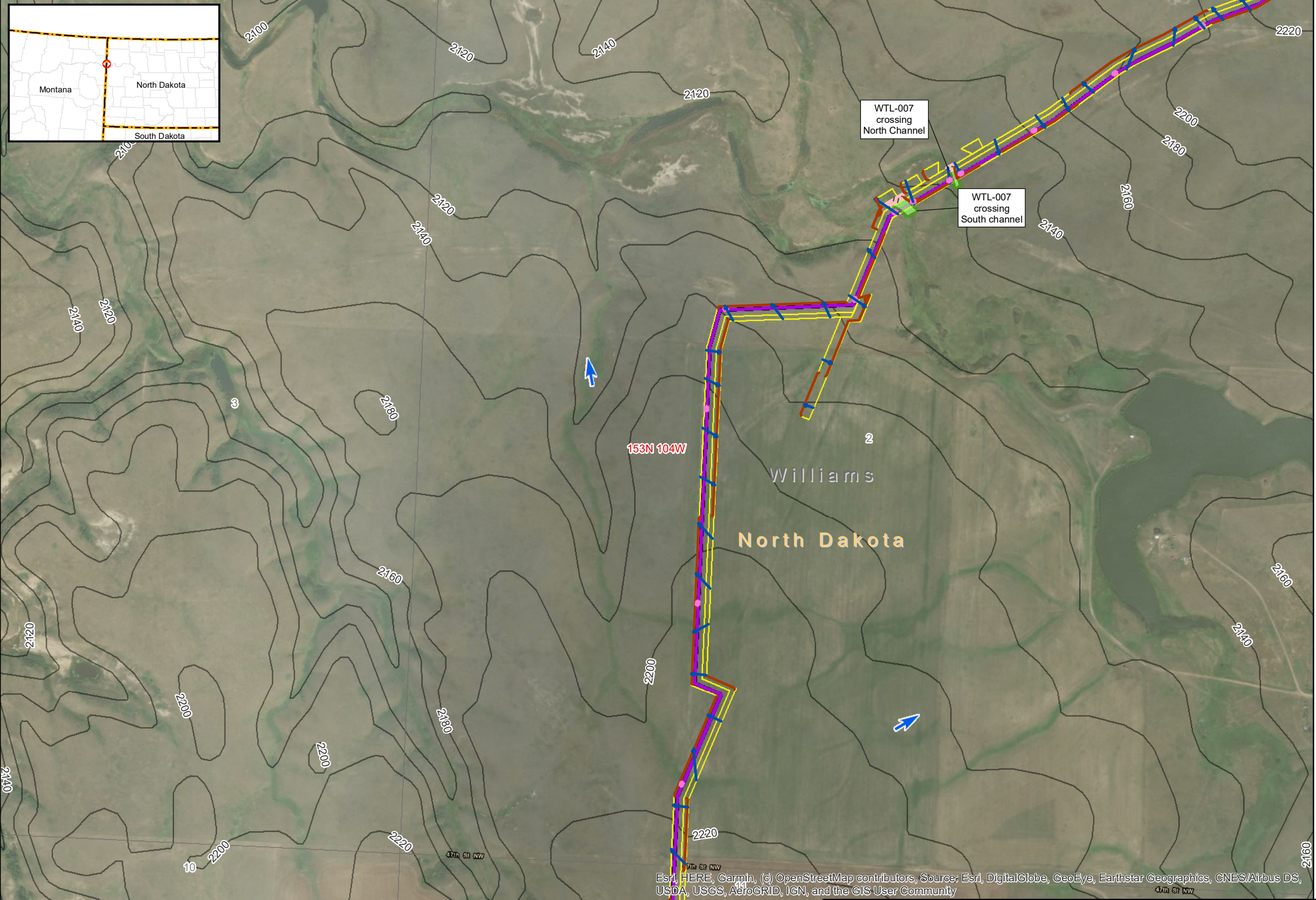
OUTRIGGER ENERGY

PROJECT NO.	20203533
CREATED:	5/29/2020
CREATED BY:	A. Leonard
CHECKED BY:	A. Daniel
FILE NAME:	OE_PSC_SWPPP.mxd

SWPPP Map	
OE2 North, LLC	
Bill Sanderson Residue and NGL Pipelines Project	
Sec. 27, T154N, R104W	
Williams County, North Dakota	

FIGURE
1

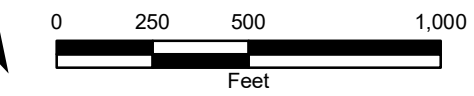
Date: 5/29/2020 User: ALeonard Path: \\azrgis\corp01\GIS_Projects\Client\OutriggerEnergy\20203533_SandersonGasPlant\MXD\PSC\IOE_PSC_SWPPP.mxd



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LEGEND		
NGL 8in Steel Pipeline	Proposed ONEOK Meter Site	Surface Water Flow Direction
Residue 20in Steel Pipeline Centerline	Limits of Disturbance	Potential WOTUS Avoidance Area
Proposed Northern Border Meter Site	Facility Boundary	Elevation Contour
	Site Features	
County Boundary	State Boundary	
	Township/Range	
	Section	



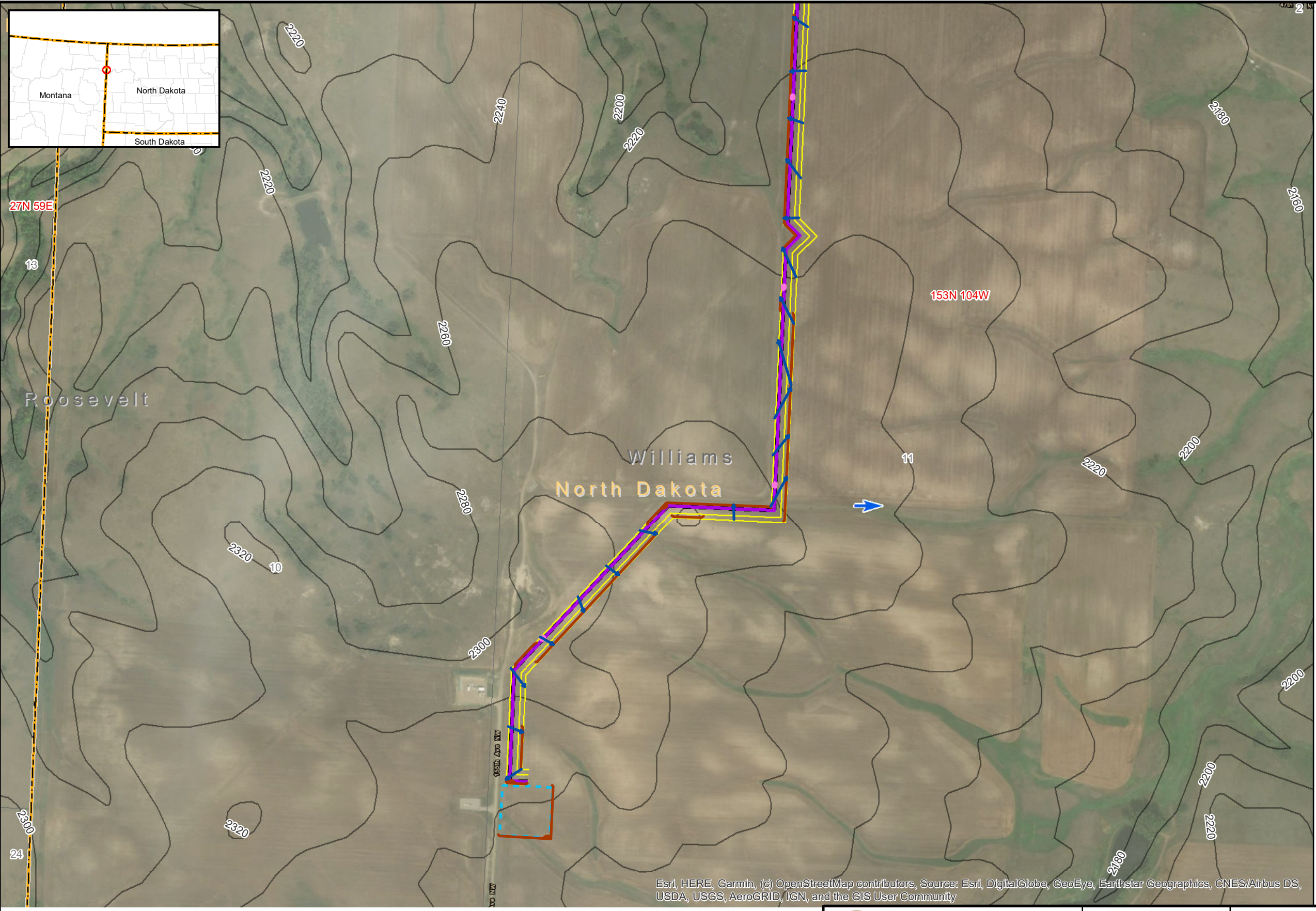
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SWPPP Map	
OE2 North, LLC	
Bill Sanderson Residue and NGL Pipelines Project	
Sec. 27, T154N, R104W	
Williams County, North Dakota	

FIGURE
1

Date: 5/29/2020 User: ALeonard Path: \\azrgis\storp01\GIS_Projects\Client\OutriggerEnergy\20203533_SandersonGasPlant\MXD\PSC\IOE_PSC_SWPPP.mxd



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	Site Features		Section

0 250 500 1,000
Feet

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OUTRIGGER ENERGY

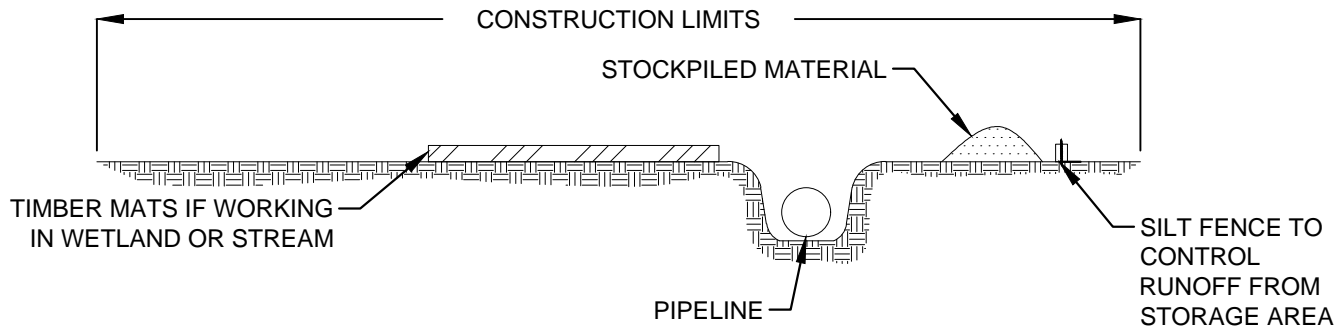
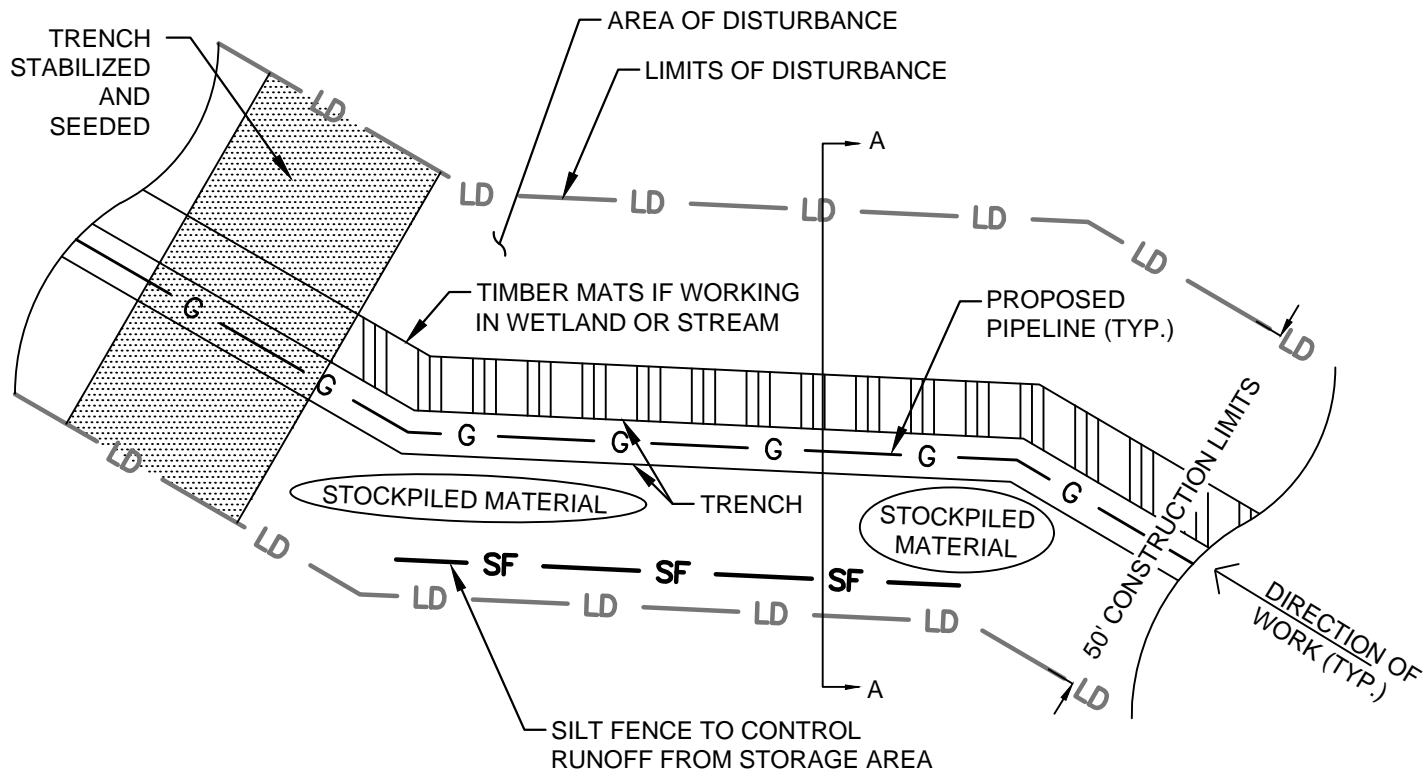
PROJECT NO.	20203533
CREATED:	5/29/2020
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CHECKED BY:	A. Daniel
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SWPPP Map

OE2 North, LLC
Bill Sanderson Residue and NGL Pipelines Project
Sec. 27, T154N, R104W
Williams County, North Dakota

FIGURE
1

APPENDIX D
BMP DETAILS



SECTION A-A

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PROJECT NO.	20203533
DRAWN:	DEC 2019
DRAWN BY:	JP
CHECKED BY:	NE
FILE NAME:	OE2 - Details.dwg

TYPICAL TRENCH E&S CONTROLS
OE2 NORTH LLC BILL SANDERSON RESIDUE AND NGL PIPELINES PROJECT

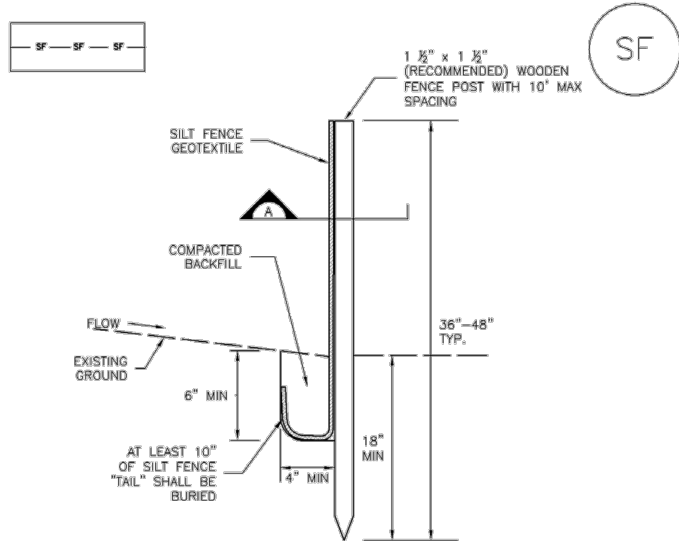
FIGURE	-
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Silt Fence (SF)

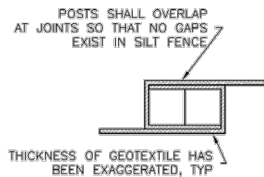
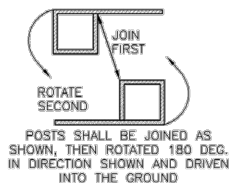
SC-1

SC-1

Silt Fence (SF)



SILT FENCE



SECTION A

SF-1. SILT FENCE

SILT FENCE INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.
2. A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.
3. COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK." THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').
7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".
5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
7. WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

November 2010

Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

SF-3

SF-4

Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

November 2010

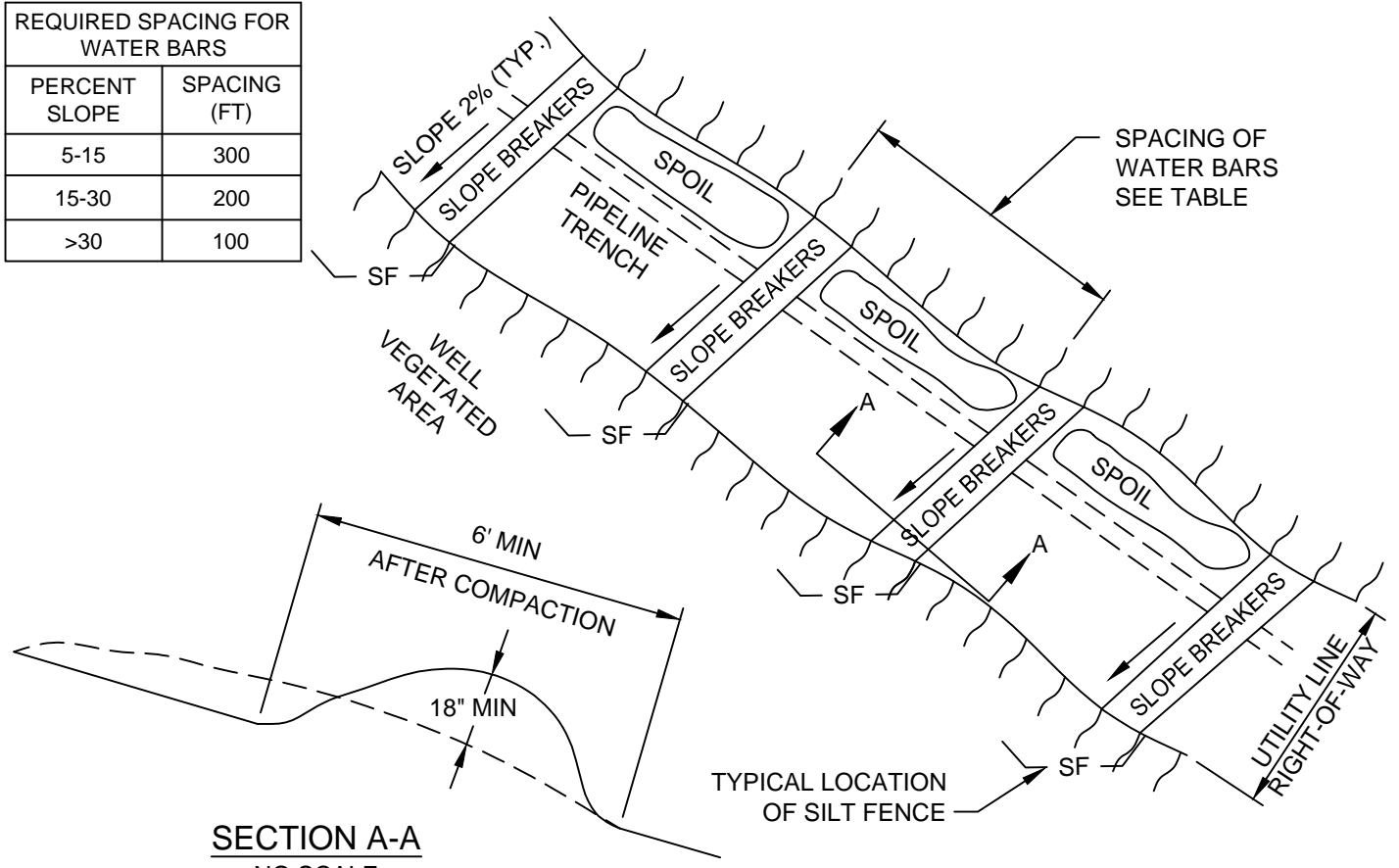
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PROJECT NO. 20203533	SILT FENCE	FIGURE -
DRAWN: DEC 2019		
DRAWN BY: JP	OE2 NORTH LLC BILL SANDERSON RESIDUE AND NGL PIPELINES PROJECT	
CHECKED BY: NE		
FILE NAME: OE2 - Details.dwg		

REQUIRED SPACING FOR WATER BARS	
PERCENT SLOPE	SPACING (FT)
5-15	300
15-30	200
>30	100




SECTION A-A
NO SCALE

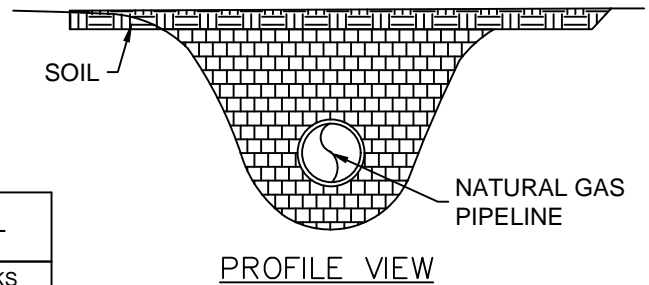
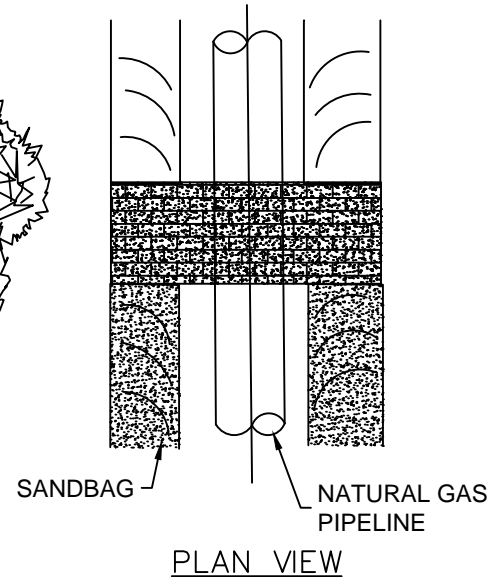
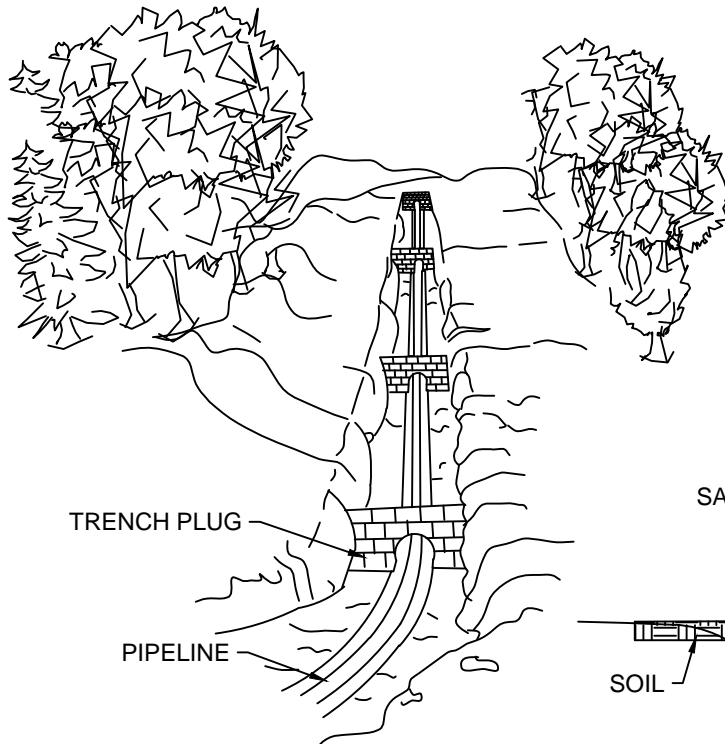
NOTES:

1. WATER BARS (TEMPORARY RIGHT-OF-WAY DIVERSIONS) SHOULD BE INSTALLED ACROSS THE ENTIRE RIGHT-OF-WAY ON ALL SLOPES.
2. WATER BARS SHOULD BE CONSTRUCTED AT A SLOPE OF 2% AND DISCHARGE TO A WELL-VEGETATED AREA. WATER BARS SHOULD NOT DISCHARGE INTO AN OPEN TRENCH. WATER BARS SHOULD BE ORIENTED SO THAT THE DISCHARGE DOES NOT FLOW BACK ONTO THE RIGHT-OF-WAY. OBSTRUCTIONS, (E.G. STRAW BALES, SILT FENCE, ROCK FILTERS, ETC.) SHOULD NOT BE PLACED IN ANY WATER BARS. WHERE NEEDED, THEY SHOULD BE LOCATED BELOW THE DISCHARGE END OF THE WATER BAR.
3. WATER BARS SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS REACHED.
4. WATER BARS SHALL BE INSPECTED EVERYDAY OF CONSTRUCTION ACTIVITY AND AFTER EACH RAIN EVENT FOR DEGRADATION IN SIZE AND FOR WATER BUILDUP. IF REPAIR IS NECESSARY, THE WATER BARS SHALL BE REPLACED/RESLOPED WITHIN 24 HOURS OF INSPECTION TO PREVENT FURTHER WATER BUILDUP.
5. WATER BARS SHALL REMAIN AFTER STABILIZATION IS ACHIEVED, EXCEPT IN AGRICULTURAL AREAS.
6. SILT FENCE SHALL BE INSTALLED AT ALL DISCHARGING POINTS.
7. WATER BARS THAT MAY DISCHARGE OVER FILL SLOPES, SHOULD HAVE SCOUR PROTECTION INSTALLED SUCH AS GEOTEXTILE MATERIAL AND NATIVE STONE ALONG DISCHARGE PATH OVER FILL SLOPE.

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NOT TO SCALE

	PROJECT NO. 20203533	WATERBAR	FIGURE
	DRAWN: DEC 2019		
	DRAWN BY: JP	OE2 NORTH LLC BILL SANDERSON RESIDUE AND NGL IPELINES PROJECT	-
	CHECKED BY: NE		
FILE NAME: OE2 - Details.dwg			



TRENCH PLUG SPACING

ALIGNMENT SLOPE %*	SPACING L (FT)	PLUG MATERIAL
5-15 %	500	* EARTH FILLED SACKS
15-30 %	300	* EARTH FILLED SACKS
>30 %	200	* EARTH FILLED SACKS

* FOAM PLUGS MAY BE USED IN LIEU OF EARTH FILLED SACKS

NOTES:

1. OE2 REPRESENTATIVE SHALL DETERMINE REQUIREMENTS FOR, AND SPACING OF, TRENCH PLUGS.
2. TRENCH PLUGS SHALL BE INSTALLED AT THE SAME SPACING AS, AND UPSLOPE OF, TERRACES AND/OR PERMANENT SLOPE BREAKERS.
3. IN AGRICULTURAL FIELDS AND RESIDENTIAL AREAS WHERE SLOPE BREAKERS ARE NOT TYPICALLY REQUIRED, TRENCH PLUGS SHALL BE INSTALLED AT THE SAME SPACING AS IF PERMANENT SLOPE BREAKERS WERE REQUIRED.
4. TRENCH PLUGS SHALL BE INSTALLED AT THE BASE OF SLOPES GREATER THAN 5% WHERE THE BASE OF THE SLOPE IS LESS THAN 50 FEET FROM A WATER BODY OR WETLAND.
5. TRENCH PLUGS SHALL BE INSTALLED WHERE NEEDED TO AVOID DRAINING A WATER BODY OR WETLAND (TO PREVENT SEDIMENT FLOW INTO WETLANDS).
6. TRENCH PLUGS SHALL NOT BE CONSTRUCTED OF TOPSOIL. SAND MAY BE USED AS A SUBSTITUTE.

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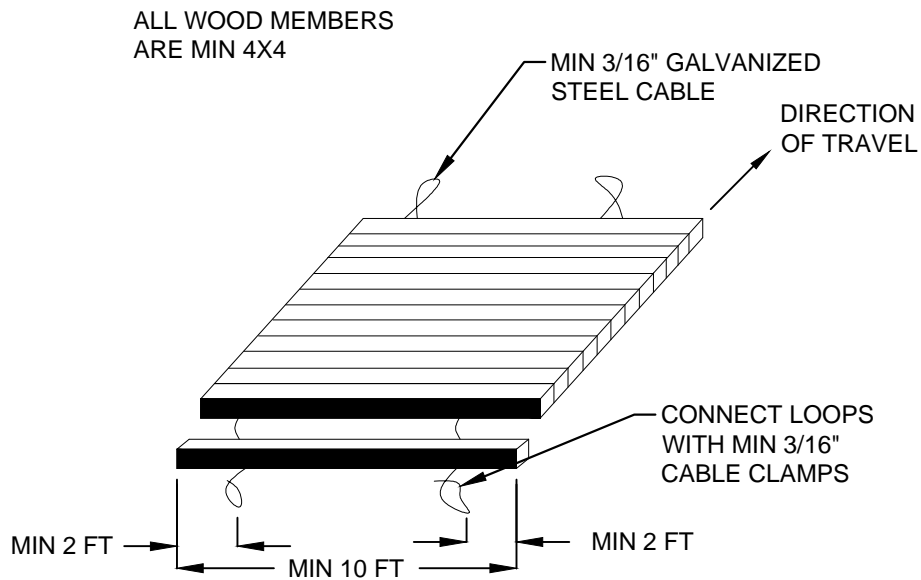
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DRAWN:	DEC 2019
DRAWN BY:	JP
CHECKED BY:	NE
FILE NAME:	OE2 - Details.dwg

TRENCH PLUG

OE2 NORTH LLC
BILL SANDERSON RESIDUE AND NGL
PIPELINES PROJECT

FIGURE

-



NOTES:

1. THERE SHALL BE NO SPACING BETWEEN MATS.
2. ALL MATS SHALL BE PROVIDED WITH SIDE BOARDS AND A SOLID DECK.
3. MATS SHALL BE ABLE TO SUPPORT THE WEIGHT OF THE EQUIPMENT TO PREVENT EXCESSIVE RUTTING IN WETLAND AREAS.
4. THE LENGTH OF TIMBER MAT REQUIRED SHALL BE SUCH THAT THE TIMBER MAT EXTENDS PAST THE WETLAND EDGES ON EACH SIDE OF THE CROSSING A SUFFICIENT DISTANCE TO SUPPORT THE MAXIMUM EQUIPMENT SIZE USING THE CROSSING.

MAINTENANCE:

1. INSPECT CROSSINGS AFTER RUNOFF-PRODUCING RAINS TO CHECK FOR BLOCKAGE IN CHANNEL, EROSION OF ABUTMENTS, CHANNEL SCOUR, RIPRAP DISPLACEMENT, OR PIPING. MAKE ALL REPAIRS IMMEDIATELY TO PREVENT FURTHER DAMAGE TO THE INSTALLATION.
2. AT THE END OF CONSTRUCTION, MATS SHALL BE HOSED CLEAN OF SEDIMENT ON-SITE TO PREVENT OFFSITE SEDIMENTATION.

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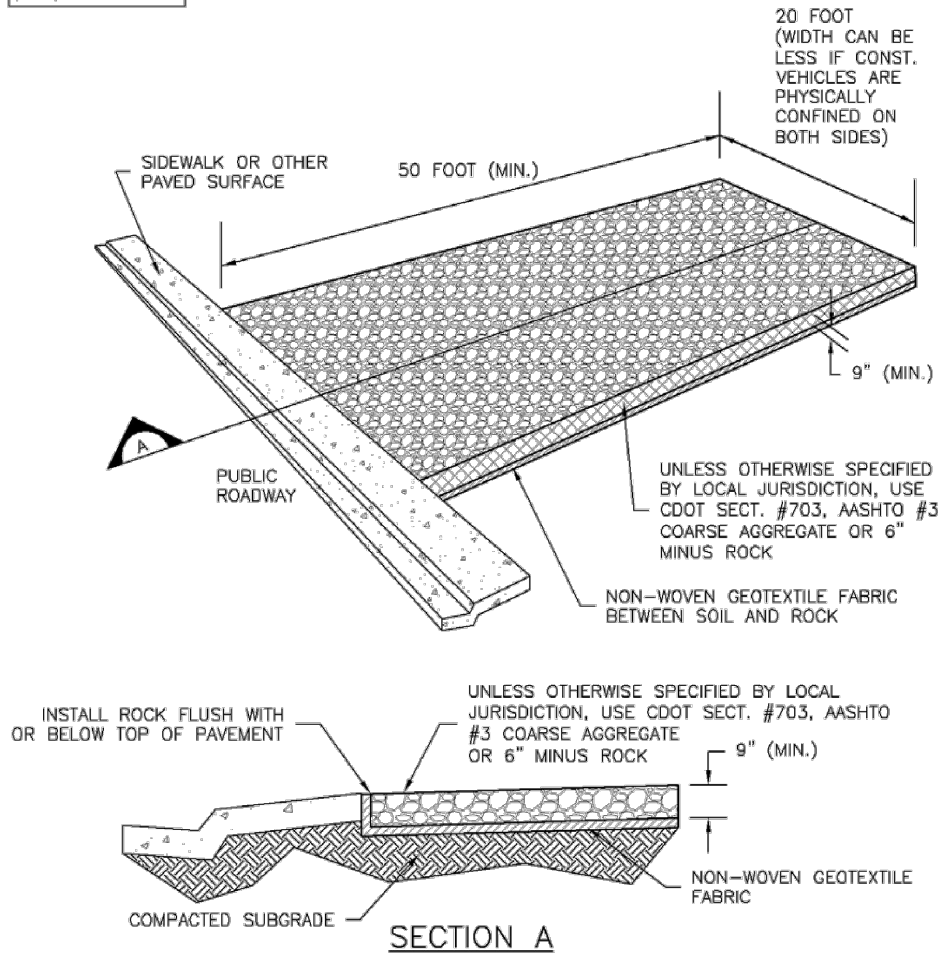
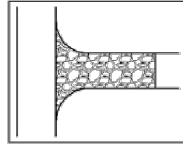
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TIMBER MAT
OE2 NORTH LLC BILL SANDERSON RESIDUE AND NGL PIPELINES PROJECT

FIGURE	-
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VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

November 2010

Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

VTC-3

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AGGREGATE VEHICLE TRACKING CONTROL

OE2 NORTH LLC
BILL SANDERSON RESIDUE AND NGL PIPELINES PROJECT

FIGURE

-

OE2 NORTH LLC

BILL SANDERSON RESIDUE AND NGL PIPELINES PROJECT

SEED MIX

UPLAND MIXTURE ¹	
Grass Species	PLS lb/acre ²
Western wheatgrass	2.5
Green needlegrass	2.0
Slender wheatgrass	1.5
Little bluestem	1.0
Prairie sandreed	1.0
Sideoats grama	2.0
Blue grama	0.5
Forb Species	PLS lb/acre
Maximilian sunflower	0.1
White prairieclover	0.1
Black-eyed Susan	0.05
Total seed mixture	10.75

WET MEADOW MIXTURE ¹	
Grass Species	PLS lb/acre
Western wheatgrass	7.5
Slender wheatgrass	2.5
Prairie cordgrass	1.5
Inland saltgrass	0.5
Forb Species	PLS lb/acre
Western yarrow	0.05
Total seed mixture	12.05

1. Seed mixtures provided by North Dakota State University Extension and Natural Resources Conservation Service recommended seeding mixtures for western North Dakota.
2. PLS = Pure live seed: Seeding rates are 1.5 times the normal seeding rate based on 30 seed/ft²



National Pollutant Discharge Elimination System (NPDES)

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Menu of BMPs Home

BMP Background

Public Education & Outreach on Stormwater Impacts

Public Involvement/ Participation

Illicit Discharge Detection & Elimination

Construction Site Stormwater Runoff Control

Post-Construction Stormwater Management in New Development & Redevelopment

Pollution Prevention/Good Housekeeping for Municipal Operations

Stormwater Home

General Construction Site Waste Management

Minimum Measure: Construction Site Stormwater Runoff Control

Subcategory: Good Housekeeping/Materials Management

Description

Building materials and other construction site wastes must be properly managed and disposed of to reduce the risk of pollution from materials such as surplus or refuse building materials or hazardous wastes. Practices such as trash disposal, recycling, proper material handling, and spill prevention and cleanup measures can reduce the potential for stormwater runoff to mobilize construction site wastes and contaminate surface or ground water.

Applicability

The proper management and disposal of wastes should be practiced at every construction site to reduce stormwater runoff. Use waste management practices to properly locate refuse piles, to cover materials that might be displaced by rainfall or stormwater runoff, and to prevent spills and leaks from hazardous materials that were improperly stored.

Siting and Design Considerations

Solid Wastes:

- Designate a waste collection area on the site that does not receive a substantial amount of runoff from upland areas and does not drain directly to a waterbody.
- Ensure that containers have lids so they can be covered before periods of rain, and keep containers in a covered area whenever possible.
- Schedule waste collection to prevent the containers from overflowing.
- Clean up spills immediately. For hazardous materials, follow cleanup instructions on the package. Use an absorbent material such as sawdust or kitty litter to contain the spill.
 - During the demolition phase of construction, provide extra containers and schedule more frequent pickups.
 - Collect, remove, and dispose of all construction site wastes at authorized disposal areas. Contact a local environmental agency to identify these disposal sites.

Hazardous Materials and Wastes:

- Consult with local waste management authorities about the requirements for disposing of

hazardous materials.

- To prevent leaks, empty and clean hazardous waste containers before disposing of them.
- Never remove the original product label from the container because it contains important safety information. Follow the manufacturer's recommended method of disposal, which should be printed on the label.
- Never mix excess products when disposing of them, unless specifically recommended by the manufacturer.

To ensure the proper disposal of contaminated soils that have been exposed to and still contain hazardous substances, consult with state or local solid waste regulatory agencies or private firms. Some landfills might accept contaminated soils, but they require laboratory tests first.

Paint and dirt are often removed from surfaces by sandblasting. Sandblasting grits are the byproducts of this procedure and consist of the sand used and the paint and dirt particles that are removed from the surface. These materials are considered hazardous if they are removed from older structures because they are more likely to contain lead-, cadmium-, or chrome-based paints. To ensure proper disposal of sandblasting grits, contract with a licensed waste management or transport and disposal firm.

Pesticides and fertilizers:

- Follow all federal, state, and local regulations that apply to the use, handling, or disposal of pesticides and fertilizers.
- Do not handle the materials any more than necessary.
- Store pesticides and fertilizers in a dry, covered area.
- Construct berms or dikes to contain stored pesticides and fertilizers in case of spillage.
- Follow the recommended application rates and methods.
- Have equipment and absorbent materials available in storage and application areas to contain and clean up any spills that occur.

Petroleum Products:

- Store new and used petroleum products for vehicles in covered areas with berms or dikes in place to contain any spills.
- Immediately contain and clean up any spills with absorbent materials.
- Have equipment available in fuel storage areas and in vehicles to contain and clean up any spills that occur.

Detergents:

Phosphorous- and nitrogen-containing detergents are used in wash water for cleaning vehicles. Excesses of these nutrients can be a major source of water pollution. Use detergents only as recommended, and limit their use on the site. Do not dump wash water containing detergents into the storm drain system; direct it to a sanitary sewer or contain it so that it can be treated at a wastewater treatment plant.

Limitations

An effective waste management system requires training and signage to promote awareness of the hazards of improper storage, handling, and disposal of wastes. The only way to be sure that waste management practices are being followed is to be aware of worker habits and to inspect storage areas regularly. Extra management time may be required to ensure that all workers are following the proper procedures.

Maintenance Considerations

Inspect storage and use areas and identify containers or equipment that could malfunction and cause leaks or spills. Check equipment and containers for leaks, corrosion, support or foundation failure, or other signs of deterioration, and test them for soundness. Immediately repair or replace any that are found to be defective.

Effectiveness

Waste management practices are effective only when they are regularly practiced at a construction site. In storage and use areas, post the guidelines for proper handling, storage, and disposal of construction site wastes; train workers in these practices to ensure that everyone is knowledgeable enough to participate.

Cost Considerations

The costs associated with construction site waste management are mainly attributed to purchasing and posting signs, increased management time for oversight, additional labor required for special handling of wastes, transportation costs for waste hauling, and fees charged by disposal facilities to take the wastes.

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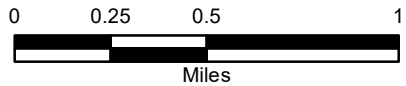
URL:<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm>

APPENDIX E
MAPS OF SOILS, VEGETATION, AND HYDROLOGY IN THE PROJECT AREA

Date: 5/7/2020 User: ALeonard Path: \\azrgis\storp01\GIS_Projects\Client\OutriggerEnergy\20203533_SandersonGasPlan\MXD\PSC\VOE_PSC_FigA5_Soil.mxd

- SOIL UNITS**
- Amor-Williams-Zahl loams, 3 to 9 percent slopes
 - Amor-Zahl-Cabba loams, 9 to 25 percent slopes
 - Appam sandy loam, 0 to 6 percent slopes
 - Arnegard loam, 0 to 2 percent slopes
 - Arnegard-Shambo loams, 2 to 6 percent slopes
 - Bowdle loam, 0 to 2 percent slopes
 - Cabba-Amor-Zahl loams, 25 to 60 percent slopes
 - Cabba-Badland outcrop complex, 9 to 70 percent slopes
 - Daglum-Rhoades complex, 0 to 6 percent slopes
 - Dooley fine sandy loam, 0 to 6 percent slopes
 - Farland silt loam, 0 to 6 percent slopes
 - Hamerly-Tonka complex, 0 to 3 percent slopes
 - Harriet and Stirum soils, 0 to 2 percent slopes
 - Korchea loam, 0 to 2 percent slopes, occasionally flooded
 - Korchea-Divide loams, channeled 0 to 2 percent slopes
 - Lehr loam, 2 to 6 percent slopes
 - Livona fine sandy loam, 0 to 6 percent slopes
 - Mondamin silty clay loam, 0 to 2 percent slopes
 - Niobell-Williams loams, 0 to 6 percent slopes
 - Savage-Grail silty clay loams, 0 to 6 percent slopes
 - Shambo loam, 0 to 2 percent slopes
 - Vebar-Flasher-Tally fine sandy loams, 3 to 9 percent slopes
 - Vebar-Flasher-Zahl complex, 9 to 25 percent slopes
 - Vida-Zahill loams, 2 to 8 percent slopes
 - Wabek sandy loam, 2 to 6 percent slopes
 - Wabek sandy loam, 6 to 25 percent slopes
 - Water
 - Williams-Bowbells loams, 0 to 3 percent slopes
 - Williams-Bowbells loams, 3 to 6 percent slopes
 - Zahill loam, 15 to 60 percent slopes
 - Zahill-Vida loams, 4 to 15 percent slopes
 - Zahl-Cabba-Maschetah complex, 6 to 70 percent slopes

- LEGEND**
- NGL 8in Steel Pipeline
 - Study Area
 - Township/Range
 - Residue 20in Steel Pipeline
 - Site Features
 - Section
 - NGL Meter Site
 - State Boundary
 - State Land
 - Residue Meter Site
 - County Boundary



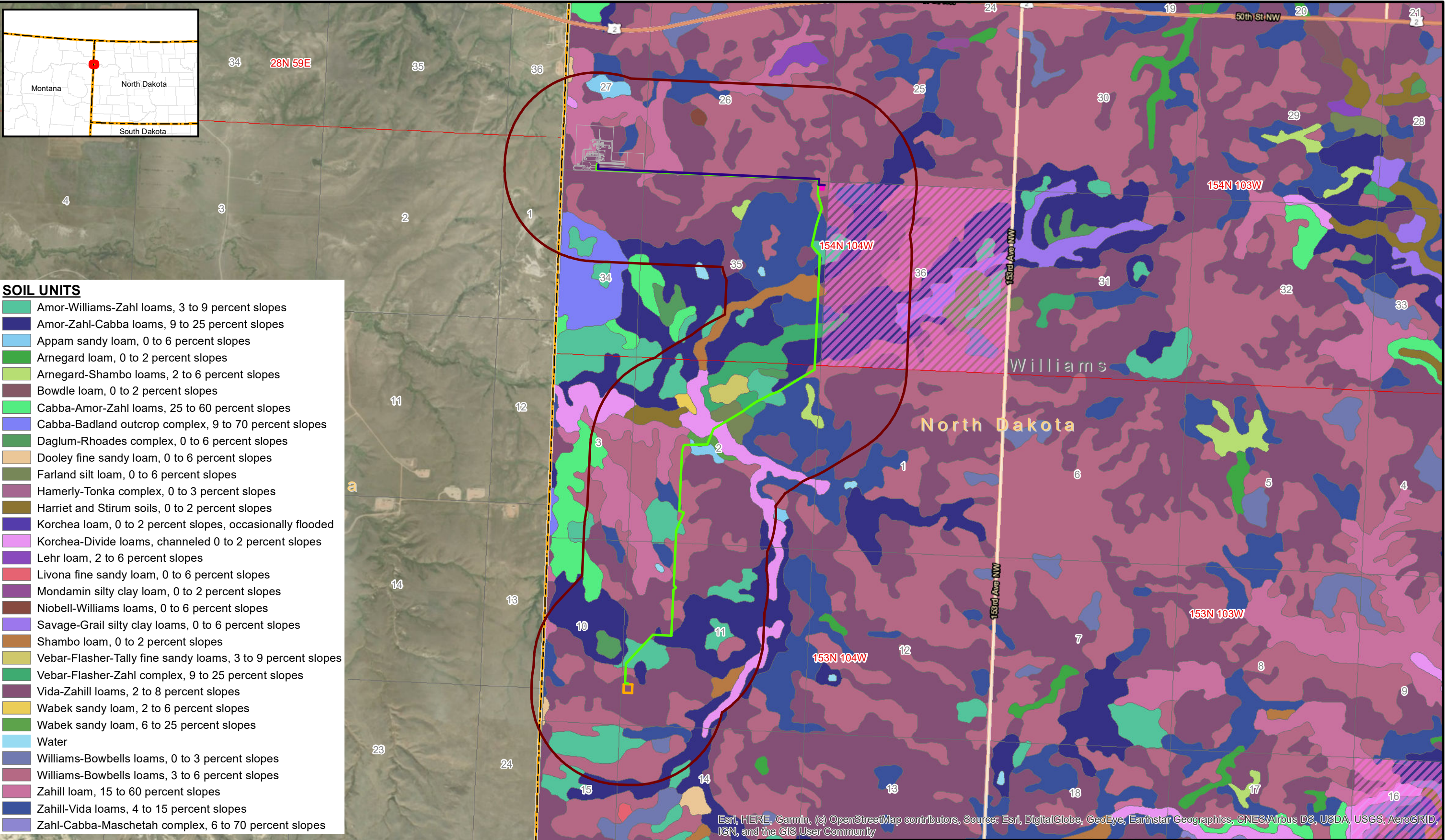
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CHECKED BY:	A. Daniel
FILE NAME:	OE_PSC_FigA5_Soil.mxd

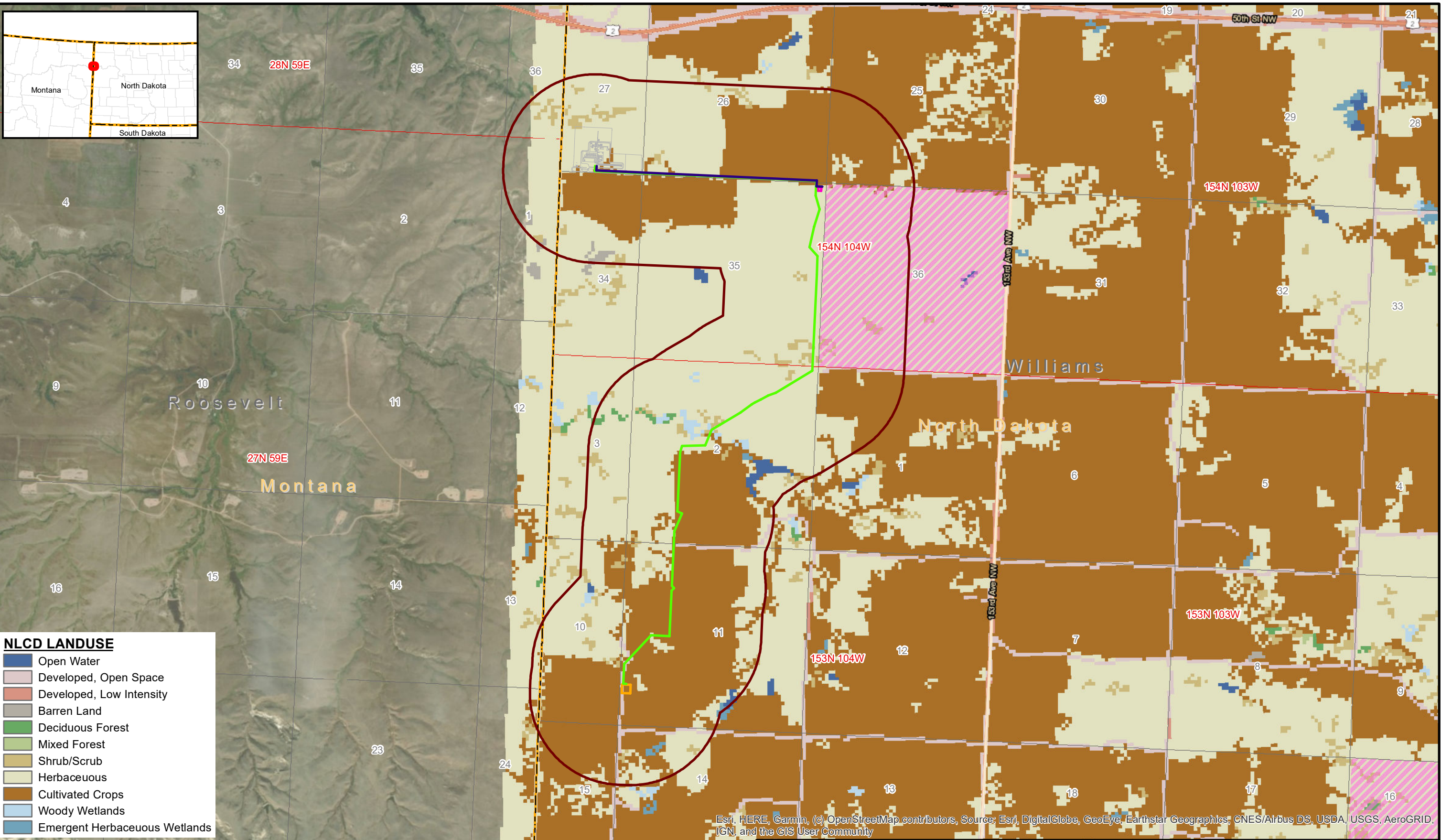
Soils Map
OE2 North, LLC Pipeline Project Secs. 26, 27, & 35, T154N, R104W Secs. 11 & 2, T153N, R103W Williams County, North Dakota

FIGURE



Esri, HERE, Garmin, (c) OpenStreetMap contributors, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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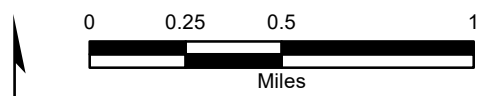


NLCD LANDUSE

Open Water
Developed, Open Space
Developed, Low Intensity
Barren Land
Deciduous Forest
Mixed Forest
Shrub/Scrub
Herbaceous
Cultivated Crops
Woody Wetlands
Emergent Herbaceous Wetlands

LEGEND

NGL 8in Steel Pipeline	Study Area	Township/Range
Residue 20in Steel Pipeline	Site Features	Section
NGL Meter Site	State Boundary	State Land
Residue Meter Site	County Boundary	

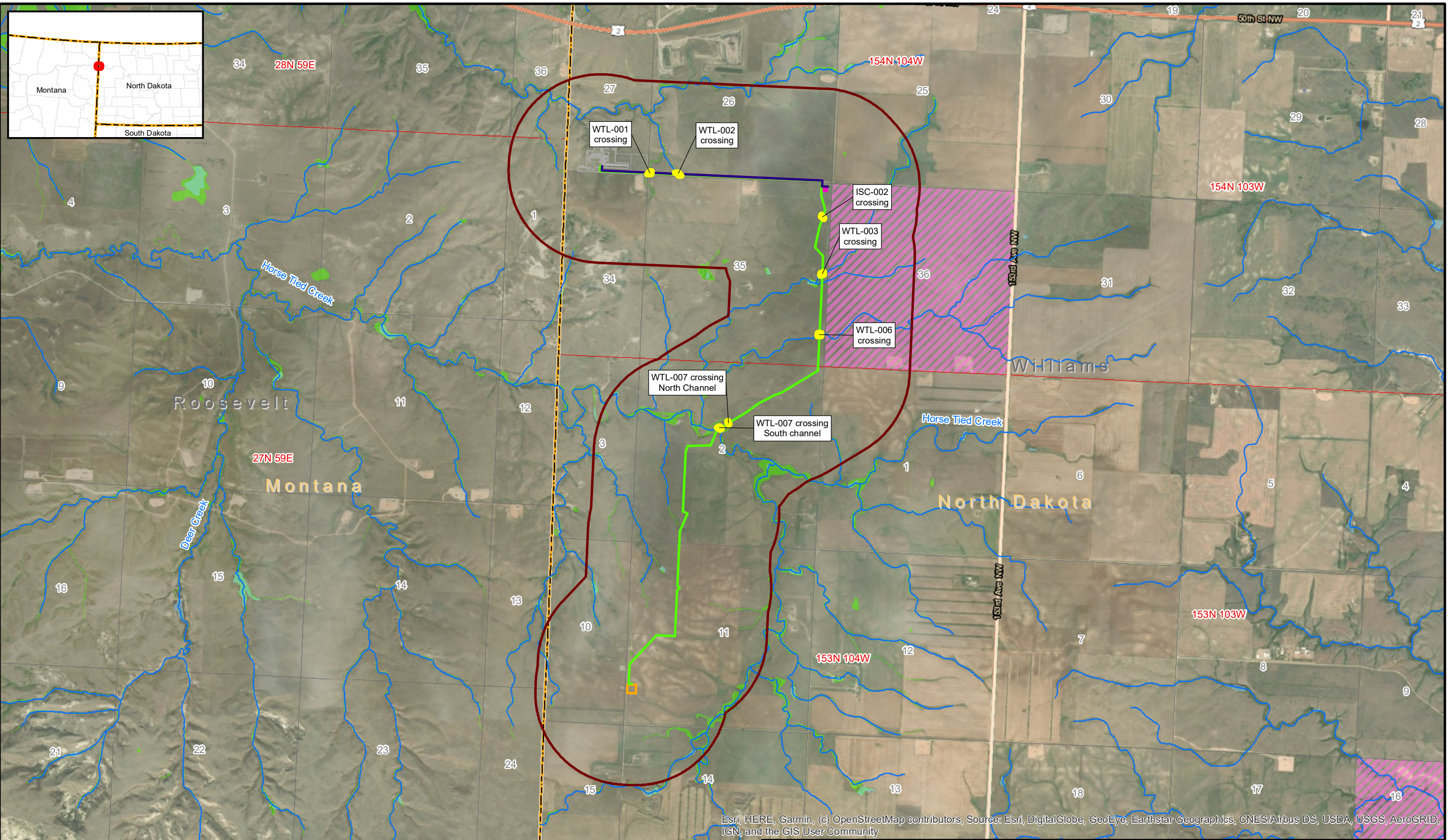


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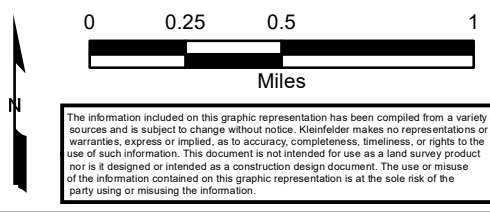
PROJECT NO.	20203533	Vegetation Map	FIGURE
CREATED:	5/7/2020		
CREATED BY:	A. Leonard	OE2 North, LLC Pipeline Project Secs. 26, 27, & 35, T154N, R104W Secs. 11 & 2, T153N, R103W Williams County, North Dakota	
CHECKED BY:	A. Daniel		
FILE NAME:	OE_PSC_FigA3_LU.mxd		

Date: 5/7/2020 User: ALeonard Path: \\azrgis\storp01\GIS_Projects\Client\OutriggerEnergy\20203533_SandersonGasPlant\MXD\PSC\VOE_PSC_FigA4_Hydro.mxd



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LEGEND		
NGL 8in Steel Pipeline	Mapped Field Survey	State Boundary
Residue 20in Steel Pipeline	Site Features	County Boundary
NGL Meter Site	NHD Flowline	Township/Range
Residue Meter Site	NHD Waterbody	Section
Study Area	NWI Wetland	State Land



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CHECKED BY:	A. Daniel
FILE NAME:	OE_PSC_FigA4_Hydro.mxd

Wetlands and Waterbodies Map OE2 North, LLC Pipeline Project Secs. 26, 27, & 35, T154N, R104W Secs. 11 & 2, T153N, R103W Williams County, North Dakota
--

FIGURE

APPENDIX F
STORMWATER INSPECTION REPORTS

BMP Inspection Checklist

General Information	
Project Name and Location:	
Date of Inspection:	Start/End Time:
Inspector's Name(s):	
Inspector's Title(s):	
Inspector's Contact Information:	
Describe present phase of construction:	
Type of Inspection:	
<input type="checkbox"/> Regular <input type="checkbox"/> Pre-storm event <input type="checkbox"/> During storm event <input type="checkbox"/> Post-storm event	
Weather Information	
Has there been a storm event since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, provide:	
Storm Start Date & Time: (in):	Storm Duration (hrs):
Approximate Amount of Precipitation	
Weather at time of this inspection?	
<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snowing <input type="checkbox"/> High Winds	
<input type="checkbox"/> Other:	Temperature:
Have any discharges occurred since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, describe:	

Are there any discharges at the time of inspection? Yes No

If yes, describe:

Site-specific BMPs

- Number the structural and non-structural BMPs identified in your BMP Plan on your site map and list them below (add as many BMPs as necessary). Carry a copy of the numbered site map with you during your inspections. This list will ensure that you are inspecting each BMPs at your site.
- Describe corrective actions initiated, date completed, and note the person that completed the work in the Corrective Action Log.

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
1		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
7		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
9		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Overall Site Issues

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions at your site.

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
1	Are all slopes and disturbed areas not actively being worked properly stabilized?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Are perimeter controls around open excavations adequately installed (keyed into substrate) and maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	Are discharge points and receiving waters free of any sediment deposits?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	Are storm drain inlets properly protected?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	Is the construction exit preventing sediment from being tracked into the street?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
7	Is trash/litter from work areas collected and placed in covered dumpsters?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
8	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
9	Are materials that are potential stormwater contaminants stored inside or under cover?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Non-Compliance

Describe any incidents of non-compliance not described above:

Name: _____

Title: _____

Signature: _____

Date: _____

APPENDIX C
SPILL CONTINGENCY PLAN



OE2 North LLC

Spill Contingency Plan

Contents

Introduction	1
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Introduction

Purpose and Scope

OE2 North LLC (“Outrigger”) has prepared this Spill Contingency Plan in accordance with 40 CFR 112.7(d) to address the possibility of discharges of oil and other hazardous substances from Outrigger construction activities in Williams County North Dakota. The purpose of the plan is to define procedures for responding to discharges that may threaten navigable waters.

The plan outlines procedures to ensure the protection of the public, employees, contractors, and other first responders in the event of a discharge. Additionally, the response procedures outlined in the plan will minimize damage to the environment, natural resources, and equipment from a discharge of hazardous substances. The plan follows the content and organization of 40 CFR part 109 and describes the distribution of responsibilities and basic procedures for responding to a discharge and performing cleanup operations.

Resources at Risk

The primary construction area is located approximately 19 miles west of Williston, North Dakota within the watershed of the Missouri River. The pipeline route included in Appendix C indicates the layout of proposed route and drainage. Ground cover during construction will consist of compacted soil, gravel, and low-lying vegetation. Drainage slopes generally northwest.

Due to the remote nature of the pipelines risk to the public is minimal in the event of a discharge. Outrigger will coordinate with local emergency responders in the event of a discharge that could affect public health and safety.

Risk Assessment

Operations at the site will involve the use of portable fueling equipment and the presence of various quantities of hydrocarbon fuels and oils, generally less than 500 gallons per container. Additionally, various other chemicals may be present on-site including coolants, lubricants, and other hazardous liquids. The discharge of these substances could reach local waterways that feed into the Missouri River.

Response Strategy

Outrigger personnel and contractors are equipped and trained to respond to minor discharges from construction activities for the pipelines. Minor discharges can generally be described as those where the quantity of product discharged is small, the discharged material can be easily stopped and controlled, the discharge is localized, and the product is not likely to seep into groundwater or reach surface water. Response to minor discharges as well as larger spills may necessitate the assistance of outside contractors or other responders.



Spill Discovery and Response

Distribution of Responsibilities

Outrigger has the primary responsibility for providing the initial response to discharge incidents originating from its construction activities. To accomplish this, Outrigger has designated the construction manager, Mel Palmer, as the response coordinator (RC) in the event of a spill or discharge. The RC will coordinate spill response in the event of a discharge and has the authority to commit the necessary services and equipment to respond to a discharge (including local first responders, contractors, or others, as appropriate).

The RC will also direct initial notifications and initial response actions in accordance with training and capabilities. In the event of a fire or emergency that threatens the health and safety of those present at the site, the RC will direct evacuations and contact local first responders.

In the event of an emergency involving outside response agencies, the RC's primary responsibility is to provide information regarding the characteristics of the materials and equipment involved and to provide access to Outrigger resources as requested. The RC shall also take necessary measures to control the flow of people, emergency equipment, and supplies and obtain the support of local law enforcement as needed to maintain control of the site. These controls may be necessary to minimize injuries and confusion.

Finally, the RC serves as the coordinator for communications by acquiring all essential information and ensuring clear communication of information to emergency response personnel. The RC has access to reference material at the field office either as printed material or on computer files that can further assist the response activities.

Whenever circumstances permit, the RC will transmit assessments and recommendations to Outrigger management for direction. Management is contacted in the following order: (1) Director of Engineering; (2) EHS Manager.

In the event that the construction manager is not available, the responsibility and authority for initiating a response to a discharge rests with the most senior Outrigger employee on site at the time the discharge is discovered or with the contractor Field Supervisor (or next person in command) if contractor personnel are the only personnel on site.

Response Activities

In the event of a discharge, the priority is to stop the product flow and to shut off all ignition sources, followed by the containment, control, and mitigation of the discharge. This plan outlines actions to be performed to respond to a spill.

The construction area will be manned daily and the maximum amount of time until a major or minor discharge would be discovered can be up to 8 hours. Appropriate notifications will occur immediately upon discovery of reportable discharges.

Upon discovery of a discharge, if safe to do so, personnel will remove ignition sources, work to isolate or stop the leak, and notify the RC. Initial notification to the RC should include the exact location of the discharge, material involved, estimate of the quantity, environmental conditions, circumstances that may



hinder response, and any injuries. The RC will then assess the situation to determine whether the discharge threatens site personnel, the public, waterways, or equipment. After assessment the RC will request outside assistance from local emergency responders and/or contractors as needed, evaluate the need to evacuate employees, notify local fire and/or police departments if appropriate, communicate with neighboring property owners should their property be threatened, and finally inform Outrigger management of the situation.

The RC will direct the initial control of a discharge by Outrigger or its contractors. After ensuring the safety of the public and employees all effort will be made to prevent hazardous materials from reaching water. Actions taken to control a discharge may include, but are not limited to, use of sorbent materials, use of trenches or berms to direct flow, digging of temporary containment pits, or use of a cleanup contractor. Once cleanup is complete all contaminated materials will be disposed of in accordance with state and federal regulations. Following cleanup, Outrigger will document the cause, response to and, and cleanup efforts and provide closure to any agencies requiring notice.

Discharge Notification

Instructions and phone numbers for reporting a discharge to the National Response Center and other federal, state, and local authorities are provided in Appendix B to this Plan. Any discharge to water must be reported immediately to the National Response Center. The Response Coordinator must ensure that details of the discharge are recorded on Outrigger's discharge notification form.

If the discharge qualifies under 40 CFR 112 (see Appendix B for conditions), the EHS Manager is responsible for ensuring that all pertinent information is provided to the EPA Regional Administrator.



Response Resources and Preparedness Activities

Equipment, Supplies, Services, and Manpower

Spill response equipment will be available onsite include sorbent materials, “Oil-dry” loose sorbent material, absorbent pads, personal protective equipment, brooms, and combustible gas meters. This material is sufficient to respond to most minor discharge occurring at the facility and to initially contain a major discharge while waiting for additional material or support from outside contractors.

Contractors and employees on-site during construction will be familiar with response procedures for a discharge. Employees and contractors will be familiar with the facility layout, location of spill response equipment, and response strategies. To respond to large discharges and ensure the removal and disposal of cleanup debris, Outrigger is establishing agreements with local specialized cleanup contractors. These contractors will have immediate access to an assortment of equipment and materials, including mechanical recovery equipment for use on water and on land. Outrigger will ensure contractors are able to respond to a spill in a timely manner.

Access to Receiving Waterbody

The nearest waterways are intermittent tributaries of the Little Muddy Creek and would be the first affected by a spill. The site will be graded so to direct flows into a retention pond that would mitigate access to these waters.

Communications and Control

The RC is responsible for communicating the status of the response operations and for sharing relevant information with involved parties, including local, state, and federal authorities. Primary communication will be via cell phone; however, radios and other means of communication may be used as well.

Training Exercises and Updating Procedures

Outrigger will provide necessary on-the-job training to ensure proper response to a spill can be achieved. Training may include briefings on the location and use of spill response materials, review of contractor training and policies, and training for Outrigger personnel on this plan.

Following a response to a discharge, the RC will evaluate the actions taken and identify procedural areas where improvements are needed. The RC will conduct a briefing with field personnel, contractors, and local emergency responders as appropriate to share lessons learned.



Appendix A – Emergency Contacts

Facility Operations

Name	Title	Telephone
Mel Palmer	Construction Manager	307-371-2303
Andrew Perdue	Engineering Director	720-361-2580
Wade Janecek	EHS Manager	720-361-2549

Local Emergency Responders

Name	Telephone	Address
Fire/Police Departments	911 (701) 572-2196 (fire)	317 11th St. W, Williston ND (fire)
CHI St. Alexius Health Williston	(701) 774-7400	1301 15th Ave West, Williston ND



Appendix B – Discharge Notification Procedures

Circumstances, instructions, and phone numbers for reporting a discharge to the National Response Center and other federal, state, and local agencies, and to other affected parties, are provided below. Note that any discharge to water must be reported immediately to the National Response Center.

Construction Manager, Mel Palmer (24 hours) (307) 371-2303

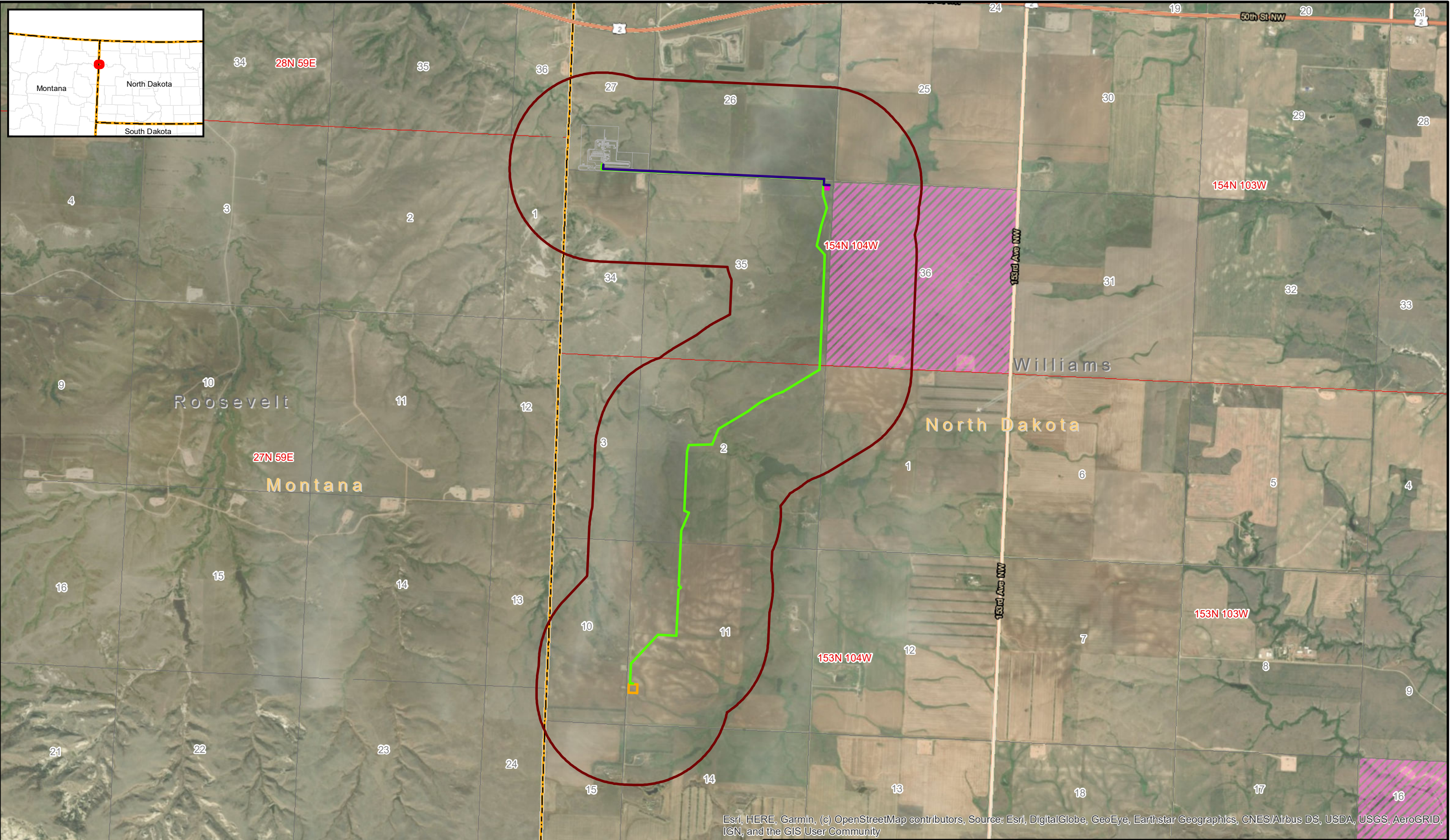
Local Emergency (fire, explosion, or other hazards) 911

Agency/Organization	Agency Contact	Circumstances	When to Notify
<i>Federal Agencies</i>			
National Response Center	1-800-424-8802	Discharge reaching navigable waters	Immediately (verbal)
EPA Region VIII (Hotline)	(303) 312-6312	Discharge reaching navigable waters; or, discharge of 1,000 gallons or more; or, second discharge of 42 gallons or more over a 12-month period.	Immediately (verbal)
<i>State Agencies</i>			
North Dakota Department of Environmental Quality	1-701-328-5210	Spills that threaten the waters of the state.	Immediately (verbal)
North Dakota Oil and Gas Division	1-701-328-8020		
North Dakota Department of Emergency Services	1-701-328-8100 or 1-800-472-2121		



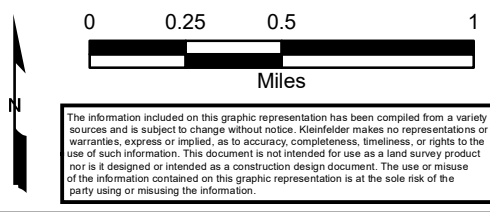
Appendix C – Project Overview Map

Date: 5/6/2020 User: ALeonard Path: \\azrgis\storp01\GIS_Projects\Client\OutriggerEnergy\20203533_SandersonGasPlant\MXD\IPSC\IOE_AppA_Fig1_Overview.mxd



Esri, HERE, Garmin, (c) OpenStreetMap contributors, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

LEGEND			
	NGL 8in Steel Pipeline		State Land
	Residue 20in Steel Pipeline		County Boundary
	NGL Meter Site		Township/Range
	Residue Meter Site		Section
	Study Area		



PROJECT NO.	20203533
CREATED:	5/6/2020
CREATED BY:	A. Leonard
CHECKED BY:	A. Daniel
FILE NAME:	OE_AppA_Fig1_Overview.mxd

Project Overview Map	
OE2 North, LLC Pipeline Project	
Secs. 26, 27, & 35, T154N, R104W Secs. 11 & 2, T153N, R103W Williams County, North Dakota	

FIGURE
1



Appendix D – Reportable Spill History



Oil Spill Contingency Plan

OE2 North and its affiliates have no reportable spills during the past 10 years.

APPENDIX D
DUST CONTROL PLAN



**Bill Sanderson Residue
and
NGL Pipelines Project
Dust Control Plan**

March 2020

1.0 INTRODUCTION

OE2 is proposing to construct and operate two new pipelines, an approximately 1.28 mile 8-inch NGL pipeline and an approximately 4.67-mile 20-inch residue gas pipeline coming from the proposed Bill Sanderson Gas Processing Plant located in Section 27, Township 154 North, Range 104 West approximately 15 miles west of Williston, North Dakota. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands on right-of-way (ROW) already acquired in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to an existing pipeline. The 20-inch steel residue gas pipeline will continue south for an additional 3.39 miles to a tie-in point with an existing pipeline. The pipelines will follow existing infrastructure for their entirety. The Project will be permitted under the North Dakota Public Service Commission (PSC) Certificate of Site Compatibility.

Construction of the Project will involve land-disturbing activities, which can increase the susceptibility of soils to erosion caused by wind and water. Wind erosion can damage the productivity of the land by reducing soil moisture, altering soil structure, and carrying away soil nutrients and topsoil. A small amount of soil loss from wind erosion occurs naturally; however, human activity, such as construction of pipelines, can dramatically increase soil loss due to wind erosion (fugitive dust) and potentially create conditions that could affect air quality and safety. Fugitive dust is a type of non-point source air pollution that can cause respiratory distress for construction workers, as well as for nearby residents and wildlife. Additionally, fugitive dust can create a safety hazard by obscuring visibility for equipment operators, construction personnel, and traffic on public roads near the Project.

OE2 has developed this *Dust Control Plan* as a guide for construction and field personnel on implementation of appropriate measures to minimize and control the generation of fugitive dust during construction activities associated with the Project. It will be the responsibility of the Project contractors, working with OE2's field representatives, to identify activities that are generating dust and to at all times control airborne dust levels during construction activities to acceptable levels that are in compliance with any applicable standards, including those established by the North Dakota Department of Health (NDDOH), and other regulating agencies and local ordinances.

2.0 FUGITIVE DUST SOURCES

OE2 has attempted to identify the primary potential sources of fugitive dust, which include:

- Vegetation clearing activities;
- Initial grading of topsoil and subsoil;
- Excavation and backfilling;
- Grading associated with reestablishing contours and restoring segregated topsoil;
- Vehicle traffic on unimproved public and private access roads;
- Vehicle and equipment travel within the Site;
- Open-bodied trucks hauling sand, soil, gravel, or other materials; and
- Activities at Project facilities such as material storage yards, contractor yards, parking areas, and aboveground facility locations.

OE2's Contractors and field representatives will identify activities that are generating fugitive dust, implement feasible dust abatement techniques or Best Management Practices (BMPs) to control dust, and maintain compliance with applicable fugitive dust regulations.

3.0 FUGITIVE DUST CONTROL MEASURES

Dust suppression measures will be employed as necessary to control fugitive dust emissions during the construction of the proposed Project where dust could compromise safety or become a public nuisance. This will also apply to access roads where dust raised by construction vehicles may irritate or inconvenience local residents as they approach the Project. To minimize wind erosion and fugitive dust emissions during construction, OE2 will implement the following reasonably available control measures:

- Disturb no more earth than required for construction to occur;
- Use dust abatement techniques (i.e., applying water or approved nontoxic chemical dust suppressants) on unpaved or un-vegetated areas or other areas susceptible to wind erosion within the Project footprint. (Note: utilization of chloride-containing additives is limited to roads. Application of dust suppressants will be repeated as necessary and as determined by the Environmental Inspector (EI) or OE2 representative);
- Water for dust control will be obtained from wells, municipal sources, and nearby rivers where the necessary water purchase agreements and permits required by federal, state, and local agencies for the procurement of water have been secured. No unapproved water sources will be used for Project activities, including dust control;
- Temporarily stockpiled soils (topsoil and spoil) will be sprayed with water or approved chemical dust suppressant to create a semi-hard protective layer to minimize wind erosion, if necessary, and as determined by the EI or OE2 representative. (Note: utilization of chloride-containing additives is limited to roads and is not permitted on stockpiled soils);
- Emissions from construction equipment combustion, open burning, and temporary fuel transfer systems and associated tanks will be controlled to the extent required by state and local agencies through the permitting process;
- Project-related traffic speeds will be controlled within construction areas of the Project and the access road to the Project; where construction activities approach dwellings, farm buildings, commercial areas, and other areas occupied by people; and on unpaved access roads. A speed limit of 25 mph will be followed on unimproved roads. Additional speed limit restrictions may be required by the property owner/tenant on private lands or by the county on public roads (e.g., posted speed limits);
- Speed limits will be decreased when excessive winds prevail and where sensitive areas such as public roads are adjacent to access roads or the construction areas of Project;
- Open-bodied trucks carrying sand, soil, gravel, or other materials will be covered where necessary to prevent such materials from being expelled;

- Construction entrance/exit access locations onto paved roads will be cleaned at a minimum of once every 48 hours, or as needed or specified by the EI if materials are observed to be accumulating on the road surface;
- When opacity along dirt roads exceeds 20 percent (objects partially obscured), construction activity will cease until dust control measures are employed; and
- Other dust control measures, such as the use of wind fences or berms, may also be implemented as needed.

The frequency of water application will largely depend on weather conditions. If seasonal or other weather conditions prevent compliance with the time frames, the contractor will stabilize the Project and maintain erosion and sediment control measures until cleanup can be conducted.

4.0 REGULATORY APPLICABILITY

The following agencies are responsible for air quality management in areas of Project construction activities:

- North Dakota Department of Health

This Dust Control Plan has been developed to meet the regulatory requirements of North Dakota Administrative Code Article 33-15. While the state of North Dakota has no specific regulations in relation to construction dust control, OE2 and its contractors will utilize measures outlined in this Plan to minimize dust during construction.

APPENDIX E
HDD CONTINGENCY PLAN



**Bill Sanderson Residue
and
NGL Pipelines Project**

HDD Contingency Plan

May 2020

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1.0 INTRODUCTION

This plan provides specific procedures and steps to address inadvertent return (IR) of drilling mud for crossings conducted using horizontal directional drilling (HDD) techniques during construction of OE2 North LLC (OE2) projects. Drilling mud will generally consist of fresh water mixed with a high yield bentonite. Drilling slurry is a mixture of the fresh water/bentonite mud and residual drilling cuttings entrained in the mud during the drilling process. While drilling parameters will be established to maximize circulation and minimize risk of IRs, the possibility of lost circulation and releases cannot be eliminated. Therefore, the following plan has been prepared to address steps to address and contain IRs. Unless otherwise specified, OE2 will implement the following plan in consultation with the Contractor, Construction Manager, and EHS Manager.

Elements of this plan include:

- Monitoring and Sampling Procedures
- Notification Procedures
- Corrective Action
- Abandonment

2.0 MONITORING AND SAMPLING PROCEDURES

In order to identify if an IR has occurred, HDD activities will be monitored by the Contractor or construction manager. Monitoring and sampling procedures will include:

1. Visual surface inspection along and in the vicinity of the drill path shall be conducted continuously throughout drilling operations to note any possible changing conditions. Inspections shall be documented and provided to the Contractor and/or Construction Manager. An updated log of the documented inspections must be maintained throughout the project. Primary areas of concern for IRs occur at the entrance and exit points where the drilling equipment is generally at their shallowest depths. The likelihood of an IR decreases as the depth of the pipe increases.
2. Monitoring of drilling mud pressures and return flows shall be conducted, at minimum, by the Contractor as a continuous task throughout the drilling process. The HDD operations will be monitored for observable IR conditions or lowered pressure readings on the drilling equipment. Early detection is essential to minimizing the area of potential impact.

If an IR occurs the following steps will be implemented: a) field observation to determine the potential movement of released drilling slurry within a wetland, water body or upland location; b) collection of drilling slurry returns at the drill entry location for future analysis as required; and c) documentation of the release.

3.0 NOTIFICATION PROCEDURES

If an IR is discovered, action steps will be taken by OE2 and its Contractors to contain the IR as described below in the Corrective Action section. Procedures for notification to OE2 construction management personnel and regulatory agencies are detailed in this section.

If monitoring indicates a wetland or waterbody release has occurred or is occurring, the Contractor will immediately notify OE2's construction management personnel.

OE2 will contact State and/or Federal environmental agencies (if applicable) for notification requirements in the event of an IR.

4.0 CORRECTIVE ACTION

OE2 and the Contractor will address an IR immediately upon discovery. If public health and safety or the environment are threatened by the IR, drilling operations would be shut down until the threat is eliminated. Containment equipment, including portable pumps, hand tools, sand, hay bales, and compost filter sock/silt fence, will be readily available. The following measures will be implemented to minimize or prevent further returns, contain the return, and clean up the affected area:

4.1 Wetland or Water Body IR

Upon discovery, the Contractor will immediately shut down the mud pump supplying the drill head and cease the linear movement of the drill string. The Contractor and construction manager will meet and implement the "HDD Contingency Plan". The HDD operation will not continue until OE2 and the Contractor have agreed upon the specific details regarding implementation of the Contingency Plan. If the IR occurs within jurisdictional waters or wetlands, OE2 will notify the US Army Corps of Engineers (USACE) as soon as possible and coordinate response activities with the USACE.

Within the limitations of directional drilling technology and the Contractor's capability, the Contractor will determine and implement any reasonable modifications to the drilling technique or composition of drilling mud (e.g., lowering pump pressure or thickening of mud by increasing bentonite content) to minimize or prevent further releases of drilling mud and re-establish circulation.

OE2 may utilize erosion and sediment controls such as silt fence/compost filter sock, hay bales, sand bags, floatation booms with siltation curtain, plywood sheeting, etc. to make the best faith effort to contain the IR. It will be important to assess whether or not the IR will incur greater impacts to the wetland or waterbody than simply leaving the return materials, prior to implementing cleanup operations. OE2 will evaluate the release to determine if containment structures can effectively contain the return, in a manner that minimizes the potential for environmental impacts. OE2 will evaluate if cleanup will not result in a net benefit, and will communicate with regulatory agencies to reach this decision collectively.

OE2 will address the release utilizing hand tools including but not limited to shovels, buckets, brooms, rakes, squeegees and wheelbarrows. If the hand tools are not sufficient to clean up the release, OE2 will utilize a pump with a hose that reaches into the contained area. OE2 will minimize clearing to access the contained area, and will utilize tracked equipment to access the contained area. No mechanized equipment will enter a wetland or waterbody for any activities associated with an IR clean up. Any areas disturbed by any IR or response actions will be restored as directed by applicable regulatory agencies. Upon completion of the crossing and the soils being revegetated, any sedimentation and erosion controls will be removed and disposed of properly off site. Containment controls will be removed immediately following the completion of clean-up activities.

4.2 Upland Release

Upon discovery, the Contractor will immediately shut down the mud pump supplying the drill head

and cease the linear movement of the drill string. The Contractor and construction manager will meet and implement the “HDD Contingency Plan”. The HDD operation will not continue until OE2 and the Contractor have agreed upon the specific details regarding implementation of the Contingency Plan. Within the limitations of directional drilling technology and the Contractor’s capability, the Contractor will determine and implement any reasonable modifications to the drilling technique or composition of drilling mud (e.g., lowering pump pressure or thickening of mud by increasing bentonite content) to minimize or prevent further releases of drilling mud and re-establish circulation.

OE2 will first create containment structures at the affected area to minimize the potential for migration of the release.

If the amount of the release is a small quantity, the affected area will be cleaned up with but not limited to shovels and buckets. The remaining material will be left to dry. Steps will be taken to minimize the potential for silt-laden water from flowing into a wetland or waterbody.

If the hand tools are not sufficient to clean up the return, OE2 will utilize a pump with a hose that reaches into the contained area. OE2 may also utilize excavators, vacuum trucks/pumps, dump trucks, frac tanks to clean up the IR. OE2 will minimize clearing to access the contained area, and will utilize tracked equipment to access the contained area if it is not located within the approved workspace or along a roadway.

If the amount of the release is large enough to allow collection, the drilling slurry released into containment structures will be collected and delivered to an approved disposal site.

Any areas disturbed by any IR or response actions will be restored as directed by applicable regulatory agencies

4.3 Release Outside of Project Right-of-Way

Corrective actions for any IR occurring outside of the project right-of-way shall follow Sections 4.1 and 4.2 above.

4.4 Contingency Plan

If the corrective actions described above do not adequately respond to the IR, OE2 may opt to abandon the drill hole and consider alternate measures. This may occur if the Contractor is unable to minimize or prevent further releases, or if the cleanup activities do not fully mitigate the effects of the IR.

The first option will be to relocate the entry and or exit of the drill path and change the depth of the drill path such that the sub-surface geology will not allow the IR. If this alternative is selected, the original drill hole will be abandoned as described in the subsequent sub-section. If the new entry and exit locations and all activities can be accomplished within the existing approved limits of disturbance, the equipment will be moved and the drilling operation resumed. If additional workspace is required the appropriate permitting and regulatory agencies will be contacted and approvals will be secured.

If it is determined that the installation of the pipeline is not feasible utilizing HDD, other options will be considered to accomplish the crossing. The permanent abandonment procedures and open cut alternative will be discussed with the appropriate permitting and regulatory agencies and approvals

will be secured.

Abandonment procedures and alternative crossings are described in the subsequent subsections.

5.0 ABANDONMENT

In the event the drill hole is to be abandoned, OE2 may opt to abandon the drill hole, and pump thickened drilling mud into the hole as the drill assembly is extracted. At the surface (within approximately 5 feet of the surface) OE2 may fill the drill end points with soil and grade the location to the original contour. Abandonment procedures would be discussed with appropriate regulatory, permitting, and governing agencies and approvals would be secured.

5.1 Alternative Crossings

Before any determination of relocating the drill entry or exit location off of the existing approved workspace or pursuing an open cut installation an attempt will be made to identify and assess the reason for the failure of the HDD and the probability of success of the alternatives. Any alternative measures would be discussed with the appropriate regulatory, permitting, and governing agencies and approvals would be secured.

Consideration of alternatives or combination of alternatives include but are not limited to:

- Changing drill procedures (mud viscosity/pressure/flow velocity, bit rotation/velocity, etc)
- Changing of the drill profile (depth of hole)
- Horizontal relocation of the drill hole
- Abandon drilling efforts and initiate an alternate method for installation of the pipeline.

In developing the appropriate alternate, consideration will be given to:

- Stream quality, bank type, flow width, depth, velocity and flow volume
- Surrounding topography
- Condition of riparian areas
- Quality and extent of wetlands, if any, on each side
- Aquatic biota

APPENDIX F
EMERGENCY ACTION PLAN

Emergency Action Plan

OE2 North, LLC/ Bill Sanderson
Residue and NGL Pipelines

March 20, 2020

Bill Sanderson Residue and NGL Pipelines – Williams
County

<p style="text-align: center;">Emergency Action Plan</p>		<p style="text-align: center;">Topic: Emergency Planning & Response Rev. No.: 0 Date: March 20, 2020</p>
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Facility Overview

The Bill Sanderson Residue and NGL Pipelines (Project) will be two pipelines coming from the proposed Sanderson Gas Processing Plant. The Project includes an approximate 1.28-mile 8-inch natural gas liquids (NGLs) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota (as shown on Figure 1). The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to an interconnect with ONEOK located in Section 35, Township 154 North, Range 104 West. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with an interconnect with Northern Border located in Section 11, Township 153 North, Range 104W

The proposed Project will provide pipeline capacity to transport the increasing supplies of NGL and residue gas processed by the proposed Bill Sanderson Gas Plant from areas around the state and in Williams County.

The Project will be designed, constructed, and operated in compliance with applicable portions of the USDOT regulations as set forth in Chapter 49 of the Code of Federal Regulations (CFR) Part 192 (49 CFR 192) Transportation of Natural and Other Gas by Pipeline and Part 195 Transportation of Hazardous Liquids. These regulations encompass general requirements, accident reporting and safety related condition reporting, design requirements, construction, pressure testing, operation and maintenance, qualification of pipeline personnel, and corrosion control. Relevant industry standards are incorporated into these regulations by reference, including those of the American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), the American Standard for Testing and Materials (ASTM), and others

Flammable gases and liquified-petroleum-gases (“LPGs”) are the primary chemical hazards associated with the pipelines.

1. OE2 North, LLC – Bill Sanderson Residue and NGL Pipelines Project
2. Location – Williams County:
 - Secs. 26, 27, & 35, T154N, R104W
 - Secs. 11 & 2, T153N, R103W
3. Emergency Telephone Numbers

*IN CASE OF EMERGENCY DIAL 911

- | | | |
|--------------------------------------|--------------|--------------------|
| i. Facility Primary, Andrew Perdue | 720-361-2580 | Cell: 720-244-0456 |
| ii. Facility Secondary, Wade Janecek | 720-361-2549 | Cell: 970-270-5584 |
| iii. Alternate, Russ Kimmitt | 720-496-4068 | Cell: 303-902-0949 |

Williston Rural Fire Department: 701-572-3400

Ambulance Service: 701-572-3400

Medical – CHI St. Alexius Health: 701-774-7400

4. Agency Notification Non-Emergency
 - i. Williston Rural Fire Protection District 701-572-3400
 - ii. Williams County Sheriff 701-577-7700
 - iii. North Dakota State Highway Patrol 701-328-2467

<p style="text-align: center;">Emergency Action Plan</p>		<p style="text-align: center;">Topic: Emergency Planning & Response Rev. No.: 0 Date: March 20, 2020</p>
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5. Surrounding Occupancies & Land Use – The pipeline corridor is surrounded by farmland and natural grasses. There is a landfill to the north of the pipeline connection to the Sanderson Gas Processing Plant.
6. **Personal Protective Equipment Available** – When the pipeline is operational, all personnel performing work will be required to wear hard hats, FR clothing, steel toed boots, and eye protection. Hearing protection may be required in certain areas.
7. **Location of Emergency Equipment & Supplies** – Fire extinguishers and first aid kits will be kept in company vehicles of personnel performing work along the pipeline.
8. **Location & Types of Water Supplies** – Bottled water will be the only source of supply water.
9. **Transportation Routes** – Access to the pipeline will be along the designated right of way.
10. **Action Items and Response**
 - i. Large Liquid Release – The emergency response to a spill of one of these liquids would be to first stop the flow if possible. Try to control the liquids which were spilled such as using dirt to dike the area in front of the spill. If the spill is condensate or LPG do not do anything which might cause a spark. Use pumps or a vacuum truck to remove as much liquid as possible. Remediate the soil as soon as possible to prevent the liquids from going any deeper in the soil. In case of exposure to any of these liquids see the proper Safety Data Sheet (“SDS”) for health effects and emergency procedures. SDS for all materials located in the Facility can be found in the SDS manual, located at the OE2 Sanderson Gas Plant Office.
 - ii. Large Gas Release - For large gas releases not associated with normal operations, call 911, isolate the area in question and blow down the pressure. Record all details pertaining to the incident. Notifications should proceed as in any other emergency.
 - iii. Fire - At the scene of a fire, OE2 employees shall take every corrective action necessary to protect life first and then property from danger. The employee shall assess the danger to public, surrounding building occupants, and property by use of visual observance, leak detectors, pressure gauges, etc. Call 911. Evacuate or assist all persons to safety. Blockade area if necessary and maintain communication with fire, police and other public officials that are on the scene.
11. **Coordination with First Responder Agencies** - When at the scene of an emergency, the most senior OE2 representative shall develop a tentative course of action. Actions should be directed toward protecting people first, then property. First responders at the scene will want to help OE2 personnel in coping with the situation they are in. However, during all circumstances, first responders are to remain outside of the facility limits until approved to enter by an OE2 supervisor on scene.
12. **Safety and Training Review** - OE2 employees are trained for emergency response upon hiring and annually thereafter.

APPENDIX G
SHSND CONSULTATION

This document has been filed as Privileged under separate cover.

APPENDIX H
UNANTICIPATED DISCOVERY PLAN

The purpose of this Unanticipated Discovery Plan (UDP) is to assist OE2 North LLC (OE2) with the avoidance of impacts to historical resources as well as compliance with applicable North Dakota laws related to human remains. This UDP is specific to the Bill Sanderson Residue and NGL Pipelines construction project located in North Dakota (Project) and is to be implemented should cultural resources be found after construction has begun on the Project.

The plan detailed here will be implemented by OE2 if previously undiscovered archaeological resources and/or human remains are identified during soil disturbance (excavation, boring, and coring) or during pipeline construction.

The following steps will be implemented should an unanticipated discovery be made by an OE2 employee, inspector, contractor, or subcontractor during an undertaking:

- 1) Construction activities within the immediate area of an unanticipated discovery will be halted ("immediate area" is a context-specific measure. However, approximately 30 to 50 feet (10-15 meters) feet should be adequate, although special attention should be given to the possible extension of a new find beyond this buffer zone), and the discovery protected from further disturbance.
- 2) OE2 will notify their cultural resources consultant (potential consultants are listed at the end of this plan) on the Project who will notify by telephone the North Dakota State Historic Preservation Office (SHPO) contact and, if necessary, the applicable law enforcement agency and coroner (the latter parties will be notified only in the case of a finding of human remains). These notifications will take place within 24 hours of an unanticipated discovery.
- 3) Specific SHPO suggestions concerning an unanticipated discovery resulting from the notification as described above will be factored in to determining a course of action. That course of action may include any of the following; sufficient archaeological work will be performed on the unanticipated discovery location to stabilize deposits, protect deposits from scavengers or looters, and to collect readily available samples (e.g., for radiocarbon dating) that may help pinpoint the age of deposits or the presence (in the case of burials) of data that may serve to identify lineal or cultural descendants.
- 4) OE2 and their cultural resources consultant will consult with the SHPO to follow through on the course of action. This may involve further archaeological study or consultation with additional groups.

In the case of an unanticipated discovery of human remains, OE2 will follow all relevant federal and/or state law which may include some of the following:

Federal Statutes and Guidelines:

- Native American Graves Repatriation Act (NAGPRA) – Public Law 101-601; 25 U.S.C. 3001 et seq.
- Advisory Council on Historic Preservation (ACHP) Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects.

North Dakota Statutes and Regulations:

- North Dakota Century Code §23-06-27: Protection of human burial sites, human remains, and burial goods.

- North Dakota Century Code §55-03-06: Protection of prehistoric sites and deposits: upon sale of land by state or municipality archaeological or paleontological materials retained.
- North Dakota Century Code §55-03-07: Protection of prehistoric sites and deposits: violation; penalty.
- North Dakota Administrative Code §40-02-03: Protection of prehistoric and historic human burial sites, human remains, and burial goods

OE2 recognizes the importance of providing careful and respectful treatment for human remains recovered as an unanticipated discovery or as part of an archaeological investigation. In the event of an unanticipated discovery of human remains, OE2 will contact the applicable agency to identify and coordinate consultation with the appropriate groups. Lastly, in coordination with the applicable agency, a decision will be made for the treatment of the remains (e.g., reburial, preservation in place, scientific study, sacred rituals, or a combination thereof).

The following table provides the contact information for the OE2 point of contact, the North Dakota SHPO, and potential cultural resources consultants that can be contacted in the event of an unanticipated discovery during the construction of the Project.

OE2 Logistics Contacts	
(Main Contact)	
<p>Andrew Perdue Director of Operations and Engineering 1200 17th Street, Suite 900 Denver, CO 80202 720-361-2580 aperdue@outriggerenergy.com</p>	
North Dakota State Historic Preservation Office	
<p>The State Historical Society of North Dakota 612 East Boulevard Ave. Bismarck, North Dakota 58505 701-328-2666 histsoc@nd.gov</p>	
Cultural Resources Consultants in North Dakota	
<p>Metcalf Archaeological Consultants, Inc. PO Box 2154 Bismarck, ND 58502 701-258-1215</p> <p>Golder Associates Inc. 400 East Broadway Ave, Suite 300 Bismarck, ND 58501 701-258-5905</p> <p>AECOM 1000 E. Calgary Ave Suite 1 Bismarck, ND 58503 701-221-4140</p> <p>Carlson McCain, Inc. 600 S. 2nd St., Suite 105 Bismarck, ND 58504 701-255-1475</p>	<p>KLJ 4585 Coleman Street Bismarck, ND 58503-0431 701-355-8400</p> <p>Barr Engineering Company 234 West Century Avenue Bismarck, ND 58503 701-255-5460</p> <p>SWCA 116 N. Fourth Street, Suite 200 Bismarck, ND 58501 701-258-6622</p> <p>Grouse Mountain Environmental 760 West Fetterman Street Buffalo, WY 82834 307-684-2112</p>

APPENDIX I
NATURAL RESOURCE FIELD ASSESSMENT REPORTS



**NGL LINE
NATURAL RESOURCE
FIELD ASSESSMENT REPORT**

Prepared for:

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May 22, 2020

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1.0 INTRODUCTION

1.1 Project Description

OE2 North LLC (OE2) is proposing to develop the NGL pipeline (NGL Line) on private surface in Williams County, North Dakota. The NGL Line project will be located within sections 26, 27, and 35 T154N-R104W. The NGL Line will be approximately 1.28 miles (6,758 feet) in length. OE2 contracted Grouse Mountain Environmental Consultants (Grouse Mountain) to conduct a desktop analysis for and on-site field assessment for natural resources including Waters of the United States (WOTUS), wildlife, and vegetation potentially impacted by the construction of the NGL Line. Grouse Mountain conducted the on-site field assessment on March 6, 2020.

1.2 Jurisdictional Waters and Wetlands

Under section 404 of the Clean Water Act (CWA) of 1972, the U.S. Army Corps of Engineers (USACE) may issue permits for the discharge of dredge or fill material into WOTUS (Clean Water Act 2002). Following the repeal of the 2015 rule in October 2019, the Department of the Army and the Environmental Protection Agency finalized the Navigable Waters Protection Rule (Final Rule; 85 FR 22250). The Final Rule was intended to clarify the pre-2015 regulatory language and definition of WOTUS. Under the Final Rule, the term “waters of the United States” means: 1) Territorial seas, waters which are currently used, or were in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide; 2) Tributaries; 3) Lakes and ponds, and impoundments of jurisdictional waters; and 4) Adjacent wetlands. Within the Final Rule, the agencies clarify twelve (12) exclusions from the definition of WOTUS including ephemeral streams, swales, gullies, rills, and pools (see the published rule for a full list of exclusions and additional details). For perennial and intermittent tributaries to be considered jurisdictional, there must be a discrete channel and contribution to surface flow of a territorial sea or traditional navigable waterway within a typical year. The Final Rule was published in the Federal Register on April 21, 2020 and will take effect on June 22, 2020.

1.3 Federally Protected Wildlife

Under the Endangered Species Act (ESA) of 1978, the U.S. Fish and Wildlife Service (USFWS) regulates all terrestrial and freshwater plant and animal species listed as threatened or endangered. Section 9 of the ESA prohibits the “take”, export/import, possession, and other specified activities of any federally listed endangered or threatened species. The term “take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct”. Any company/person who violates provisions of the ESA are subject to penalties and enforcement outlined within section 11 of the ESA (United States Government 1988, USFWS 2013).

The USFWS also regulates the “take”, export/import, possession, and other specified activities of migratory bird species listed under the Migratory Bird Treaty Act (MBTA) of 1918 (United States Government 1918, USFWS 2017). According to the Solicitor’s Opinion M-37041 (United States Government 2017a), the MBTA prohibits “incidental take” of migratory birds, where “incidental take” is defined as “take that results from an activity but is not the purpose of that activity.” However, in accordance with the Solicitor’s Opinion M-37050 (United States Government 2017a), the MBTA’s prohibition of “take” applies only to “direct and affirmative purposeful actions that reduce migratory birds, their eggs, or their nests, by killing or capturing, to human control.”

Bald and Golden Eagle Protection Act (BGEPA) of 1978 prohibits knowingly taking, or taking with wanton disregard for the consequences of an activity, any bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*) or their body parts, nests, chicks or eggs, which includes collection, possession, molestation, disturbance, destruction, or killing, where “disturb” is defined as “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.” (United States Government 1978, USFWS 2012a).

1.4 Vegetation Inventory

The North Dakota Public Service Commission (PSC) requested documentation of any trees, saplings, or shrubs located within the right-of-way. Further, the control of noxious weeds is important to prevent the continued spread of non-native and invasive plants that often reduce native plant populations. The North Dakota Department of Agriculture has designated thirteen (13) plant species as noxious weeds in the state and Williams County has added an additional one (1) species to the list. North Dakota Law (NDCC Section 4.1-47-02) requires “every person to do all things necessary and proper to control the spread of noxious weeds.”

2.0 ENVIRONMENTAL SETTING

The NGL Line is approximately thirteen (13) miles west of Williston, North Dakota and located along the North Dakota-Montana border. The local climate can be characterized by long cold winters and short hot summers. Average temperatures range from 1.7 °F to 21.3 °F in January and from 57.0 °F to 85.4 °F in July. Mean annual precipitation is 14.17 inches (WRCC 2016). Elevation of the project area ranges from 2,230 to 2,300 feet. The project area is dominated by loamy ecosites with minor components of silty and limy ecosites. Many other ecosites occur within the project area, but at very low occurrences. Horse Tied Creek lies 1.3 miles south of the NGL Line. The majority of the project area falls within the Lower Little Muddy Creek (HUC-12 [100600050704]) subwatershed of the Missouri-Poplar basin (HUC-6[100600]); the eastern portion of the NGL Line lies in the Horse Tied Creek (HUC-12 [100600050703]; Table 1) subwatershed of the Missouri-Poplar basin. Livestock grazing, agriculture, and mineral development are the predominant land uses in the area.

Table 1. Hydrologic Unit Codes (HUC) for the NGL Line

Project Name	Basin (HUC-6)	Subbasin (HUC-8)	Watershed (HUC-10)	Subwatershed (HUC-12)
NGL Line	Missouri-Poplar (100600)	Charlie-Little Muddy (10060005)	Little Muddy Creek (1006000507)	Lower Little Muddy Creek (100600050704)
				Horse Tied Creek (100600050703)

3.0 METHODS AND RESULTS

3.1 Jurisdictional Waters and Wetlands

3.1.1 Methods

Prior to conducting field surveys, Grouse Mountain conducted a desktop assessment using spatial layers from applicable state and federal agencies. Hydrologic watershed data was acquired from the U.S. Geological Survey (USGS) Watershed Boundary Dataset (WBD). Wetland data was obtained from the USFWS National Wetlands Inventory (NWI; USFWS 2012b). Spatial data for rivers, streams, and tributaries were acquired from the USGS National Hydrologic Dataset (NHD). Soils data was acquired from the Natural Resources Conservation Service (NRCS) Web Soils Survey (WSS; SSS-NRCS-USDA 2020). NHD in combination with the WBD and NWI were overlaid with the provided pipeline shapefile in ArcGIS to assess potential areas of jurisdictional concern. WSS data was overlaid on these images to assess hydric soils. As these datasets are based on aerial or satellite imagery and infrequently updated, they may not accurately represent resources on the ground.

To supplement the offsite desktop analysis, Grouse Mountain conducted a field assessment on March 6, 2020. Due to the time of year, a full assessment of hydrophytic vegetation was not possible in the field. The vegetation inventory results presented here may not represent all plants species present during the growing season. Specifically, GMEC was only able to identify those species of senesced grasses/forbs and/or dormant shrubs with features still intact enough for accurate identification. Grouse Mountain biologists were able to assess Ordinary High-water Mark (OHWM) and bed and bank features. Additionally, using conservative boundaries of OHWM and other hydrologic indicators, Grouse Mountain calculated the area of each potential wetland and/or linear feature (i.e. area below the OHWM) within the construction ROW of the proposed pipeline.

3.1.2 Results

During the initial desktop analysis, Grouse Mountain assessed drainages and NWI that crossed the NGL Line and/or fell within 200 feet of the NGL Line. NWI-designated wetlands were identified along the western portion of the NGL Line (WTL-001 and WTL-002). These wetlands are classified as intermittent riverine wetlands and are associated with an intermittent tributary of Little Muddy Creek. No NWI or NHD data was present along the eastern portion of the NGL Line; however, one (1) distinct channel running north to south was visible within the 200-foot buffer on aerial imagery (ISC-001). WSS data identifies the drainages related to WTL-001 and WTL-002 as not containing hydric soils. The rest of the NGL Line Right-of-Way (ROW) falls within soils with a hydric rating of 1-5% (Figure 1).

During on-site field assessments, Grouse Mountain assessed the hydrologic characteristics of each drainage or wetland. WTL-001 and WTL-002 are drainages comprised of predominantly upland vegetation, including large patches of western snowberry (*Symphoricarpos occidentalis*). There were no obvious physical signs of OHWM or bed and bank features along these drainages (Photos 1-9). During the field assessment of ISC-001, standing water was present at the pipeline crossing on the north side of the existing road (Photo 10). While some hydrophytic vegetation (e.g. *Deschampsia*) and standing water were present, these features were likely attributed to anthropogenic disturbance where water from recent snow melt had pooled within a slight depression north of the road. The depression in which water had accumulated was a ditch likely associated with development of the road and, therefore, does not represent conditions in which a wetland would naturally occur. The drainage immediately south of road showed signs of hydrologic forces, with vegetation suggesting OHWM (Photo 12); however, these hydrologic indicators dissipated approximately 250 ft downstream where upland vegetation became prevalent within the drainage (Photo 13). The indications of OHWM within this drainage are again present further downstream;

however, these features are not consistent throughout the drainage and no water was present during field surveys conducted on March 26, 2020.

Table 2. NGL Line National Wetland Inventory Crossings

NWI Crossing ID (Stream Type)	System Name	Water Regime	Associated Stream Name	Tributary to	Tributary to	Field Notes
WTL-001 (Intermittent)	Riverine	Temporary Flooded	Unnamed	Little Muddy Creek	Missouri River	No OHWM/bed and bank; minimal hydrophytic vegetation
WTL-002 (Intermittent)	Riverine	Temporary Flooded	Unnamed	Little Muddy Creek	Missouri River	No OHWM/bed and bank; minimal hydrophytic vegetation
ISC-001	n/a	n/a	Unnamed	Horse Tied Creek	Little Muddy Creek	Anthropogenic disturbance resulting in wetland features north of the road. No consistent hydrologic connection downstream.

3.2 Threatened and Endangered Species

3.2.1 Methods

Grouse Mountain used the USFWS's IPaC: Information for Planning and Consultation to assess potential impacts to threatened and endangered (T&E) species within 0.5 mile of the NGL Line (hereafter called the "project area"). IPaC identifies any designated critical habitat as well as any species with overlapping historical ranges, referred to as Areas of Influence (AOI). As such, potentially affected species identified through use of the IPaC tool are generated based on broad geographic range overlaps and require finer scale assessments to determine whether a project may impact those listed species. If a species is identified as potentially affected but no critical habitat is present, it does not imply suitable habitats associated with that species are present within the project area. IPaC lists six (6) species as potentially affected by activities within the project area: Northern long-eared bat (*Myotis septentrionalis*), Least Tern (*Sterna antillarum*), Piping Plover (*Charadrius melodus*), Red Knot (*Calidris canutus rufa*), Whooping Crane (*Grus americana*), and Pallid sturgeon (*Scaphirhynchus albus*). The Northern long-eared bat is primarily associated with mature forests with large decaying or partially dead trees during the breeding season and caves or mines during winter hibernation. The Least Tern nests near water, using primarily riverine sandbars or salt flats from low tide during the breeding season in the interior U.S. The majority of Piping Plovers in the Great Plains use shorelines along small, alkaline lakes. Suitable habitat includes large beaches with highly clumped vegetation that provides low overall cover. Red Knots require elevated ridges and slopes near wetlands and lakes where food is abundant during the breeding season and winter in coastal areas, such as tidal flats, estuaries, or bays. Pallid sturgeon are large river obligates that require year-round water flows. Whooping Cranes nest in dense emergent vegetation around shallow ponds, wet prairies, or freshwater marshes. During spring and fall migration, the Aransas/Wood Buffalo population of Whooping Cranes use marshes, salt flats, lagoons, barrier islands, palustrine wetlands as well as stubble/grain fields and cropland adjacent to or near wetland features. During the field survey conducted March 6, 2020, Grouse Mountain biologists assessed potential suitable habitat for relevant T&E species within the project area and checked for eagle and non-eagle raptor nests within the pipeline ROW. Previously known eagle and non-eagle raptor nest locations were obtained from the Bureau of Land Management – North Dakota Field Office (BLM-ND) and the North Dakota Game and Fish Department (NDGF).

3.2.2 Results

No currently defined critical habitats are located within the NGL Line project area and no birds of conservation concern are expected. Further, no suitable habitats for Northern long-eared bat, Least Tern, Piping Plover, Red Knot, or Pallid sturgeon were identified within the project area. No mature trees will be removed during construction of the project and no caves, alkaline lakes, tidal flats, or marshes will be affected. The project is currently located within the area in which 85% of migratory sightings of Whooping Crane are recorded for the Aransas/Wood Buffalo population; however, the NGL Line project area is located outside of the central flyway and in an area where no e-bird sightings of Whooping Cranes have been reported during migration. While croplands are located within the project area, no critical stopover habitats are designated nearby. Field surveys indicated that small, diked wetlands may be present within 1km of the cropland. However, the use of the NGL Line project area by Whooping Cranes as a stopover during migration is unlikely. According to the data obtained from the BLM-ND and NDGF, no previously known eagle or non-eagle raptor nests are located within the project area and no nests were observed along the pipeline ROW during the field survey.

3.3 Vegetation Inventory

3.3.1 Methods

Grouse Mountain identified any trees, saplings, shrubs, or noxious weeds present within the 200-foot buffer of the NGL Line. Trees, saplings, and woody-stemmed shrubs over 1-inch diameter at breast height (DBH) were counted and identified to species. Grouse Mountain noted all shrubs that occurred within the sampled area. Additionally, noxious weeds were identified throughout the survey area by visual inspection of the pipeline ROW during field surveys.

3.3.2 Results

No trees, saplings, or shrubs over 1-inch DBH were identified within the surveyed area. Patches of the shrub, western snowberry, were found within the drainages; however, the snowberry was growing primarily as single-stemmed shoots within colonies of variable size and density and stems were <1-inch DBH.

None of the fourteen (14) noxious weeds listed by the state and Williams County were identified within the survey area.

4.0 SUMMARY AND RECOMMENDATIONS

4.1 Jurisdictional Waters and Wetlands

Offsite desktop assessments were conducted by Grouse Mountain using available data and supplemental data was retrieved during an onsite field assessment conducted outside of the growing season. Data not otherwise specified within the outlined methods above may not have been made available to Grouse Mountain and, thus, not considered in the overall evaluation of WOTUS presented in this report. Results and recommendations outlined within this report are provided based on Grouse Mountain's best assessment of hydrologic resources from aerial imagery and an onsite field visit; however, field conditions did not allow for all wetland indicators to be assessed and jurisdiction is always up to the USACE.

Based on the results from the site assessment, it is Grouse Mountain's professional opinion that some of these tributaries may be regulated by the USACE. Disturbance associated with the construction of the NGL Line will be temporary and OE2 will avoid any discharges or fill of WOTUS entirely. Conservative boundaries of drainages will be provided to OE2 to assist in planning bore points.

Table 3. NGL Line Drainage Crossing Acreage within Construction ROW

NWI Crossing ID (Stream Type)	Estimated Acreage Within ROW	Crossing Exceeds 500ft
WTL001 (Intermittent)	0.16	No
WTL-002 (Intermittent)	0.11	No

4.2 Threatened and Endangered Species

IPaC indicated six (6) species may be potentially affected by the NGL Line project. However, no critical habitats are currently designated within the project area. Further analysis of habitat requirements for the six (6) listed species suggest no suitable habitats are located within the project boundary and Grouse Mountain does not anticipate any issues with T&E species. Field surveys conducted on March 6, 2020 indicated that no eagle or non-eagle raptor nests are located within the ROW.

4.3 Vegetation Inventory

No trees, saplings, or shrubs > 1-inch DBH will be affected by the construction of the NGL Line. The only shrubs that will be affected are patches of western snowberry. Since snowberry spreads through its roots to form colonies of various sizes, removal of a portion of these patches will not likely result in a loss of productivity for the colony. No noxious weeds were identified during field surveys.

4.4 Cultural Resource Inventory

Grouse Mountain conducted a Class I cultural resource desktop analysis and file search for the NGL Line project on April 4, 2020. The NGL Line generally follows existing disturbance. Our lead archaeologist is coordinating with the State Historical Society of North Dakota (SHSND) regarding the Class I results. OE2 is committed to full avoidance of impacts to cultural resources through horizontal directional drilling or fencing enclosures around documented resources during construction.

5.0 REFERENCES

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Western Regional Climate Center (WRCC). 2016. Period of Record Monthly Climate Summary: Williston Exp Farm, North Dakota (329430). Accessed 31 January 2019. <<https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?nd9430>>

6.0 QUALIFICATIONS

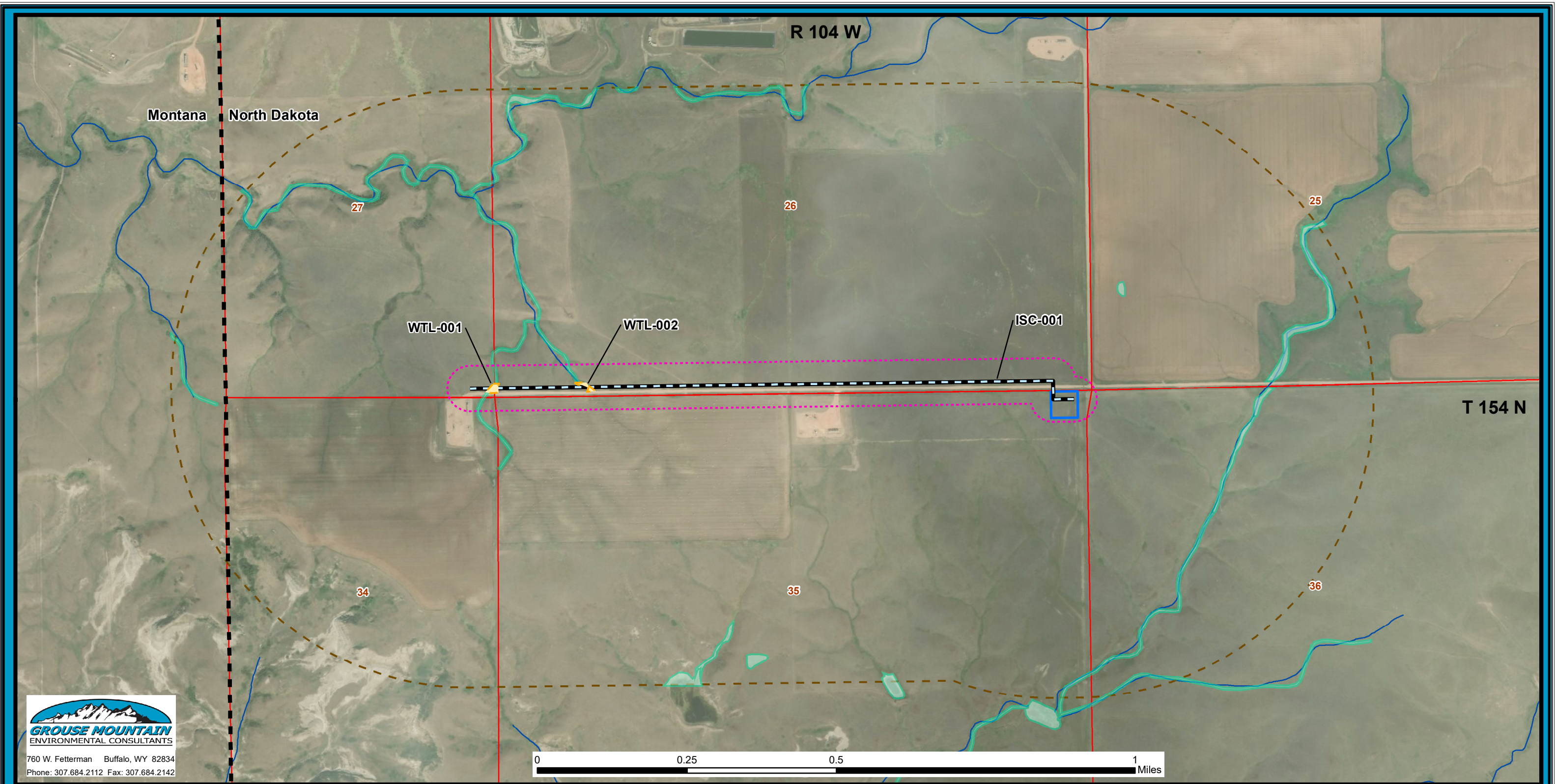
Kirstie Lawson holds a B.S. degree in Wildlife Biology (2012) from the University of Montana and a M. S. degree in Biology (2018) from the University of British Columbia Okanagan. She is currently a Wildlife Biologist with Grouse Mountain Environmental Consultants based in Buffalo, Wyoming. Ms. Lawson has over 6 years of experience working in the wildlife field. With a focus on grouse research, Ms. Lawson's background also includes conducting research and surveys for mesocarnivores, songbirds, and raptors in the U.S. and Canada. Her previous work has required interacting with various stakeholders, including private landowners, government agencies, and industry.

Katie Taylor holds a B.S. degree in Biology (2009) from Seattle Pacific University and a M.S. degree in Rangeland Ecology (2014) from the University of Wyoming. She is currently Lead Wildlife Biologist with Grouse Mountain Environmental Consultants based in Buffalo, Wyoming. Ms. Taylor has 9 years of experience working in the wildlife field. Her direct work experience includes applied field work and research for universities, private industry, and federal and state agencies. Ms. Taylor has worked on research projects involving raptors, grouse species, songbirds, wolves, and various species of ungulates throughout the continental U.S. More specifically, she has 5 years of experience conducting surveys in accordance with BLM wildlife survey protocols for nesting raptors, sage-grouse and sharp-tailed grouse leks, mountain plover, and other sensitive species in Wyoming. In addition, Ms. Taylor has experience in wildlife data management and GIS support for the Bureau of Land Management – Buffalo Field Office. Ms. Taylor has also completed wetland delineation training and has experience with wetland determinations and working with the USACE for hydrology determinations.

Gregory Shedd holds a B.S. in Wildlife Biology (2002) from Unity College. He is currently a Wildlife Biologist with Grouse Mountain Environmental Consultants based in Buffalo, Wyoming. Mr. Shedd has over 15 years of combined experience in the wildlife field. His primary experience is private consulting in Wyoming and surrounding states performing surveys, monitoring and applied research for various stakeholders including private landowners, government agencies, and industry. Mr. Shedd has completed wetland delineation training and has conducted wetland determinations for over 10 years.

7.0 FIGURES

Figure 1. OE2 North LLC: NGL Line Natural Resource Summary Report Map



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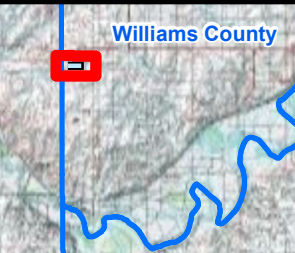
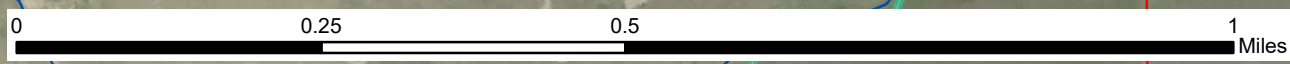


Figure 1. OE2 North LLC: NGL Line Natural Resource Summary Report Map

- NGL Line
- CDP Site
- 0.5-mile Survey Area
- 200-foot Survey Area
- Mapped Boundary within ROW
- National Wetland Inventory

Coordinate System: UTM Meters
 Projection: NAD 83 Zone 13N
 Scale: 1:1,167,928
 Date: 4/9/2020
 Created by: klawson
 File Name:
 OUT006_NGLLine_Desktop_031720



8.0 APPENDICES

Appendix A. NGL Line Field Survey Drainage Photos



Photo 1. WTL-001 Intermittent Stream Crossing facing north. Picture taken on March 6th, 2020.



Photo 2. WTL-001 Intermittent Stream Crossing facing south. Picture taken on March 6th, 2020.



Photo 3. WTL-001 drainage downstream of crossing, facing northeast. Picture taken on March 6th, 2020.



Photo 4. WTL-001 drainage upstream of crossing and existing road, facing south. Picture taken on March 6th, 2020.



Photo 5. WTL-002 Intermittent Stream Crossing, facing northwest. Picture taken on March 6th, 2020.



Photo 6. WTL-002 Intermittent Stream Crossing, facing south. Picture taken on March 6th, 2020.



Photo 7. WTL-002 drainage downstream from crossing, facing north. Picture taken on March 6th, 2020.



Photo 8. WTL-002 drainage upstream from crossing and existing road, facing south. Picture taken on March 6th, 2020.



Photo 9. WTL-002 drainage further upstream south of road, facing south. Picture taken on March 6th, 2020.



Photo 10. ISC-001 Crossing from existing road, facing north. Picture taken on March 6th, 2020.



Photo 11. ISC-001 Crossing downstream from existing road, facing south. Picture taken on March 6th, 2020.



Photo 12. ISC-001 Crossing approximately 160 feet downstream, facing southeast. Picture taken on March 6th, 2020.



Photo 13. ISC-001 Crossing approximately 270 feet downstream, facing south. Picture taken on March 6th, 2020.



**RESIDUE LINE
NATURAL RESOURCE
FIELD ASSESSMENT REPORT**

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May 22, 2020

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1.0 INTRODUCTION

1.1 Project Description

OE2 North LLC (OE2) is proposing to develop the Residue pipeline (Residue Line) on private surface in Williams County, North Dakota. The Residue Line project will be located within sections 26, 27, and 35 T154N-R104W and sections 2 and 11 T153N-R104W. The Residue Line will be approximately 4.67 miles (24,658 feet) in length with a construction right-of-way (ROW) of approximately 100 feet. OE2 contracted Grouse Mountain Environmental Consultants (Grouse Mountain) to conduct a desktop analysis and on-site field assessment for natural resources including Waters of the United States (WOTUS), wildlife, and vegetation potentially impacted by the construction of the Residue Line. Grouse Mountain conducted the on-site field assessment on March 6 and 26, 2020.

1.2 Jurisdictional Waters and Wetlands

Under section 404 of the Clean Water Act (CWA) of 1972, the U.S. Army Corps of Engineers (USACE) may issue permits for the discharge of dredge or fill material into WOTUS (Clean Water Act 2002). Following the repeal of the 2015 rule in October 2019, the Department of the Army and the Environmental Protection Agency finalized the Navigable Waters Protection Rule (Final Rule; 85 FR 22250). The Final Rule was intended to clarify the pre-2015 regulatory language and definition of WOTUS. Under the Final Rule, the term “waters of the United States” means: 1) Territorial seas, waters which are currently used, or were in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide; 2) Tributaries; 3) Lakes and ponds, and impoundments of jurisdictional waters; and 4) Adjacent wetlands. Within the Final Rule, the agencies clarify twelve (12) exclusions from the definition of WOTUS including ephemeral streams, swales, gullies, rills, and pools (see the published rule for a full list of exclusions and additional details). For perennial and intermittent tributaries to be considered jurisdictional, there must be a discrete channel and contribution to surface flow of a territorial sea or traditional navigable waterway within a typical year. The Final Rule was published in the Federal Register on April 21, 2020 and will take effect on June 22, 2020.

1.3 Federally Protected Wildlife

Under the Endangered Species Act (ESA) of 1978, the U.S. Fish and Wildlife Service (USFWS) regulates all terrestrial and freshwater plant and animal species listed as threatened or endangered. Section 9 of the ESA prohibits the “take”, export/import, possession, and other specified activities of any federally listed endangered or threatened species. The term “take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct”. Any company/person who violates provisions of the ESA are subject to penalties and enforcement outlined within section 11 of the ESA (United States Government 1988, USFWS 2013).

The USFWS also regulates the “take”, export/import, possession, and other specified activities of migratory bird species listed under the Migratory Bird Treaty Act (MBTA) of 1918 (United States Government 1918, USFWS 2017). According to the Solicitor’s Opinion M-37041 (United States Government 2017a), the MBTA prohibits “incidental take” of migratory birds, where “incidental take” is defined as “take that results from an activity but is not the purpose of that activity.” However, in accordance with the Solicitor’s Opinion M-37050 (United States Government 2017a), the MBTA’s prohibition of “take” applies only to “direct and affirmative purposeful actions that reduce migratory birds, their eggs, or their nests, by killing or capturing, to human control.”

Bald and Golden Eagle Protection Act (BGEPA) of 1978 prohibits knowingly taking, or taking with wanton disregard for the consequences of an activity, any bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*) or their body parts, nests, chicks or eggs, which includes collection, possession, molestation, disturbance, destruction, or killing, where “disturb” is defined as “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.” (United States Government 1978, USFWS 2012a).

1.4 Vegetation Inventory

The North Dakota Public Service Commission (PSC) requires documentation of any trees, saplings, or shrubs located within the construction right-of-way. Further, the control of noxious weeds is important to prevent the continued spread of non-native and invasive plants that often reduce native plant populations. The North Dakota Department of Agriculture has designated thirteen (13) plant species as noxious weeds in the state and Williams County has added an additional one (1) species to the list. North Dakota Law (NDCC Section 4.1-47-02) requires “every person to do all things necessary and proper to control the spread of noxious weeds.”

2.0 ENVIRONMENTAL SETTING

The Residue Line is approximately thirteen (13) miles west of Williston, North Dakota and located along the North Dakota-Montana border. The local climate can be characterized by long cold winters and short hot summers. Average temperatures range from 1.7 °F to 21.3 °F in January and from 57.0 °F to 85.4 °F in July. Mean annual precipitation is 14.17 inches (WRCC 2016). Elevation of the project area ranges from 2,150 to 2,300 feet. The project area is dominated by loamy ecosites with minor components of silty and sandy ecosites. Many other ecosites occur within the project area, but at low occurrences. The east-west portion of the Residue Line is located parallel to an existing lease road and the north-south portion follows the Right-of-Way (ROW) of an existing pipeline. Dominant vegetation along the proposed pipeline includes blue grama (*Bouteloua gracilis*), western wheatgrass (*Pascopyrum smithii*), purple three-awn (*Aristida purpurea*), and fringed sage (*Artemisia frigida*). Horse Tied Creek crosses the middle of the Residue Line in section 2 T153N-R104W. The northern portion of the project area falls within the Lower Little Muddy Creek (HUC-12 [100600050704]) subwatershed of the Missouri-Poplar basin (HUC-6[100600]) and the southern portion of the project area lies in the Horse Tied Creek (HUC-12 [100600050703]; Table 1) subwatershed of the Missouri-Poplar basin. Livestock grazing, agriculture, and mineral development are the predominant land uses in the area.

Table 1. Hydrologic Unit Codes (HUC) for the Residue Line

Project Name	Basin (HUC-6)	Subbasin (HUC-8)	Watershed (HUC-10)	Subwatershed (HUC-12)
Residue Line	Missouri-Poplar (100600)	Charlie-Little Muddy (10060005)	Little Muddy Creek (1006000507)	Lower Little Muddy Creek (100600050704)
				Horse Tied Creek (100600050703)

3.0 METHODS AND RESULTS

3.1 Jurisdictional Waters and Wetlands

3.1.1 Methods

Prior to conducting field surveys, Grouse Mountain conducted a desktop assessment using spatial layers from applicable state and federal agencies. Hydrologic watershed data was acquired from the U.S. Geological Survey (USGS) Watershed Boundary Dataset (WBD). Wetland data was obtained from the USFWS National Wetlands Inventory (NWI; USFWS 2012b). Spatial data for rivers, streams, and tributaries were acquired from the USGS National Hydrologic Dataset (NHD). Soils data was acquired from the Natural Resources Conservation Service (NRCS) Web Soils Survey (WSS; SSS-NRCS-USDA 2020). NHD in combination with the WBD and NWI were overlaid with the provided pipeline shapefile in ArcGIS to assess potential areas of jurisdictional concern. WSS data was overlaid on these images to assess hydric soils. As these datasets are based on aerial or satellite imagery and infrequently updated, they may not accurately represent resources on the ground.

To supplement the offsite desktop analysis, Grouse Mountain conducted a field assessment on March 6 and 26, 2020. Due to the time of year, a full assessment of hydrophytic vegetation was not possible in the field. The vegetation inventory results presented here may not represent all plants species present during the growing season. Specifically, GMEC was only able to identify those species of senesced grasses/forbs and/or dormant shrubs with features still intact enough for accurate identification. Grouse Mountain biologists were able to assess Ordinary High-water Mark (OHWM) and bed and bank features. Additionally, using conservative boundaries of OHWM and other hydrologic indicators, Grouse Mountain calculated the area of each potential wetland and/or linear feature (i.e. area below the OHWM) within the construction ROW of the proposed pipeline.

3.1.2 Results

During the initial desktop analysis, Grouse Mountain assessed drainages and NWI that crossed the Residue Line and/or fell within 200 feet of the Residue Line. Ten (10) NWI-designated wetlands were identified along the Residue Line or within the 200-foot buffer (Table 2). The Residue Line crosses Horse Tied Creek in section 2 T153N-R104W. Horse Tied Creek is an intermittent stream. There are two (2) wetlands associated with this stream crossing. The NWI dataset identifies WTL-007 as an intermittent riverine system that is seasonally flooded, where surface water is present for extended periods during the growing season. Additionally, an emergent palustrine wetland (WTL-008) that is seasonally flooded lies 100 feet to the west of the Residue Line in the Horse Tied Creek drainage. Six (6) other drainages along the Residue Line in sections 2 and 11 T153N-R104W and section 35 T154N-R104W are classified as intermittent riverine wetlands that are temporarily flooded, where there are brief periods of surface water although the water table lies beneath the ground surface for most of the year. Four (4) of these drainages (WTL-003, WTL-004, WTL-006, WTL-009) are tributaries to Horse Tied Creek and two (2) drainages (WTL-001 and WTL-002) are secondary tributaries to Little Muddy Creek to the north. One (1) emergent palustrine wetland (WTL-005) that is diked or impounded and temporarily flooded lies approximately 120 feet west of the Residue Line in section 35 T154N-R104W. One (1) additional emergent palustrine wetland (WTL-010) located in section 11 T153N-R104W is not associated with an NHD line and appears to be an isolated wetland. In addition to the NWI wetlands, aerial imagery suggests there is one (1) distinct drainage visible within the project area that crosses the survey area twice (ISC-001 and ISC-002).

During on-site field assessments, Grouse Mountain assessed the hydrologic characteristics of each drainage or wetland. WTL-001 and WTL-002 are drainages comprised of predominantly upland vegetation, including large patches of western snowberry (*Symphoricarpos occidentalis*). There

were no obvious physical signs of OHWM or bed and bank features along these drainages (Photos 1-9). During the field assessment of ISC-001, standing water was present at the pipeline crossing on the north side of the existing road (Photo 10). While some hydrophytic vegetation (e.g. *Deschampsia*) and standing water were present, these features were likely attributed to anthropogenic disturbance where water from recent snow melt had pooled within a slight depression north of the road. The depression in which water had accumulated was a ditch likely associated with development of the road and, therefore, does not represent conditions in which a wetland would naturally occur. The drainage immediately south of road showed signs of hydrologic forces, with vegetation suggesting OHWM (Photo 12); however, these hydrologic indicators dissipated approximately 250 ft downstream where upland vegetation became prevalent within the drainage (Photo 13). The same hydrologic features were present again further downstream near ISC-002 (Photos 14-19); however, these features are not consistent throughout the drainage and no water was present during field surveys on March 26, 2020.

WTL-003 also shows signs of shortened or bent-over vegetation suggesting OHWM and current water pooling at the proposed pipeline crossing (Photos 20-23). These features and the presence of a headcut on the upstream side of the crossing suggest recent water flows and hydrologic forces. WTL-004 consists of a small, completely vegetated channel (Photos 24 and 25). Both WTL-003 and WTL-004 flow into a diked pond (WTL-005; Photo 26) just west of the pipeline ROW.

WTL-006 is a steeper drainage with OHWM indicated by bent-over and shortened vegetation present at the pipeline crossing (Photos 27-29). Headcuts are present both up and downstream from the crossing (Photos 30 and 31) where signs of deep water ponding and vegetation debris were present. The actual crossing area shows no definitive channel and may have been altered by construction of the prior pipeline.

WTL-007 is associated with Horse Tied Creek. This crossing is comprised of two (2) distinct channels within a larger floodplain. Wetland vegetation was present within these channels along with frozen, standing water (Photos 33-37). Grouse Mountain geospatially defined a conservative wetland boundary for based on clear signs of upland vegetation and terracing. This boundary was also inclusive of WTL-008 within the 200-foot survey buffer. The defined wetland boundary does not represent an official wetland delineation.

WTL-009 is located within an agricultural field where the drainage itself shows minimal slope, no signs of channelization, and no hydrologic features (Photos 38-40).

WTL-010 is believed to be an isolated wetland that is located 65 feet outside of the proposed pipeline ROW (Photo 41).

Table 2. Residue Line National Wetland Inventory Crossings

NWI Crossing ID (Stream Type)	System Name	Water Regime	Associated Stream Name	Tributary to	Tributary to	Field Notes
WTL001 (Intermittent)	Riverine	Temporary Flooded	Unnamed	Little Muddy Creek	Missouri River	No OHWM/bed and bank; minimal hydrophytic vegetation
WTL-002 (Intermittent)	Riverine	Temporary Flooded	Unnamed	Little Muddy Creek	Missouri River	No OHWM/bed and bank; minimal hydrophytic vegetation
WTL-003 (Intermittent)	Riverine	Temporary Flooded	Unnamed	Horse Tied Creek	Missouri River	Possible OHWM; standing water present, but is receding weekly.

NWI Crossing ID (Stream Type)	System Name	Water Regime	Associated Stream Name	Tributary to	Tributary to	Field Notes
WTL-004 (Intermittent)	Riverine	Temporary Flooded	Unnamed	Horse Tied Creek	Missouri River	Some channelization observed with a completely vegetated bed.
WTL-005 (Intermittent)	Palustrine	Temporary Flooded	Unnamed	--	--	Diked or Impounded Wetland outside of proposed ROW.
WTL-006 (Intermittent)	Riverine	Temporary Flooded	Unnamed	Horse Tied Creek	Missouri River	Possible OHWM at crossing, hydrologic indicators observed up and downstream.
WTL-007 (Intermittent)	Riverine	Seasonally Flooded	Horse Tied Creek	Little Muddy Creek	Missouri River	Channelization and hydrophytic vegetation present; marked conservative wetland boundary.
WTL-008 (Intermittent)	Palustrine	Seasonally Flooded	Horse Tied Creek	--	--	Associated with WTL-007; marked conservative wetland boundary.
WTL-009 (Intermittent)	Riverine	Temporary Flooded	Unnamed	Horse Tied Creek	Missouri River	No hydrologic indicators at crossing.
WTL-010 (Intermittent)	Palustrine	Seasonally Flooded	none	--	--	Isolated Wetland located outside of proposed ROW.
ISC-001	n/a	n/a	Unnamed	Horse Tied Creek	Little Muddy Creek	Anthropogenic disturbance resulting in wetland features north of the road. No consistent hydrologic connection downstream.
ISC-002	n/a	n/a	Unnamed	Horse Tied Creek	Little Muddy Creek	Same drainage as ISC-001; possible OHWM present, no consistency in hydrologic connection up or downstream.

3.2 Threatened and Endangered Species

3.2.1 Methods

Grouse Mountain used the USFWS's IPaC: Information for Planning and Consultation to assess potential impacts to threatened and endangered (T&E) species within 0.5 mile of the Residue Line (hereafter called the "project area"). IPaC identifies any designated critical habitat as well as any species with overlapping historical ranges, referred to as Areas of Influence (AOI). As such, potentially affected species identified through use of the IPaC tool are generated based on broad geographic range overlaps and require finer scale assessments to determine whether a project may impact those listed species. If a species is identified as potentially affected but no critical habitat is present, it does not imply suitable habitats associated with that species are present within the project area. IPaC lists six (6) species as potentially affected by activities within the project area: Northern long-eared bat (*Myotis septentrionalis*), Least Tern (*Sterna antillarum*), Piping Plover

(*Charadrius melodus*), Red Knot (*Calidris canutus rufa*), Whooping Crane (*Grus americana*), and Pallid sturgeon (*Scaphirhynchus albus*). The Northern long-eared bat is primarily associated with mature forests with large decaying or partially dead trees during the breeding season and caves or mines during winter hibernation. The Least Tern nests near water, using primarily riverine sandbars or salt flats from low tide during the breeding season in the interior U.S. The majority of Piping Plovers in the Great Plains use shorelines along small, alkaline lakes. Suitable habitat includes large beaches with highly clumped vegetation that provides low overall cover. Red Knots require elevated ridges and slopes near wetlands and lakes where food is abundant during the breeding season and winter in coastal areas, such as tidal flats, estuaries, or bays. Pallid sturgeon are large river obligates that require year-round water flows. Whooping Cranes nest in dense emergent vegetation around shallow ponds, wet prairies, or freshwater marshes. During spring and fall migration, the Aransas/Wood Buffalo population of Whooping Cranes use marshes, salt flats, lagoons, barrier islands, palustrine wetlands as well as stubble/grain fields and cropland adjacent to or near wetland features. During the field survey conducted March 6th and 26th, 2020, Grouse Mountain biologists assessed potential suitable habitat for relevant T&E species within the project area and checked for eagle and non-eagle raptor nests within the pipeline ROW. Previously known eagle and non-eagle raptor nest locations were obtained from the Bureau of Land Management – North Dakota Field Office (BLM-ND) and the North Dakota Game and Fish Department (NDGF).

3.2.2 Results

No currently defined critical habitats are located within the Residue Line project area and no birds of conservation concern are expected. Further, no suitable habitats for Northern long-eared bat, Least Tern, Piping Plover, Red Knot, or Pallid sturgeon were identified within the project area. No mature trees will be removed during construction of the project and no caves, alkaline lakes, tidal flats, or marshes will be affected. The project is currently located within the area in which 85% of migratory sightings of Whooping Crane are recorded for the Aransas/Wood Buffalo population; however, the Residue Line project area is located outside of the central flyway and any designated stopover sites, and is located in an area where no e-bird sightings of Whooping Cranes have been reported during migration. While croplands are located within the project area, no critical stopover habitats are designated nearby. Field surveys indicated that small, diked wetlands are present within 1km of the cropland. However, the use of the Residue Line project area by Whooping Cranes as a stopover during migration is unlikely. According to the data obtained from the BLM-ND and NDGF, no previously known eagle or non-eagle raptor nests are located within the project area and no nests were observed along the pipeline ROW during the field survey.

3.3 Vegetation Inventory

3.3.1 Methods

Grouse Mountain identified any trees, saplings, shrubs, or noxious weeds present within the 200-foot buffer of the Residue Line. Trees, saplings, and woody-stemmed shrubs over 1-inch diameter at breast height (DBH) were counted and identified to species. Grouse Mountain noted all shrubs that occurred within the sampled area. Additionally, noxious weeds were identified throughout the survey area by visual inspection of the pipeline ROW during field surveys.

3.3.2 Results

No trees, saplings, or shrubs over 1-inch DBH were identified within the surveyed area. Patches of the shrub, western snowberry, were found within the drainages; however, these patches generally occurred outside of or on the edges of the pipeline ROW. The snowberry was growing primarily as single-stemmed shoots within colonies of variable size and density and stems were <1-inch DBH.

Of the fourteen (14) noxious weeds listed by the state and Williams County, one (1) state-listed species was identified during field surveys. Canada thistle (*Cirsium arvense*) was found sporadically throughout the surveyed area. It was primarily located in drainages as individual plants. No mapping was conducted as no patches or colonies were present throughout the area. Individual Canada thistle plants were found along the crossings associated with WTL-006 and WTL-007.

4.0 SUMMARY AND RECOMMENDATIONS

4.1 Jurisdictional Waters and Wetlands

Offsite desktop assessments were conducted by Grouse Mountain using available data and supplemental data was retrieved during an onsite field assessment conducted outside of the growing season. Data not otherwise specified within the outlined methods above may not have been made available to Grouse Mountain and, thus, not considered in the overall evaluation of WOTUS presented in this report. Results and recommendations outlined within this report are provided based on Grouse Mountain's best assessment of hydrologic resources from aerial imagery and an onsite field visit; however, field conditions did not allow for all wetland indicators to be assessed and jurisdiction is always up to the USACE.

Based on the results from the site assessment, it is Grouse Mountain's professional opinion that some of these tributaries may be regulated by the USACE. Disturbance associated with the construction of the Residue Line will be temporary and OE2 will avoid any discharges or fill of WOTUS entirely. Conservative boundaries of drainages will be provided to OE2 to assist in planning bore points.

Table 3. Residue Line Drainage Crossing Acreage within Construction ROW

NWI Crossing ID (Stream Type)	Estimated Acreage Within ROW	Crossing Exceeds 500ft
WTL001 (Intermittent)	0.16	No
WTL-002 (Intermittent)	0.11	No
WTL-003 (Intermittent)	0.16	No
WTL-004 (Intermittent)	n/a	No
WTL-006 (Intermittent)	0.19	No
WTL-007 (Intermittent)	0.06 & 0.15	No
ISC-002	0.09	No

4.2 Threatened and Endangered Species

IPaC indicated six (6) species may be potentially affected by the Residue Line project. However, no critical habitats are currently designated within the project area. Further analysis of habitat requirements for the six (6) listed species suggest no suitable habitats are located within the project boundary and Grouse Mountain does not anticipate any issues with T&E species. Field surveys conducted on March 6 and 26, 2020 indicated that no eagle or non-eagle raptor nests are located within the ROW.

4.3 Vegetation Inventory

No trees, saplings, or shrubs > 1-inch DBH will be affected by the construction of the Residue Line. The only shrubs that will be affected are patches of western snowberry. Since snowberry spreads through its roots to form colonies of various sizes, removal of a portion of these patches will not likely result in a loss of productivity for the colony. No patches of noxious weeds were identified; individual plants of Canada thistle were present in two (2) of the drainages.

4.4 Cultural Resource Inventory

Grouse Mountain conducted a Class I cultural resource desktop analysis and file search for the Residue Line project on April 4, 2020. The Residue Line generally follows an existing pipeline ROW where previous cultural inventories have been completed. Our lead archaeologist is coordinating with the State Historical Society of North Dakota (SHSND) regarding the Class I results. OE2 is committed to full avoidance of impacts to cultural resources through horizontal directional drilling or fencing enclosures around documented resources during construction.

5.0 REFERENCES

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6.0 QUALIFICATIONS

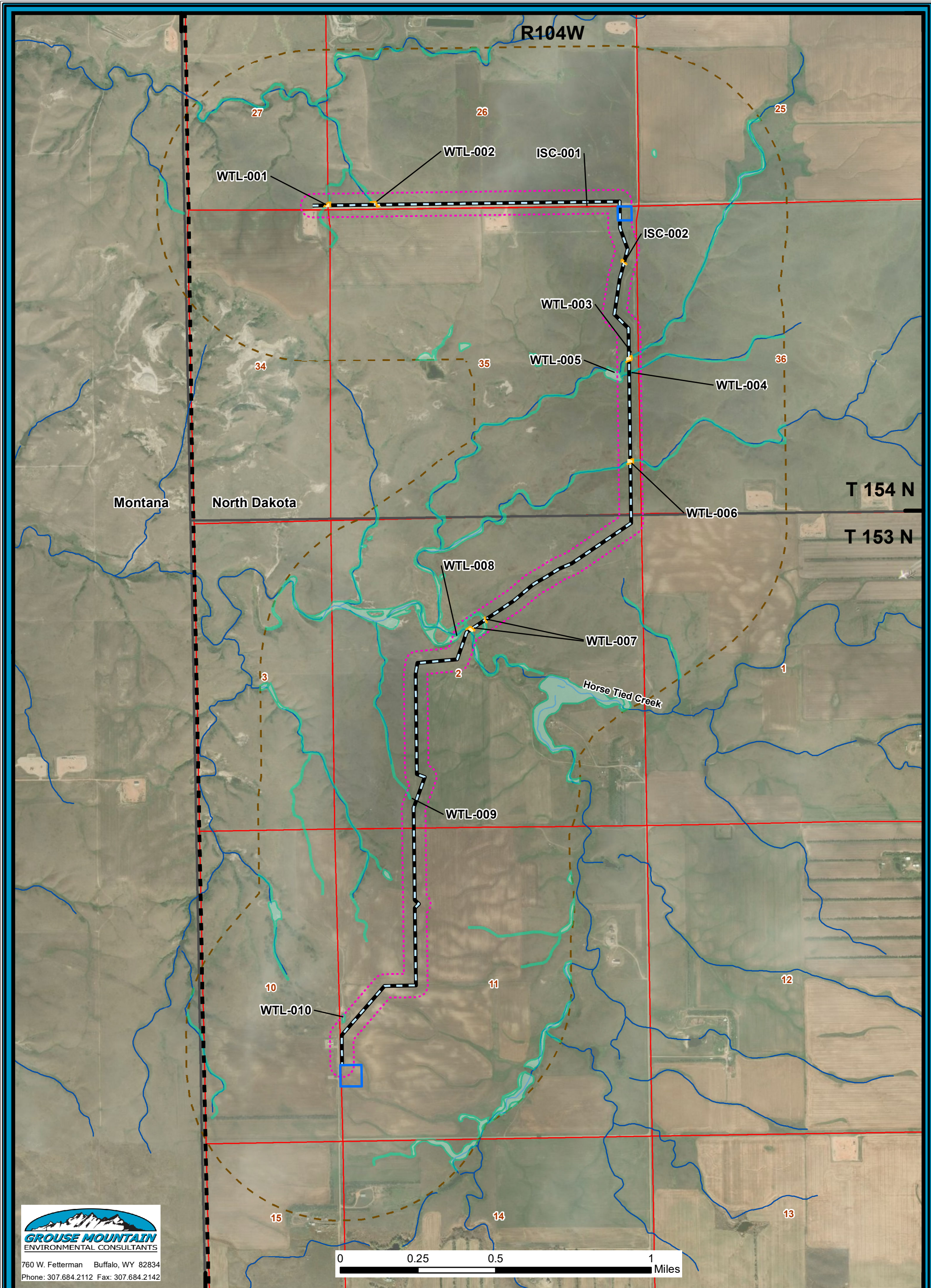
Kirstie Lawson holds a B.S. degree in Wildlife Biology (2012) from the University of Montana and a M. S. degree in Biology (2018) from the University of British Columbia Okanagan. She is currently a Wildlife Biologist with Grouse Mountain Environmental Consultants based in Buffalo, Wyoming. Ms. Lawson has over 6 years of experience working in the wildlife field. With a focus on grouse research, Ms. Lawson's background also includes conducting research and surveys for mesocarnivores, songbirds, and raptors in the U.S. and Canada. Her previous work has required interacting with various stakeholders, including private landowners, government agencies, and industry.

Katie Taylor holds a B.S. degree in Biology (2009) from Seattle Pacific University and a M.S. degree in Rangeland Ecology (2014) from the University of Wyoming. She is currently Lead Wildlife Biologist with Grouse Mountain Environmental Consultants based in Buffalo, Wyoming. Ms. Taylor has 9 years of experience working in the wildlife field. Her direct work experience includes applied field work and research for universities, private industry, and federal and state agencies. Ms. Taylor has worked on research projects involving raptors, grouse species, songbirds, wolves, and various species of ungulates throughout the continental U.S. More specifically, she has 5 years of experience conducting surveys in accordance with BLM wildlife survey protocols for nesting raptors, sage-grouse and sharp-tailed grouse leks, mountain plover, and other sensitive species in Wyoming. In addition, Ms. Taylor has experience in wildlife data management and GIS support for the Bureau of Land Management – Buffalo Field Office. Ms. Taylor has also completed wetland delineation training and has experience with wetland determinations and working with the USACE for hydrology determinations.

Gregory Shedd holds a B.S. in Wildlife Biology (2002) from Unity College. He is currently a Wildlife Biologist with Grouse Mountain Environmental Consultants based in Buffalo, Wyoming. Mr. Shedd has over 15 years of combined experience in the wildlife field. His primary experience is private consulting in Wyoming and surrounding states performing surveys, monitoring and applied research for various stakeholders including private landowners, government agencies, and industry. Mr. Shedd has completed wetland delineation training and has conducted wetland determinations for over 10 years.

7.0 FIGURES

Figure 1. OE2 North LLC: Residue Line Natural Resource Summary Report Map

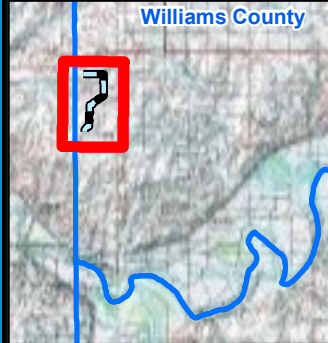


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Figure 1. OE2 North LLC: Residue Line Natural Resource Report Map 2020

- Residue Line
- CDP Site
- 0.5-mile Survey Area
- 200-foot Survey Area
- Mapped Boundary within ROW
- National Wetland Inventory
- Intermittent Stream

Coordinate System: NAD 1983 UTM Zone 13N
 Projection: Transverse Mercator
 Datum: North American 1983
 Units: Meter
 Scale: 1:18,000
 Date: 4/9/2020
 Created by: klawson
 File Name: OUT005_ResidueLine_Report_Map_040120



8.0 APPENDICES

Appendix A. Residue Line Field Survey Drainage Photos



Photo 1. WTL-001 Intermittent Stream Crossing facing north. Picture taken on March 6th, 2020.



Photo 2. WTL-001 Intermittent Stream Crossing facing south. Picture taken on March 6th, 2020.



Photo 3. WTL-001 drainage downstream of crossing, facing northeast. Picture taken on March 6th, 2020.



Photo 4. WTL-001 drainage upstream of crossing and existing road, facing south. Picture taken on March 6th, 2020.



Photo 5. WTL-002 Intermittent Stream Crossing, facing northwest. Picture taken on March 6th, 2020.



Photo 6. WTL-002 Intermittent Stream Crossing, facing south. Picture taken on March 6th, 2020.



Photo 7. WTL-002 drainage downstream from crossing, facing north. Picture taken on March 6th, 2020.



Photo 8. WTL-002 drainage upstream from crossing and existing road, facing south. Picture taken on March 6th, 2020.



Photo 9. WTL-002 drainage further upstream south of road, facing south. Picture taken on March 6th, 2020.



Photo 10. ISC-001 Crossing from existing road, facing north. Picture taken on March 6th, 2020.



Photo 11. ISC-001 Crossing downstream from existing road, facing south. Picture taken on March 6th, 2020.



Photo 12. ISC-001 Crossing approximately 160 feet downstream, facing southeast. Picture taken on March 6th, 2020.



Photo 13. ISC-001 Crossing approximately 270 feet downstream, facing south. Picture taken on March 6th, 2020.



Photo 14. ISC-002 Crossing, facing northwest (upstream). Picture taken on March 26th, 2020.



Photo 15. ISC-002 Crossing, facing southeast (downstream). Picture taken on March 26th, 2020.



Photo 16. ISC-002 drainage upstream from crossing, facing northwest (upstream). Picture taken on March 26th, 2020.



Photo 17. ISC-002 drainage upstream from crossing, facing southeast (downstream). Picture taken on March 26th, 2020.



Photo 18. ISC-002 drainage downstream from crossing, facing northwest (upstream). Picture taken on March 26th, 2020.



Photo 19. ISC-002 drainage downstream from crossing, facing southeast. Picture taken on March 26th, 2020.



Photo 20. WTL-003 Intermittent Stream Crossing, facing east (upstream). Picture taken on March 26th, 2020.



Photo 21. WTL-003 Intermittent Stream Crossing, facing west/southwest (downstream). Picture taken on March 26th, 2020.



Photo 22. WTL-003 Intermittent Stream Crossing during snowmelt, facing east. Picture taken on March 6th, 2020.



Photo 23. WTL-003 Intermittent Stream Crossing during snowmelt, facing west/southwest. Picture taken on March 6th, 2020.



Photo 24. WTL-004 Intermittent Stream Crossing, facing east. Picture taken on March 26th, 2020.



Photo 25. WTL-004 Intermittent Stream Crossing, facing west. Picture taken on March 26th, 2020.



Photo 26. WTL-005 diked pond (in the background) from the WTL-004 crossing, facing west. Picture taken on March 6th, 2020.



Photo 27. WTL-006 Intermittent Stream Crossing, facing east (upstream). Picture taken on March 26th, 2020.



Photo 28. WTL-006 Intermittent Stream Crossing, facing southwest (downstream). Picture taken on March 26th, 2020.

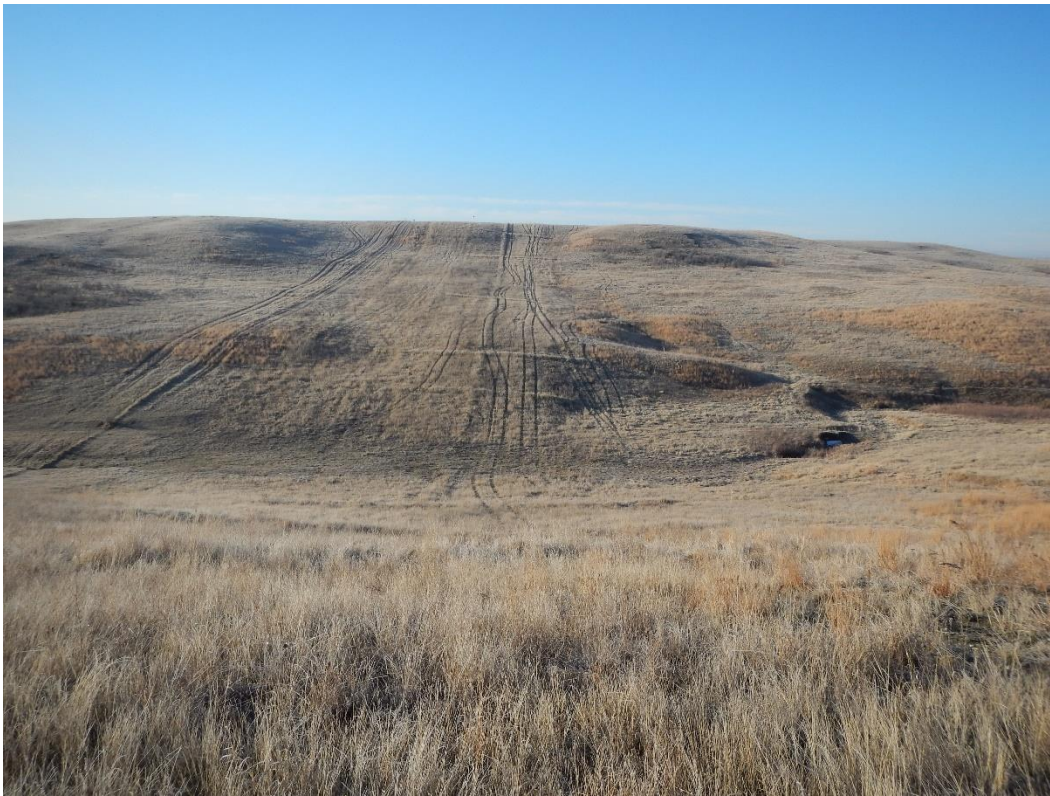


Photo 29. WTL-006 overview photo from north of the crossing, facing south. Picture taken on March 26th, 2020.



Photo 30. WTL-006 drainage upstream at fence line, facing east (upstream). Picture taken on March 26th, 2020.



Photo 31. WTL-006 drainage downstream from crossing, facing northeast. Picture taken on March 26th, 2020.



Photo 32. WTL-006 drainage downstream from crossing, facing southwest. Picture taken on March 26th, 2020.



Photo 33. Overview of the WTL-007 Horse Tied Creek crossing, facing southwest. Picture taken on March 26th, 2020.



Photo 34. WTL-007 north channel crossing, facing east (upstream). Picture taken on March 26th, 2020.



Photo 35. WTL-007 north channel crossing, facing west (downstream). Picture taken on March 26th, 2020.



Photo 36. WTL-007 south channel crossing, facing east (upstream). Picture taken on March 26th, 2020.



Photo 37. WTL-007 south channel crossing, facing west (downstream). Picture taken on March 26th, 2020.



Photo 38. WTL-009 drainage from pipeline crossing, facing east/southeast. Picture taken on March 26th, 2020.



Photo 39. WTL-009 drainage from pipeline crossing, facing west/northwest. Picture taken on March 26th, 2020.



Photo 40. WTL-009 drainage from fence line downstream of crossing, facing northwest. Picture taken on March 26th, 2020.



Photo 41. WTL-010 isolated wetland located 65 feet northwest of pipeline ROW, facing north. Picture taken on March 26th, 2020.

APPENDIX J
WEED MANAGEMENT PLAN



**Bill Sanderson Residue
and
NGL Pipelines Project**

Weed Management Plan

March 2020

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ATTACHMENTS

Attachment 1 Noxious Weed Fact Sheets – North Dakota State University

LIST OF ACRONYMS AND ABBREVIATIONS

EI Environmental Inspectors

OE2 OE2 North LLC

Plan Weed Management Plan

Project Bill Sanderson Residue and NGL Pipelines Project

USEPA United States Environmental Protection Agency

1.0 INTRODUCTION

Noxious weed control practices for the OE2 North LLC (OE2) Bill Sanderson Residue and NGL Pipelines Project (Project) described in this *Weed Management Plan (Plan)* are being developed in compliance with the Williams Weed District and the 2020 North Dakota Weed Control Guide.

2.0 GOALS AND OBJECTIVES

This Plan prescribes methods to prevent and control the spread of noxious weeds during and following construction of the Project. OE2 and its contractors will be responsible for implementing the methods described in this Plan.

This Plan is applicable to the construction and operation of two new pipelines, including an approximately 1.28-mile 8-inch natural gas liquids (NGLs) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline coming from the proposed Bill Sanderson Gas Processing Plant that is disturbed during the construction and operation of the Project.

3.0 NOTIFICATION AND APPROVAL

OE2 will execute the following notification procedure:

1. At least 15 days prior to ground-disturbing activity, submit this Plan and the Project revegetation information included in the Project Stormwater Pollution Prevention Plan (SWPPP) to the Williams County Weed Board in North Dakota.
2. Allow the County weed agency to identify revisions to bring the Plan into compliance with the district weed management plan.
3. Wait to commence ground-disturbing activity until the Plan is approved by the County weed agency and signed by the presiding officer of the board and by the person or a representative of the agency responsible for the action. The Plan must be approved, with revisions if necessary, within 10 days of receipt by the Board.

4.0 NOXIOUS WEED SPECIES LISTS

A weed is commonly defined as a plant that grows out of place. A noxious weed is any plant officially designated by a federal, state, or county government as injurious to public health, agriculture, recreation, wildlife, or property (Sheley, Petroff, and Borman, 1999). Noxious weeds are opportunistic plant species that readily flourish in disturbed areas, thereby preventing native plant species from establishing successive communities.

4.1 North Dakota

Invasive species in North Dakota are controlled and regulated under North Dakota Law (NDCC § 4.1-47-02). Counties and cities have the option to add additional weeds for enforcement only in their jurisdiction.

The State of North Dakota has 13 state-listed noxious weeds:

- Absinth Wormwood (*Artemisia absinthium* L.)
- Canada Thistle (*Cirsium arvense* (L.) Scop.)
- Dalmatian Toadflax (*Linaria genistifolia* spp. *dalmatica*)
- Diffuse Knapweed (*Centaurea diffusa* Lam.)

- Houndstongue (*Cynoglossum officinale L.*)
- Leafy Spurge (*Euphorbia esula L.*)
- Musk Thistle (*Carduus nutans L.*)
- Palmer amaranth (*Amaranthus palmeri*)
- Purple Loosestrife (*Lythrum salicaria L.*, *Lythrum virgatum L.*, and all cultivars)
- Russian Knapweed (*Centaurea repens L.*)
- Saltcedar (*Tamarisk spp.*)
- Spotted Knapweed (*Centaurea maculosa Lam.*)
- Yellow Toadflax (*Linaria vulgaris*)

Williams County, North Dakota recognizes the following additional plant as an invasive weed:

- Narrowleaf Hawksbeard (*Crepis tectorum*)

To comply with North Dakota Law (NDCC § 4.1-47-02), OE2 has prepared this Plan specifying the weed management procedures to be implemented. **Attachment 1** to this Weed Management Plan includes the fact sheets for the *Identification and Control of Invasive and Troublesome Weeds in North Dakota* developed by the North Dakota State University (NDSU) for each of the species listed above. Regulations also require that OE2 reseed, plant, or otherwise manage the area to establish a beneficial plant cover. To this end, OE2 has included the methods to be used to accomplish revegetation, the time and method of seeding, fertilization practices, and recommended plant species for the Project in the Project SWPPP document.

5.0 NOXIOUS WEED SPECIES MANAGEMENT

This Plan is designed to:

- Treat specific infestation areas as recommended by weed districts prior to construction, pending seasonal limitations;
- Prevent the introduction and spread of weeds via construction equipment during construction;
- Contain weed seeds and propagules by preventing segregated topsoil from being spread to adjacent areas; and
- Treat infestations that may develop during operations.

5.1 Identification of Problem Areas

OE2 will work with the County Weed Control Board to identify known locations of weed infestations in the Project area. In addition to infestation areas identified by the weed districts and landowners, additional areas containing noxious species may be identified prior to construction by the Environmental Inspectors (EI), which will be demarcated using color-coded flagging or signage within the Project. Identification of existing noxious weed locations will alert environmental inspection and construction personnel to implement weed control measures during construction.

5.2 Treatment Measures

OE2 will implement weed control at identified infestation areas based on County weed agency input or by the EIs. Weed control measures may include the application of herbicide or mechanical, and/or alternative methods. The weed control measure chosen will be the best method available for the time, place, and species of weed as identified through consultation with the appropriate regulatory agencies. OE2 will follow the treatment measures listed on the Fact Sheets for each of the species

of concern included in **Attachment 1**.

Herbicide application is an effective means of reducing the size of weed populations. Herbicide treatment methods will be based on species-specific and area-specific conditions (e.g., proximity to wetlands, open water, riparian areas or agricultural areas, and time of year) and will be applied in accordance to the 2020 North Dakota Weed Control Guide (available online). Spot herbicide applications will be the preferred option. In areas of dense infestation, a broader application may be used. Pending the seasonal start of construction, preconstruction treatment of infestation areas may be conducted and will be controlled as described in section 7.1, to minimize the impacts on the surrounding vegetation. Preconstruction applications will be completed in accordance with applicable chemical contact times (as specified by the manufacturer) in advance of clearing and grading within the construction right-of-way. Treatment may be restricted in areas that are not readily accessible (e.g., difficult topography, saturated/inundated soils, etc.).

Mechanical control (e.g., mowing) can also be an effective control measure specifically for annual species (i.e., not for perennial rhizomatous species). The efficacy of mechanical control measures is dependent upon proper timing to cut the vegetation prior to the maturation of seed and may require multiple treatments during the growing season.

5.3 *Preventative Measures*

The following measures will be implemented to prevent the spread of noxious weeds.

- Prior to the beginning of construction of the project, all contractor vehicles and equipment (including timber mats) will be cleaned of soil and debris capable of transporting weed propagules. The contractor will maintain logs documenting the cleaning history of each piece of equipment and will make logs available to OE2, upon request. Contractor vehicles and equipment will be inspected and may require additional cleaning, if necessary, prior to mobilization to the Project area. Cleaning will be conducted using high pressure washing equipment or compressed air, and/or manually remove excess soil from the tracks, tires, and blades of equipment.
- Areas of the Project where weed infestations are identified will be clearly marked prior to construction. In these areas, the contractor may elect to conduct full topsoil stripping and will stockpile cleared vegetation and segregated topsoil within the Project area. The stockpiles will be identified as noxious weed stockpiles with signs and be maintained adjacent to the areas from which they were obtained to eliminate the transport of soil-borne noxious weed propagules to other areas within the Project area. During reclamation, the contractor will return topsoil and vegetative material to the areas from which they were obtained. Alternately, for annual weed species the contractor may elect to mow the infested area before the species begins seeding, thus eliminating the threat of spreading seeds during topsoiling and construction.
- In areas where full topsoil stripping is implemented, equipment required for initial vegetation clearing and topsoil segregation will be cleaned using one of the methods described above prior to leaving the area. Once the topsoil has been segregated, subsequent equipment will not require cleaning, as it will not come into contact with noxious weeds or the topsoil containing weed seeds and propagules.

- The contractor will ensure straw bales used to construct sediment control devices or used as mulch applications are certified weed free and obtained from approved certified sources as recommended by the County weed agency.
- The contractor will ensure seed mixes and mulching materials used for revegetation are certified weed free and obtained from approved certified sources as recommended by County weed agencies.

5.4 *Post-Construction Treatment Methods*

OE2's objective is to comply with the requirements to prevent the spread of noxious weeds and treat areas of the Project where weed species form a significant portion of the vegetation community in comparison to adjacent undisturbed areas.

In the event noxious weed species become established in the Project area, OE2 will make good faith efforts to control weeds within the Project area and to work with adjacent landowners to prevent the spread of the species to adjacent lands. Post-construction weed control measures may include the application of herbicide or mechanical methods. OE2 will control noxious weed species at OE2-managed aboveground facility Project areas to prevent the spread onto adjacent properties.

Post-construction herbicide applications will be conducted prior to seed maturation where possible. Applications will be controlled, as described in Section 7, to minimize the impacts on the surrounding vegetation. As discussed in Section 5.2, herbicide treatment methods will be based on species-specific and area-specific conditions (e.g., proximity to water, riparian areas or agricultural areas, and time of year) and will be coordinated with the local county and regulatory agencies. Spot herbicide applications will be the preferred option. In areas of dense infestation, a broader application will be used and a follow-up seeding program implemented according to revegetation measures discussed in the Project SWPPP. The timing of subsequent revegetation efforts will be based on the persistence of the selected herbicide. OE2 will communicate with a designated representative of each county to inform them of the location and type of treatment administered by OE2 or its contractor.

Mechanical methods entail the use of equipment to mow weed populations for annual species (i.e., not for perennial rhizomatous species). Mechanical treatments will be conducted prior to seed maturation where required. If such a method is used, subsequent seeding will be conducted if necessary to re-establish a desirable vegetative cover that will stabilize the soils and slow the potential re-invasion of weeds.

During routine operations activities, if noxious weed species are identified that are not listed on the county or state weed lists, OE2 will treat the affected area as quickly as possible by means of chemical, cultural, or biological control measures.

6.0 **MONITORING**

EIs will periodically monitor the Project to capture revegetation growth. Should the EIs identify noxious weed populations in the Project, they will report their findings to the OE2 operations and maintenance division to determine the appropriate action to control the spread of the weeds. Noxious weed management will be conducted in accordance with state and county regulations.

7.0 HERBICIDE USE

7.1 Herbicide Application and Handling

Herbicide application will be based on information gathered from consultations with local weed districts and state agencies. Before application, OE2 or its contractor will obtain required permits from the local weed district or the state agency. Herbicide application will be conducted in accordance with applicable laws and regulations by a state-licensed contractor

All herbicide applications will follow United States Environmental Protection Agency (USEPA) label instructions. Application of herbicides will be suspended when any of the following conditions exists:

- Wind velocity exceeds 6 miles per hour during application of liquid or granular herbicides;
- Snow or ice covers the foliage of noxious weeds; or
- Precipitation is occurring or is imminent.

Vehicle-mounted sprayers (e.g., handgun, boom, and injector) may be used mainly in open areas that are readily accessible by vehicle. Hand application methods (e.g., backpack spraying) that target individual plants may be used to treat small or scattered weed populations or in rough terrain. Calibration checks of equipment will be conducted at the beginning of spraying and periodically to ensure that proper application rates are achieved.

Herbicides will be transported to the Project Project area daily with the following provisions:

- On-Project area herbicide quantities will be limited where practical;
- Concentrate will be transported in approved containers only, in a manner that will prevent tipping or spilling, and in a compartment that is isolated from food, clothing, and safety equipment;
- Mixing will be conducted in an upland area at a distance greater than 100 feet from open or flowing water and wetlands, greater than 200 feet from private wells, and greater than 400 feet from public wells. The property owner would be consulted about the presence and location of wells prior to herbicide application; and
- All herbicide equipment and containers will be maintained as needed and inspected for leaks daily.

7.2 Herbicide Spills and Cleanup

OE2 has developed a *Spill Contingency Plan* for the Project that incorporates all reasonable precautions to be taken to avoid spills of all potentially hazardous materials. In the event of a spill, cleanup will be immediate and will be conducted in accordance with the *Spill Contingency Plan*.

Herbicide contractors are responsible to keep spill kits in their vehicles and in herbicide storage areas to allow for quick and effective response to spills. Items to be included in the spill kit are:

- Protective clothing and gloves;
- A minimum of 20 pounds of suitable commercial adsorbent and barrier materials;
- Plastic bags and bucket;
- Shovel;
- Fiber brush and screw-in handle;

- Dust pan;
- Caution tape; and
- Detergent.

Response to an herbicide spill will vary depending on the material spilled and the size and location of the spill. The order of priorities after discovering a spill are to protect the safety of personnel and the public, minimize damage to the environment, and conduct cleanup and remediation activities.

7.3 *Worker Safety and Spill Reporting*

All herbicide contractors will obtain and have readily available copies of the appropriate safety data sheets and the herbicide labels for the herbicides used. All herbicide spills will be reported in accordance with applicable laws and requirements. Further information regarding spill response and reporting is detailed in the *Spill Contingency Plan*.

APPENDIX K
AGENCY CORRESPONDENCE

ADDRESSEE	DATE LETTER SENT	DATE RESPONSE RECEIVED
Federal Aviation Administration	05/26/20	Not yet received
Job Service of North Dakota	05/26/20	Not yet received
North Dakota Attorney General	05/26/20	Not yet received
North Dakota Department of Agriculture	05/26/20	Not yet received
North Dakota Department of Career and Technical Education	05/26/20	Not yet received
North Dakota Department of Commerce	05/26/20	Not yet received
North Dakota Department of Environmental Quality	05/26/20	Not yet received
North Dakota Department of Health	05/26/20	Not yet received
North Dakota Department of Human Services	05/26/20	Not yet received
North Dakota Department of Transportation	05/26/20	Not yet received
North Dakota Department of Trust Lands	05/26/20	Not yet received
North Dakota Energy Development Impact office	05/26/20	Not yet received
North Dakota Game & Fish Department	05/26/20	Not yet received
North Dakota Geological Survey	05/26/20	Not yet received
North Dakota Indian Affairs Commission	05/26/20	Not yet received
North Dakota Industrial Commission	05/26/20	Not yet received
North Dakota Labor Department	05/26/20	Not yet received
North Dakota Parks and Recreation Department	05/26/20	Not yet received
North Dakota Pipeline Authority	05/26/20	Not yet received
North Dakota State Soil Conservation Committee	05/26/20	Not yet received
North Dakota State Water Commission	05/26/20	Not yet received
Office of Governor	05/26/20	Not yet received
US Army Corps of Engineers	05/26/20	Not yet received
US Fish and Wildlife Service	05/26/20	Not yet received
Williams County Commission	05/26/20	Not yet received



May 26, 2020

Federal Aviation Administration
FAA Logistics Center
6500 S. MacArthur Boulevard
Bldg 2 (LSF), Mail Stop AML030
Oklahoma City, OK 73169

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

On behalf of OE2, Kleinfelder is notifying agencies regarding the referenced project in compliance with the North Dakota Energy Conversion and Transmission Facility Siting Act. If you have comments or questions, we request they be submitted by June 29, 2020. Please call me at 303-297-5791 if you have any questions.

Sincerely,

KLEINFELDER

A handwritten signature in blue ink, appearing to read "Nan Elzinga", with a long horizontal flourish extending to the right.

Nan Elzinga, PE
Project Manager III

1801 California Street, Suite 1100
Denver, CO 80202

d|303.297.5791
o| 303.237.6601
m| 303.909.7359



May 26, 2020

Job Service North Dakota
PO Box 5507
Bismarck, ND 58506-5507

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue Gas and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Project Manager III

1801 California Street, Suite 1100
Denver, CO 80202

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May 26, 2020

Wayne Stenehiem
North Dakota Attorney General
Office of the Attorney General
600 East Boulevard Avenue, Department 125
Bismarck, ND 58505-0040

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

Dear Mr. Stenehiem,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Nan Elzinga, PE
Project Manager III

1801 California Street, Suite 1100
Denver, CO 80202

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May 26, 2020

North Dakota Department of Agriculture
600 E Boulevard Ave Dept 602
Bismarck, ND 58505-0020

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Nan Elzinga, PE
Project Manager III

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May 26, 2020

North Dakota Department of Career and Technical Education
600 E Boulevard Ave #15
Bismarck, ND 58505

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To whom it may concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Nan Elzinga, PE
Project Manager III

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May 26, 2020

North Dakota Department of Commerce
1600 E Century Ave Suite #2
Bismarck, ND 58503

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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May 26, 2020

North Dakota Department of Health
600 E Boulevard Ave
Bismarck, ND 58505

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

On behalf of OE2, Kleinfelder is notifying agencies regarding the referenced project in compliance with the North Dakota Energy Conversion and Transmission Facility Siting Act. If you have comments or questions, we request they be submitted by June 29, 2020. Please call me at 303-297-5791 if you have any questions.

Sincerely,

KLEINFELDER

A handwritten signature in blue ink, appearing to read "Nan Elzinga", with a long horizontal flourish extending to the right.

Nan Elzinga, PE
Project Manager III

1801 California Street, Suite 1100
Denver, CO 80202

d| 303.297.5791
o| 303.237.6601
m| 303.909.7359



May 26, 2020

North Dakota Department of Human Services
600 E Boulevard Ave Dept. 325
Bismarck, ND 58505

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Nan Elzinga, PE
Project Manager III

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Denver, CO 80202

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m| 303.909.7359



May 26, 2020

North Dakota Department of Trust Lands
1701 N 9th Street
Bismarck, ND 58501

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Nan Elzinga, PE
Project Manager III

1801 California Street, Suite 1100
Denver, CO 80202

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m| 303.909.7359



May 26, 2020

North Dakota Department of Transportation
608 E Boulevard Ave
Bismarck, ND 58505-0700

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Nan Elzinga, PE
Project Manager III

1801 California Street, Suite 1100
Denver, CO 80202

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m| 303.909.7359



May 26, 2020

North Dakota Energy Development Impact Office
1707 N 9th Street
Bismarck, ND 58501

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Nan Elzinga, PE
Project Manager III

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Denver, CO 80202

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m| 303.909.7359



May 26, 2020

North Dakota Game and Fish
100 N E Bismarck Expressway
Bismarck, ND 58501

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Project Manager III

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Denver, CO 80202

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m| 303.909.7359



May 26, 2020

North Dakota Geological Survey
600 E Boulevard Ave – Dept 405
Bismarck, ND 58505-0840

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Nan Elzinga, PE
Project Manager III

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Denver, CO 80202

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May 26, 2020

North Dakota Indian Affairs Commission
600 East Boulevard Avenue #316
Bismarck, ND 58505

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Nan Elzinga, PE
Project Manager III

1801 California Street, Suite 1100
Denver, CO 80202

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m| 303.909.7359



May 26, 2020

North Dakota Industrial Commission
State Capitol 14th Floor
600 E Boulevard Ave. Dept. 405
Bismarck, ND 58505-0840

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Nan Elzinga, PE
Project Manager III

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Denver, CO 80202

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m| 303.909.7359



May 26, 2020

North Dakota Labor Department
600 E Boulevard Ave Ste 406
Bismarck, ND 58505

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Project Manager III

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o| 303.237.6601
m| 303.909.7359



May 26, 2020

North Dakota Parks & Recreation
1600 E Century Ave Ste 3
Bismarck, ND 58503

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Nan Elzinga, PE
Project Manager III

1801 California Street, Suite 1100
Denver, CO 80202

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m| 303.909.7359



May 26, 2020

North Dakota Pipeline Authority
600 E Boulevard Ave Dept. 405
Bismarck, ND 58505-0840

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

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Nan Elzinga, PE
Project Manager III

1801 California Street, Suite 1100
Denver, CO 80202

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m| 303.909.7359



May 26, 2020

North Dakota State Soil Conservation Committee
2718 Gateway Ave., Suite 304
Bismarck, ND 58503

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Nan Elzinga, PE
Project Manager III

1801 California Street, Suite 1100
Denver, CO 80202

d| 303.297.5791
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m| 303.909.7359



May 26, 2020

North Dakota State Water Commission
900 E Boulevard Ave
Bismarck, ND 58505

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

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Project Manager III

1801 California Street, Suite 1100
Denver, CO 80202

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m| 303.909.7359



May 26, 2020

Williams County Commission
Planning and Zoning Division
PO Box 2047
Williston, ND 58802-2047

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Nan Elzinga, PE
Project Manager III

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Denver, CO 80202

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o| 303.237.6601
m| 303.909.7359



May 26, 2020

North Dakota Department of Environmental Quality
918 E. Divide Avenue, 4th Floor
Bismarck, ND 58501

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

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Nan Elzinga, PE
Project Manager III

1801 California Street, Suite 1100
Denver, CO 80202

d| 303.297.5791
o| 303.237.6601
m| 303.909.7359



May 26, 2020

Doug Burgum
North Dakota Governor
Office of the Governor
600 East Boulevard Avenue
Bismarck, ND 58505-0001

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

Dear Governor Burgum,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Nan Elzinga, PE
Project Manager III

1801 California Street, Suite 1100
Denver, CO 80202

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May 26, 2020

US Army Corps of Engineers
3319 University Drive
Bismarck, ND 58504

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

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Nan Elzinga, PE
Project Manager III

1801 California Street, Suite 1100
Denver, CO 80202

d| 303.297.5791
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m| 303.909.7359



May 26, 2020

US Fish & Wildlife Service
3425 Miriam Avenue
Bismarck, ND 58501

**SUBJECT: Proposed Gas Pipelines
OE2 North LLC, Bill Sanderson Residue and NGL Pipelines Project**

To Whom it May Concern,

OE2 North LLC (OE2) is proposing to construct and operate two new pipelines originating from their Gas Processing Plant located in Williams County, North Dakota. The two new pipelines consist of an approximately 1.28-mile 8-inch natural gas liquid (NGL) pipeline and an approximately 4.67-mile 20-inch residue gas pipeline. These pipelines will be known as the Bill Sanderson Residue and NGL Pipelines Project (Project). The two pipelines will be located entirely on privately owned lands in Williams County, North Dakota. The two proposed pipelines will be collocated for the first mile up to a tie-in point of the 8-inch NGL pipeline to a third-party interconnect. The 20-inch steel residue gas pipeline will continue south for approximately 3.39 miles to a tie-in point with a third-party interconnect. Please see the attached Project Overview Map for the Project location and details.

OE2 contracted Grouse Mountain Environmental Consultants (GMEC) to conduct a desktop analyses for natural resources (i.e. wildlife, cultural, and Waters of the United States [WOTUS]) potentially impacted by the construction of the Project. GMEC also conducted an on-site field assessment on March 6 and March 26, 2020 to supplement findings from the offsite desktop assessment. The results of the analysis of threatened and endangered species is summarized in the following paragraphs.

GMEC used the USFWS's Information for Planning and Consultation (IPaC) to assess potential impacts to threatened and endangered (T&E) species within the Project Area. IPaC identifies any designated critical habitat within the area as well as any species potentially affected based on the location of their historical ranges and areas of influence (AOI). If a species is identified as potentially affected but no critical habitat is present, it does not necessarily imply suitable habitats associated with that species are present within the Project Area. The IPaC pulled for this project lists six species as potentially affected by activities within the Project Area, these species include: Northern long-eared bat (*Myotis septentrionalis*), Least Tern (*Sterna antillarum*), Piping Plover (*Charadrius melodus*), Red Knot (*Calidris canutus rufa*), Whooping Crane (*Grus americana*), and Pallid sturgeon (*Scaphirhynchus albus*).

The Northern long-eared bat is primarily associated with mature forests with large decaying or partially dead trees during the breeding season and caves or mines during winter hibernation. The Least Tern nests near water, using primarily riverine sandbars or salt flats from low tide during the breeding season in the interior U.S. The majority of Piping Plovers in the Great Plains use shorelines along small, alkaline lakes. Suitable habitat includes large beaches with highly clumped vegetation that provides low overall cover. Red Knots require elevated ridges and slopes near wetlands and lakes where food is abundant during the breeding season and winter in coastal

areas, such as tidal flats, estuaries, or bays. Pallid sturgeon are large river obligates that require year-round water flows. Whooping Cranes nest in dense emergent vegetation around shallow ponds, wet prairies, or freshwater marshes. During spring and fall migration, the Aransas/Wood Buffalo population of Whooping Cranes use marshes, salt flats, lagoons, barrier islands, palustrine wetlands as well as stubble/grain fields and cropland adjacent to or near wetland features. During the onsite field visit conducted March 6 and March 26, 2020 GMEC biologists assessed potential suitable habitat for relevant T&E species within the Project Area.

No currently defined critical habitats are located within the Project Area and no birds of conservation concern are expected. Further, no suitable habitats for Northern long-eared bat, Least Tern, Piping Plover, Red Knot, or Pallid sturgeon were identified within the Project Area. The Project is currently located within the area in which 85 percent of migratory sightings of Whooping Crane are recorded for the Aransas/Wood Buffalo population; however, the Project area is located outside of the central flyway and in an area where no e-bird sightings of Whooping Cranes have been reported during migration. While some croplands are located within the Project area, no critical stopover habitats are designated nearby. Field surveys indicated that small, diked wetlands may be present within 1 kilometer of the cropland. However, the use of the Project Area by Whooping Cranes as a stopover during migration is unlikely. According to the data obtained from the BLM-ND and NDGF, no previously known eagle or non-eagle raptor nests are located within the project area and no nests were observed along the pipeline ROW during the field survey.

On behalf of OE2, Kleinfelder is notifying agencies regarding the referenced project in compliance with the North Dakota Energy Conversion and Transmission Facility Siting Act. If you have comments or questions, we request they be submitted by June 29, 2020. Please call me at 303-297-5791 if you have any questions.

Sincerely,

KLEINFELDER



Nan Elzinga, PE
Project Manager III

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APPENDIX L
LANDSLIDE AREA MAP



Areas of Landslides

Red Bank Creek Quadrangle, North Dakota

Edward C. Murphy


2012

UNIT DESCRIPTIONS


-  Geology Undifferentiated
-  No Data - Area Not Mapped

QUATERNARY SYSTEM




RECENT/PLEISTOCENE

-  **Qs** Landslide Deposits
- Variable mixture of strata and deposits that have slid to the base of steep slopes.

Geologic Symbols

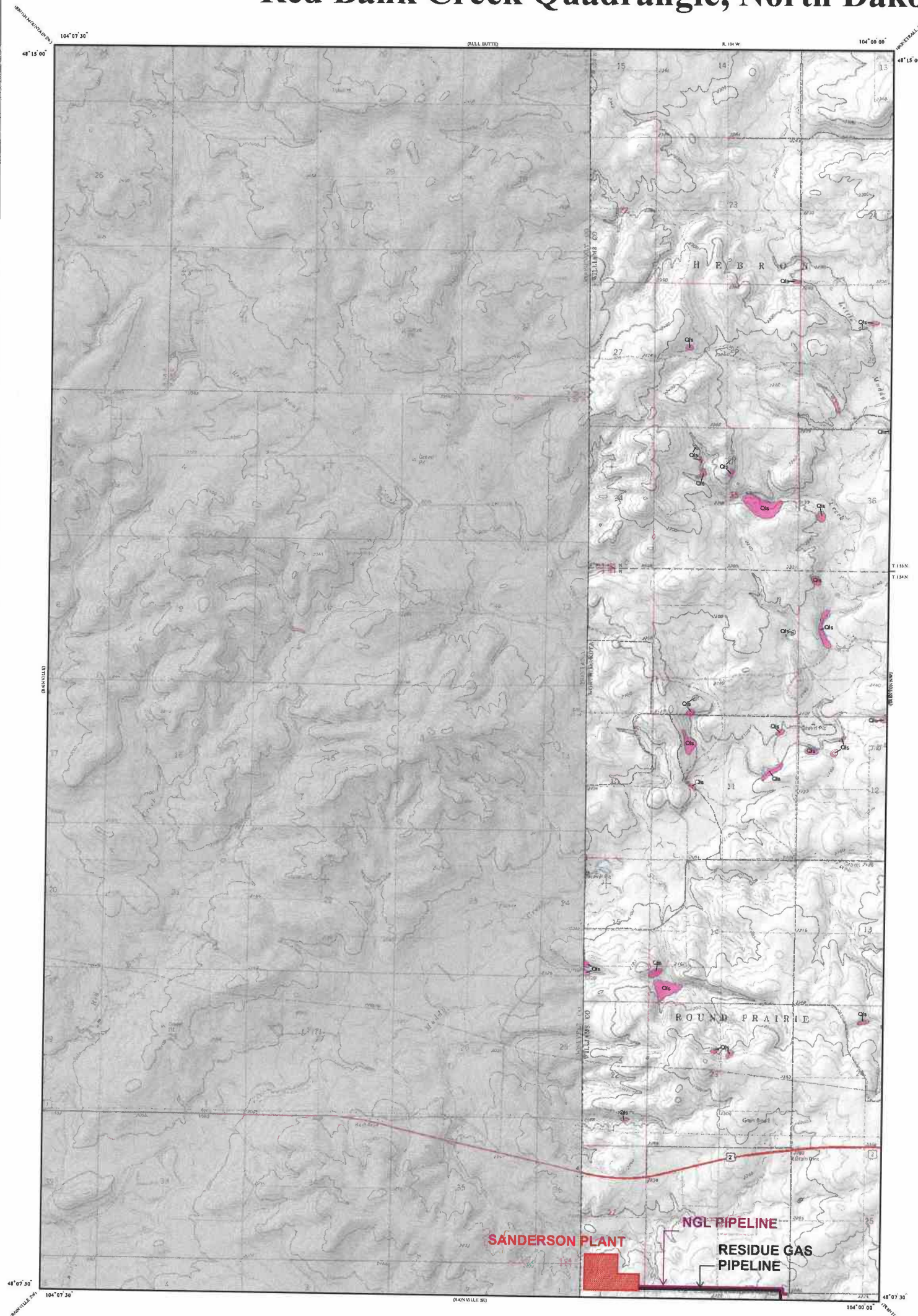
-  Known contact between two geologic units.

Other Features

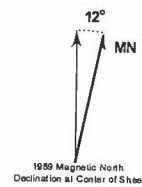
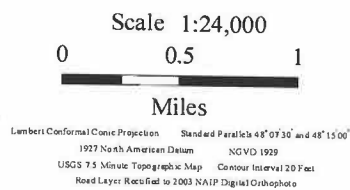
-  US Highway
-  Paved Road
-  Unpaved Road

Landslides identified on this quadrangle were mapped from stereo pairs, black and white 1:20,000 scale aerial photographs flown between 6-21-58 and 9-7-58. As a result these maps can be used to identify areas that are vulnerable to slope failure, but are not an up to date assessment of all landslides for the area.

SANDERSON



Red Bank Creek Quadrangle, North Dakota



Areas of Landslides

Bainville SE Quadrangle, North Dakota

Edward C. Murphy

2011

UNIT DESCRIPTIONS

- Geology Undifferentiated
- No Data - Area Not Mapped

QUATERNARY SYSTEM

RECENT/PLEISTOCENE

■ Qs Landslide Deposits

Variable mixture of strata and deposits that have slid to the base of steep slopes. Most of the landslides in this area are hundreds, if not thousands, of years old.

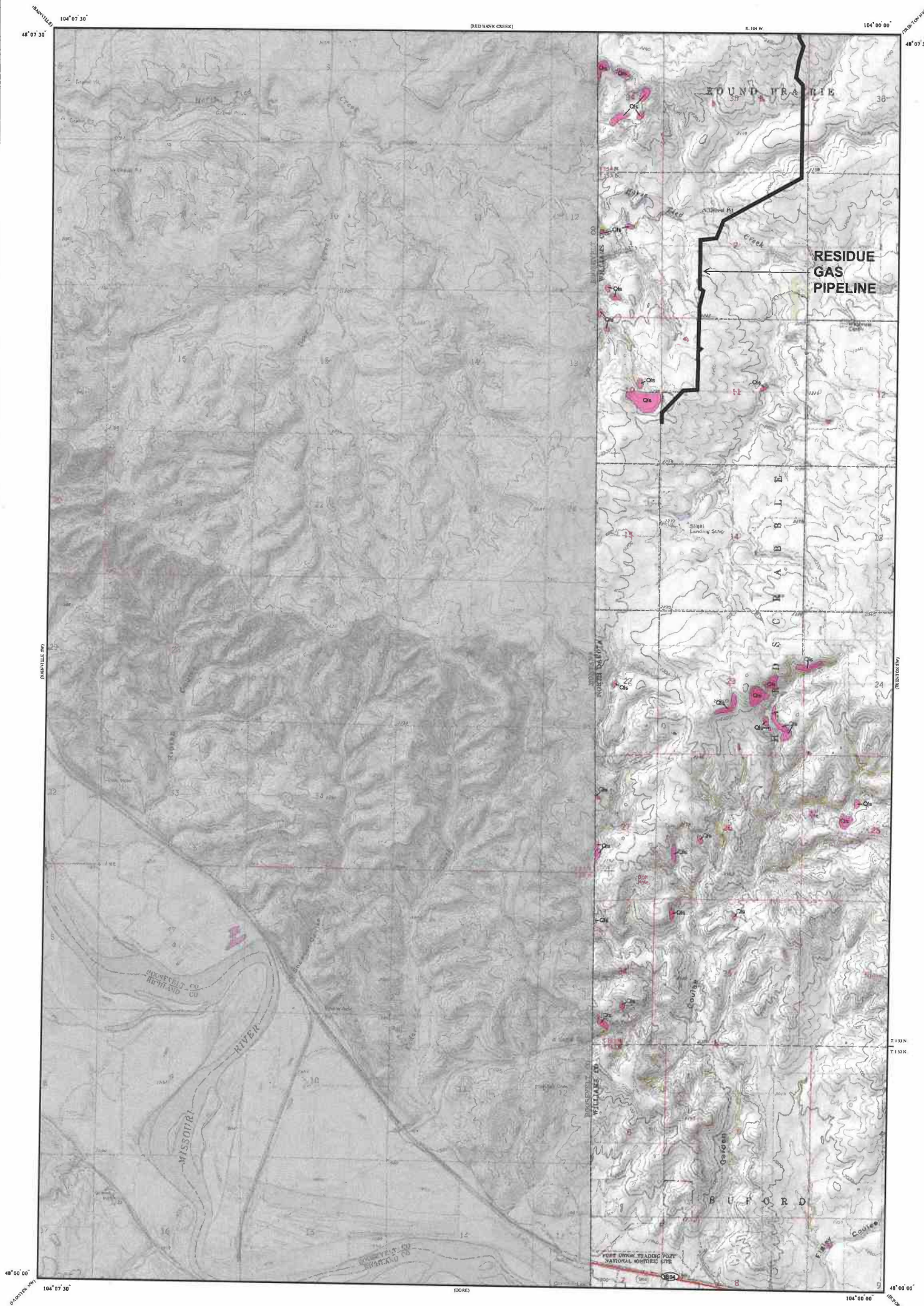
Geologic Symbols

- Known contact between two geologic units.

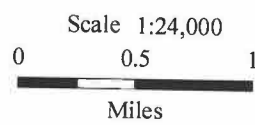
Other Features

- State Highway
- Unpaved Road

Landslides identified on this quadrangle were mapped from stereo pairs, black and white 1:20,000 scale aerial photographs flown between 6-21-58 and 9-7-58. As a result these maps can be used to identify areas that are vulnerable to slope failure, but are not an up to date assessment of all landslides for the area.



Bainville SE Quadrangle, North Dakota



Lambert Conformal Conic Projection Standard Parallels 48° 00' 00" and 48° 07' 30"
1923 North American Datum NGVD 1929
USGS 7.5 Minute Topographic Map Contour Interval 20 Feet
Road Layer Retitled to 2003 NAIP Digital Orthophoto

